Registered Nurse Prescribing in Diabetes Care: 2012 Managed National Roll Out Project Report

Prepared for Health Workforce New Zealand by the New Zealand Society for the Study of Diabetes

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Contents
1 Executive summary .................................................................................................................. 10
  1.1 Background ......................................................................................................................... 10
  1.2 Project aim .......................................................................................................................... 10
  1.3 Project objectives ............................................................................................................... 10
  1.4 Project Outcomes ............................................................................................................. 11
  1.5 Main results ....................................................................................................................... 11
    1.5.1 Quality improvement indicators ................................................................................ 11
      a) Patient satisfaction ....................................................................................................... 11
      b) Regular case review .................................................................................................... 12
      c) Embedded case review .............................................................................................. 12
      d) Team satisfaction with DNS prescribing role .......................................................... 12
      e) DNS satisfaction with the prescribing role ............................................................... 13
      f) Diabetes nurse specialist assessment of improvement to patient access to medicines
         14
    1.5.2 Safety ............................................................................................................................ 14
    1.5.3 Clinical improvement indicators ............................................................................ 14
      a) Prescribing decisions ................................................................................................... 14
      b) Patient outcomes ........................................................................................................ 15
    1.5.4 Critical success factors, enablers and barriers ....................................................... 15
    1.5.5 Case studies ................................................................................................................. 16
    1.5.6 Benefits of DNS prescribing to employers and service provision ....................... 16
  1.6 Conclusions and Recommendations ................................................................................. 17
    1.6.1 Conclusions ................................................................................................................. 17
    1.6.2 Recommendations ...................................................................................................... 17
2 Introduction .............................................................................................................................. 19
  2.1 Background ....................................................................................................................... 19
  2.2 Demonstration project ....................................................................................................... 19
3 Managed roll out aims and objectives ................................................................. 20
  3.1 Project aim ........................................................................................................ 20
  3.2 Project objectives .......................................................................................... 20
  3.3 Project outcomes ........................................................................................... 21
4 Prescribing project ............................................................................................. 21
  4.1 Overview ........................................................................................................... 21
5 Project outcomes .................................................................................................. 23
  5.1 Quality improvement indicators ....................................................................... 23
    5.1.1 Patient satisfaction ...................................................................................... 23
    5.1.2 Regular case review .................................................................................. 26
    5.1.3 Embedded case review .............................................................................. 27
    5.1.4 Team satisfaction ...................................................................................... 28
    5.1.5 Diabetes nurse specialist satisfaction with the prescribing role ................... 31
      a) Preparation for prescribing ........................................................................... 31
      b) Confidence with prescribing and stopping drugs ........................................... 33
      c) Supervision .................................................................................................... 36
      d) Impact of prescribing ................................................................................... 38
      e) Overall satisfaction ....................................................................................... 39
  5.2 Safety ................................................................................................................ 39
    5.2.1 Appropriateness of prescribing: Clinical audit .......................................... 39
    5.2.2 Adverse event or safety concerns .............................................................. 39
  5.3 Clinical improvement indicators ...................................................................... 40
    5.3.1 Patient demographics .................................................................................. 40
    5.3.2 Prescribing patterns .................................................................................... 42
    5.3.3 Clinical outcomes ....................................................................................... 43
6 Critical success factors, enablers and barriers to embedding the role ................. 45
  6.1 Critical success factors ....................................................................................... 45
    6.1.1 Adequate preparation to become a prescribing DNS ................................... 45
    6.1.2 Availability of suitably qualified supervisors with time to provide ongoing case review ................................................................. 46
6.1.3 Well-developed collaborative relationships between DNSs and medical practitioners, especially in general practice/primary care ................................................................. 47

6.1.4 Support from employer to take on additional role – in particular nurse leader and relevant manager ........................................................................................................... 47

6.1.5 Communication of key messages, clarification of roles and responsibilities to stakeholders .................................................................................................................. 47

6.1.6 Oversight, support and guidance from a clinically informed national body such as NZSSD, including collection, management and reporting of clinically relevant data ... 48

6.2 Enablers ............................................................................................................................... 48

6.3 Barriers ............................................................................................................................... 49

7 Case studies .......................................................................................................................... 50

7.1 Case study one: Sharon Sandilands, Diabetes Nurse Specialist Central Otago Health Services ...................................................................................................................... 50

7.1.1 Context ............................................................................................................................... 50

7.1.2 Changes in practice, consultations and teaching ............................................................. 51

7.1.3 Advantages of DNS prescribing for patients ................................................................... 52

7.1.4 Disadvantages of DNS prescribing for patients ............................................................... 52

7.1.5 Impact on other clinicians/service provision ................................................................. 52

7.1.6 Barriers ............................................................................................................................... 52

7.1.7 Enablers ............................................................................................................................... 53

7.1.8 Support for the role ........................................................................................................... 53

7.1.9 Benefits to employers ....................................................................................................... 53

7.1.10 Advice to nurses wanting to become prescribers ........................................................... 53

7.2 Case study two: Kate Smallman, Diabetes Nurse Specialist, East Tamaki PHO and Diabetes Projects Trust ....................................................................................................... 54

7.2.1 Context ............................................................................................................................... 54

7.2.2 Changes in practice, consultations and teaching ............................................................. 55

7.2.3 Advantages of DNS prescribing to patients ................................................................. 56

7.2.4 Disadvantages of DNS prescribing for patients ............................................................... 56

7.2.5 Impact on other clinicians/service provision ................................................................. 56

7.2.6 Support for the role ........................................................................................................... 57
7.2.7 Barriers ........................................................................................................... 57
7.2.8 Enablers ........................................................................................................... 57
7.2.9 Benefits to employers ...................................................................................... 58
7.2.10 Advice to nurses wanting to become DNS prescribers ................................. 58

7.3 Case study three: Lyn McPherson: Diabetes Nurse Specialist Hutt Valley District Health Board ................................................................. 58
7.3.1 Context ............................................................................................................ 58
7.3.2 Changes in practice, consultations and teaching ............................................. 60
7.3.3 Advantages of DNS prescribing for patients ..................................................... 60
7.3.4 Disadvantages of DNS prescribing for patients ............................................... 61
7.3.5 Impact on other clinicians/service provision ..................................................... 61
7.3.6 Barriers ............................................................................................................ 61
7.3.7 Enablers ........................................................................................................... 61
7.3.8 Support for the role.......................................................................................... 61
7.3.9 Benefits to employers ....................................................................................... 62
7.3.10 Advice to nurses wanting to become DNS prescribers .................................. 62

7.4 Case study four: Bronwyn Henderson: Diabetes Nurse Specialist, Manaia PHO, Northland ................................................................. 62
7.4.1 Context ............................................................................................................ 62
7.4.2 Changes to practice, consultations and teaching ............................................. 63
7.4.3 Advantages of DNS prescribing for patients ..................................................... 63
7.4.4 Disadvantages of DNS prescribing for patients ............................................... 64
7.4.5 Impact on other clinicians/service provision ..................................................... 64
7.4.6 Barriers ............................................................................................................ 64
7.4.7 Enablers ........................................................................................................... 64
7.4.8 Support for the role.......................................................................................... 64
7.4.9 Benefits to employers ....................................................................................... 64
7.4.10 Advice to nurses wanting to become DNS prescribers .................................. 64
7.5 Case study five: Amy Savage, Adrienne Coats and Liz Allen, Diabetes Nurse Specialists, Diabetes Services, Northland District Health Board

7.5.1 Context

7.5.2 Changes in practice, consultation and teaching

7.5.3 Advantages of DNS prescribing for patients

7.5.4 Disadvantages of DNS prescribing for patients

7.5.5 Impact on other clinicians/services

7.5.6 Support for the role

7.5.7 Benefits to employers

7.5.8 Advice to other nurses

7.6 Case studies: A summary

8 Benefits to employers and advantages of diabetes nurse specialist prescribing

9 Recommendations

10 Appendices

Appendix A

Appendix B

Appendix C

Appendix D

Appendix E

Appendix F

Appendix G

Appendix H

Appendix I

Appendix J
**List of abbreviations**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Explanation</th>
</tr>
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<tbody>
<tr>
<td>ACR</td>
<td>Albumin/creatinine ratio</td>
</tr>
<tr>
<td>Baseline/</td>
<td>The point at which a patient was first seen within the project period</td>
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<tr>
<td>project entry</td>
<td></td>
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<tr>
<td>BP</td>
<td>Blood pressure</td>
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<tr>
<td>CNS</td>
<td>Clinical nurse specialist</td>
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<tr>
<td>CVD</td>
<td>Cardiovascular disease</td>
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<td>DHB</td>
<td>District Health Board</td>
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<tr>
<td>DNS</td>
<td>A Registered Nurse practising as a diabetes nurse specialist not necessarily with that job title</td>
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<tr>
<td>eGFR</td>
<td>Estimated glomerular filtration rate</td>
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<tr>
<td>Follow up</td>
<td>Subsequent clinical data collection</td>
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<tr>
<td>GDM</td>
<td>Gestational diabetes mellitus</td>
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<tr>
<td>GP</td>
<td>General Practitioner</td>
</tr>
<tr>
<td>HbA1c</td>
<td>Glycated haemoglobin</td>
</tr>
<tr>
<td>HDL</td>
<td>High density lipoprotein</td>
</tr>
<tr>
<td>HIIRC</td>
<td>Health Improvement and Innovation Resource Centre</td>
</tr>
<tr>
<td>HWNZ</td>
<td>Health Workforce New Zealand</td>
</tr>
<tr>
<td>LDL</td>
<td>Low density lipoprotein</td>
</tr>
<tr>
<td>NCNZ</td>
<td>Nursing Council of New Zealand</td>
</tr>
<tr>
<td>NP</td>
<td>Nurse Practitioner</td>
</tr>
<tr>
<td>NZNO</td>
<td>New Zealand Nurses’ Organisation</td>
</tr>
<tr>
<td>NZSSD</td>
<td>New Zealand Society for the Study of Diabetes</td>
</tr>
<tr>
<td>PN</td>
<td>Practice nurse</td>
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<tr>
<td>RN</td>
<td>Registered nurse</td>
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1 Executive summary

1.1 Background

In February 2011 a new regulation within the Medicines Act for Designated prescriber: Registered Nurses Practising in Diabetes Health was introduced, enabling twelve Registered Nurses (RN) specialising in diabetes across four sites to be authorised by the Nursing Council of New Zealand to prescribe relevant medicines and devices. The Nursing Council of New Zealand developed authorisation criteria and issued a gazette notice with respect to this category of RN prescribers. The New Zealand Society for the Study of Diabetes (NZSSD) Incorporated was commissioned by Health Workforce New Zealand (HWNZ) to lead the implementation of the demonstration project and has done so with a successful outcome. The evaluation report identified some implications for further roll out and in 2012 NZSSD was again commissioned by HWNZ to lead a managed roll out taking these into account to ensure gains continue to be made as further roll out occurs.

1.2 Project aim

The aim of this project was to provide a managed roll out of diabetes nurse specialist prescribing through dedicated project management and facilitation based on what was learnt from the demonstration project. It was designed to enable nurses in other services across different practice settings and geographical regions to take up the role of prescriber under the supervision of an authorised prescriber in a controlled and supported manner.

1.3 Project objectives

The objectives were:

(a) To establish between four and six sites across New Zealand where there are diabetes nurse specialists (DNS) willing to take up the role with an authorised prescriber to supervise them. It was anticipated that up to 20 nurses would be involved

(b) To monitor the progress of the DNSs and their prescribing practice

(c) To monitor clinical parameters of their patients to ensure ongoing safety and appropriateness of DNS prescribing

(d) To develop key communication messages and recommendations for the further implementation of DNS prescribing.
1.4 Project Outcomes

Quality improvement, safety and clinical improvement indicators formed the basis of monitoring and outcome measurement. Critical success factors, enablers and barriers to embedding the DNS prescribing role into practice as business as usual were to be identified. Recommendations about any changes required to enable the model to be implemented and extended were also to be made.

1.5 Main results

A registration of Interest (ROI) process was utilised to select six sites with 15 DNSs to participate in the managed roll out. Of the 15 DNSs, three directly practised in primary health care and had strong collaborative relationships with their colleagues in specialist services. The remaining DNSs were based within specialist multidisciplinary teams with most providing outreach/satellite services in the primary health care setting. Clinical champions for the project were identified within each site, usually the Director of Nursing and a prescribing supervisor.

1.5.1 Quality improvement indicators
In monitoring this managed roll-out of DNS prescribing we focused on six practitioner related outcomes regarding:

a) Patient satisfaction with DNS consultation
b) Regular case review
c) Case review embedded into usual practice for multidisciplinary team
d) Team satisfaction with DNS prescribing role
e) DNS satisfaction with prescribing role
f) DNS assessment of improvement to access to medicines for patients

a) Patient satisfaction

To assess patient satisfaction, a total of 173 questionnaires were sent to patients who had received prescriptions from one of the 15 DNS prescribers. Responses were received from 27 men and 21 women, giving a relatively low response rate of 28 percent. Respondents ranged in age from 14 to 83 (mean = 53 years). Nine ethnicities were represented and 19 respondents had Type 1 diabetes, 25 Type 2, 1 had gestational diabetes, 2 didn’t know what type and 1 did not respond. Nearly all of the 48 respondents were happy to receive prescriptions from their nurse, only four expressing reservations none of which were entirely negative. Aspects of the nurse prescriber consultation which were most frequently
selected as being important were a thorough assessment of their needs and clear explanations about medications and how they work. Cost was the least selected characteristic of the encounter however 23 patients still indicated it was important to them. About half said the experience of receiving a prescription from a nurse was different than from a doctor, most citing positive aspects such as cost, convenience, time, specialist knowledge and better communication. Few concerns about nurse prescribing were expressed; one being that nurse prescribing was acceptable for repeats, another questioned whether it was the nurse or the doctor who knew best. Overall most of the patients were equally or more satisfied with receiving a prescription from a DNS and felt that the quality of care they were receiving was equivalent or better. The cost involved was predominantly seen to be the same or less and the process was considered by most people to be just as convenient if not more so.

b) Regular case review
The regulation within the Medicines Act for Designated prescriber: Registered Nurses Practising in Diabetes Health requires regular ongoing supervision of prescribing practice by an Authorised Prescriber. Supervision of prescribing practice was implemented primarily by way of structured and planned retrospective case review between the DNS and supervisor, in addition to opportunistic consultation as patient care dictated. The frequency of case review was determined and agreed by each DNS and supervisor, with it occurring more frequently in the early days of prescribing (weekly to fortnightly) as the DNS and supervisor gained experience and confidence with the prescribing role. Both DNSs and supervisors have described value in regular case review meetings, with some supervisors observing case review with the DNS as a worthwhile experience and that the “learning went both ways”.

c) Embedded case review
Case review meetings are reported to be occurring weekly to monthly, depending on the nurse and supervisor pairing. In most services, where case review was not structured, it is now embedded into regular service meetings and other members of the multidisciplinary team, in particular non-prescribing nurses, are invited to attend. In addition to supervision meetings with their supervisor/s, some nurses are keen to meet with other nurse prescribers for peer review and support and this would include discussion of specific cases – particularly the more complex scenarios. This is already occurring in some services where there are now a number of DNS prescribers, providing valuable opportunities for professional development and clinical teaching within services for each other and for other DNSs aspiring to prescribe.

d) Team satisfaction with DNS prescribing role
Team satisfaction was assessed by way of a questionnaire which nurses were asked to send out to all the practitioners they considered to be part of their clinical team. Forty seven responses were received with all prescribing regions being represented. Respondents
included specialist physicians, dietitians, prescribing nurses, non-prescribing nurses, GPs and team leaders/managers. Between 96 and 100 percent of the respondents perceived there to be at least some benefits in nurse prescribing in the areas of: patient access to services; glycaemic, blood pressure and lipid control; continuity and quality of patient care; reduced delay in patients receiving a prescription; use of DNSs time and fuller use of nursing skills. The benefit for effective use of their own time was seen to be less but was still supported by 75 percent. A number of changes in team function had been observed as a result of DNS prescribing. Examples included the extended nursing role, fewer scripts having to be written by other prescribers, and an expectation of reduced workload once the project period was complete. The main advantages of DNS prescribing were seen to be predominantly for patients in terms of access, cost effectiveness, improved care, reduction in barriers, less waste of time and money, better health outcomes and fewer delays. Most team members considered that prescribing had altered the nursing role and greater autonomy/responsibility, increased knowledge, more confidence and a better calibre of nursing were noted. While most respondents (79%) had no concerns about DNS prescribing, a few were raised regarding the need for better communication of medication changes made for their patients, the need for adequate supervision in remote regions and whether nurses had sufficient pharmacology knowledge for prescribing.

Overall it appears that the majority view is in favour of DNS prescribing, with many advantages and few disadvantages and concerns being noted. The concerns that were raised appeared to come from general practice in the main, and highlight the need for thorough and appropriate communication around prescribing decision making in order for GPs to feel involved and informed.

e) DNS satisfaction with the prescribing role

The 15 nurses involved in the roll out of DNS prescribing project were surveyed a month into prescribing and again at the end of the six month prescribing project, to inform us about their prescribing experiences. Their level of satisfaction with the preparation they had received for prescribing from a variety of sources was high; 8.1 out of 10 at the start and 8.6 at the finish. Their average confidence in prescribing and discontinuing a range of diabetes related medications increased slightly from 7.5 to 8 over the project period. They were most confident in managing insulins and oral hypoglycaemic agents throughout, but for most nurses confidence increased around the medications they were less familiar with as time went on. The supervision experience has been a positive one for all nurses, the only problems noted being related to workload and finding the time for face-to-face meetings. They were mostly (4) if not always (10) able to consult with a prescriber when needed, and felt they had enough support to be confident in their extended role. The nurses had received overwhelming support and encouragement for prescribing from their colleagues, supervisors and patients. Only one barrier had been experienced by a nurse who was not allowed to prescribe within one general practice.
The ability to prescribe was seen to have had a significant impact on the nurses themselves, their careers and their workplaces. The most positive impact was seen in relation to their careers where increased satisfaction, autonomy, acknowledgement by peers and future employment opportunities were perceived. Prescribing was described as a ‘natural progression’. Comments suggested that workplaces had benefitted through: improved patient access and care; encouragement of other nurses to increase their skills and education; helping to streamline practice; improving collegial relationships with GPs and pharmacists; and decreasing the workload of other prescribers. The nurses themselves appreciated the greater knowledge and improved clinical practice prescribing had engendered and felt satisfied that they were providing a better and more comprehensive service for their patients. The only negative features appeared to be the paperwork involved in the prescribing project and for some the lack of financial recognition of the changed role by employers.

Overall satisfaction with the decision to become a prescriber was high (9.1/10) and the nurses expressed their encouragement to other nurses to make the same transition.

f) Diabetes nurse specialist assessment of improvement to patient access to medicines
Diabetes nurse specialists universally described improved access for patients to diabetes medicines that was timely and cost efficient for both the patient and the DNS. There was a reduction in delays for accessing prescriptions, or decisions about treatment changes that may or may not have required a prescription, for example a dose change. These reductions were considerable, some nurses suggesting that prior to their being able to provide a prescription some patients may have been required to wait up to a fortnight before being started on a medication. In addition, appropriate dosing and optimisation of drug therapy was able to occur.

1.5.2 Safety
Overall, no clinically significant concerns were noted on clinical audit of 150 sets of patient notes (10 per nurse) and no adverse events were identified.

1.5.3 Clinical improvement indicators
a) Prescribing decisions
During the project the nurses reported 2582 contacts with patients, ranging from 1 to 23 per patient. Most of these contacts were clinic based or via phone calls and just over half resulted in a medication change. About 90 percent of the prescribing decisions were made independently, the remainder following consultation or in a dual consultation with an authorised prescriber. Prescriptions were provided during a third of the consultations, and of these, 47 percent were for repeat medications only, 38 percent were for new medications only and the remaining 15 percent were for new and repeat medications.
Consumables such as test strips and needles constituted the majority of items scripted followed by insulin. An audit of ten patients per nurse was carried out by their supervisors and this revealed that their care had been appropriate and safe. The only query made was for one nurse who could have ordered more blood tests and another who could have initiated an antihypertensive to a patient’s drug regime. No clinical consequences eventuated from these omissions.

b) Patient outcomes
The data on patient demographics and characteristics demonstrated that the DNS prescribers were providing support for a complex patient population of all ages, types of diabetes and living with various and often multiple co-morbidities. The 1392 patients ranged in age from 3 to 93, just over half were male, exactly half were European/NZ European, 20 percent were Pacific Island and 14 percent Maori. Type of diabetes was recorded as Type1 for 31 percent, Type 2 for 65 percent, gestational diabetes for 2 percent and ‘other’ for 2 percent. The number of medical conditions additional to diabetes ranged from none to 13.

Information was collected to monitor weight, blood pressure, HbA1c, eGFR, ACR creatinine, total cholesterol, HDL and LDL. Baseline data was recorded when patients were first seen during the prescribing period, missing data at that point was replaced with recent clinical results where possible. Follow-up data was added throughout the six month period but, due to the nature of the information being collected, this was incomplete.

A comparison of baseline and follow up outcomes was performed for between 210 and 425 patients, depending on the specific indicator. These results suggest that the indicators have predominantly remained stable over the prescribing project period. Exceptions are a slight improvement in total cholesterol and a larger improvement in HbA1c. Improvement in HbA1c is clinically important as any reduction confers a reduced risk of micro and macrovascular complications. The observed improvement is particularly noteworthy given that most of the patient population the DNSs are working with were not newly diagnosed and would therefore have been receiving treatment before the project started.

No adverse events were reported during the project and this, in combination with the outcomes data, suggests that the DNS prescribing was safe and beneficial for this patient group.

1.5.4 Critical success factors, enablers and barriers
Critical success factors pertain to the DNSs’ preparation for prescribing, availability of supervisors, collaborative team functioning, employer support, effective communication, and national oversight.

A number of factors have been identified that facilitated the implementation process of the managed roll out across services. These included having clinical champions in each site, organisational support, additional time allocation and effective communication with patients and the local community.
Few barriers were encountered in the implementation of the managed roll out. They pertained to: a lack of organisational support meaning that some candidates were unable to participate; the additional time needed for project documentation; and, for a primary health care nurse, a non acceptance of nurse prescribing by one general practice. While this meant that patients in this practice were unable to receive prescriptions from a DNS prescriber they still benefited from her enhanced care delivery. However, if similar non-acceptance is more widespread, it has implications for future roll out of specialist nurse prescribing.

1.5.5 Case studies
While the case studies were undertaken to characterise the nurses’ individual experiences and work contexts, the messages seem to be ones of similarity rather than difference. It is clear that while in prescribing they have taken on what is traditionally seen as part of the medical role, they are approaching their prescribing practice as nurses. They continue to assess, communicate, educate and support holistically but with added knowledge, understanding and capability. Their attitude towards prescribing is one of caution and consideration with the result that they feel no risks are being taken. They are consulting when necessary and they feel confident that patients are benefiting from a more thorough, timely and cost-efficient process. All nurses feel like they have more to offer in consultations with respect to patient assessment, patient education and medication review and also in sharing their knowledge with other nurses and the primary care practitioners they provide education and support for.

1.5.6 Benefits of DNS prescribing to employers and service provision
Several benefits to employers have been identified by the DNSs and their supervisors. These include maximising the capability of the workforce and enabling DNSs to work to the top of the scope of their practice. By prescribing they can offer a better, more comprehensive service to the population the organisation provides for, enabling doctors and nurse practitioners to focus on the more medically complex patient. This serves to enhance efficiencies in service delivery and applies to both primary care and specialist services.

Stability of the nursing workforce was also identified as beneficial in terms of providing continuity of care. It is well understood in diabetes care that developing therapeutic relationships is very important and will encourage patients to come back. This was especially observed when working with Maori and Pacific Peoples.

In primary health care, the ability of DNSs to support the achievement of Government targets was raised. This can be achieved through ensuring diabetes and cardiovascular risk assessments are undertaken and the appropriate prescribing of statins and ACE inhibitors occurs.
1.6 Conclusions and Recommendations

1.6.1 Conclusions
In the 2012 managed roll out, diabetes nurse specialist prescribing was again demonstrated to be safe and clinically effective. Overall clinical parameters remained stable and no adverse events were reported. Diabetes nurse specialists who prescribe provide added value to diabetes services, both in the specialist and primary health care practice settings.

Adequate preparation is required for DNSs to feel competent and confident to prescribe. This was achieved through a prescribing practicum prior to prescribing and NZSSD oversight, co-ordination and facilitation to achieve authorisation to prescribe and for a six month period whilst confidence grew. Whilst all of the DNSs were experienced in diabetes care, they all acknowledged it was a step up in responsibility to take on a prescribing role. Diabetes nurse specialists have again shown themselves to be cautious prescribers. They continue to assess, communicate, educate and support holistically from a nursing perspective but with added knowledge, understanding and capability.

Clear benefits to patients, through improved access to diabetes care and medicines have been demonstrated. Service efficiencies are also identified as DNS prescribers take on a more complex patient case load, thereby enabling doctors and nurse practitioners to tend to the more medically complex patients. Benefits to employers have also been acknowledged as the nurses have increased capability in the diabetes workforce.

The benefits of ongoing national oversight from a body such as NZSSD are clear; both for the maintenance of standards and the support of DNSs, supervisors and employers as the roll out of diabetes nurse prescribing continues.

1.6.2 Recommendations

Preparation for prescribing role

- Registered Nurses need to have experience in the specialty and already have collegial relationships with their medical colleagues
- A formal and thorough prescribing practicum is a must prior to starting prescribing
- Relevant, structured education should be provided early into prescribing as a strong foundation is needed and confidence takes time to build

Supervision requirements are clear

- It is vital that supervisors are committed to providing support in the long term, and have the time, ability and inclination to do this. For this reason services should consider carefully how many nurses they feel able to supervise before agreeing to take them on.
• Supervision should continue on a fortnightly to monthly basis once the six month initial prescribing phase is completed

Additional time allocated to prescribing nurses as they start prescribing role

• Consider decreasing the clinical load initially until prescribing becomes more routine and familiar
• If data collection is required, sufficient time should be allowed for this over and above usual work time

National oversight, facilitation and co-ordination

• The NZSSD be supported to maintain ongoing oversight of prescribing nurses, current and future
• Further roll out needs to be managed as per the NZSSD processes to ensure a consistent standard of implementation and support.
• In further roll out, efforts should be made to recruit registered nurse prescribers in areas of need and where there are currently few or no registered nurse prescribers. This would include remote geographical regions and the South Island.
• Educational meetings with other prescribing nurses would enhance peer support and learning experiences

Communication to stakeholders

• Education is needed for the public with respect to what prescribing and non-prescribing diabetes nurse specialists do and how their role fits in with other practitioners such as GPs, specialists, nurse practitioners and practice nurses.

Ongoing evaluation of clinical outcomes

• A national clinical data base/repository would support ease of access to clinical data and consequent reporting of clinical outcomes
• Ongoing clinical audit should occur to ensure quality and safety are maintained
2 Introduction

2.1 Background

The Ministry of Health worked with the Nursing Council of New Zealand for a number of years to consider regulatory issues and develop a framework for nurse prescribing that is more consistent with the safeguards available under the Health Practitioners Competence Assurance Act 2003, and the qualifications and experience of registered nurses and nurse practitioners. The prescribing of medicines is regulated under the Medicines Act 1981 and its associated regulations which provide for two classes of prescribers: authorised and designated prescribers.

Authorised prescribers are medical practitioners, dentists and registered midwives and have full prescribing rights and access to all medicines in the Medicines Regulations based on their scope of practice. It is anticipated that with the expected changes to the Medicines Act, nurse practitioners will become authorised prescribers.

In February 2011 a new regulation for Designated Prescriber: Registered Nurses Practising in Diabetes Health was introduced, enabling twelve registered nurses across four sites to be authorised by the Nursing Council of New Zealand to prescribe relevant medicines and devices. The Nursing Council of New Zealand developed authorisation criteria and issued a gazette notice with respect to this category of registered nurse prescribers.

The New Zealand Society for the Study of Diabetes Incorporated was commissioned to lead the implementation of the demonstration project and has done so with a successful outcome. The evaluation report identified some implications for future roll out and NZSSD has considered an appropriate approach to ensure gains continue to be made as it occurs.

2.2 Demonstration project

The New Zealand Society for the Study of Diabetes Incorporated was commissioned by Health Workforce New Zealand, in partnership with the Nursing Innovations Team of the Ministry of Health, to establish four demonstration sites to test the effectiveness and safety of diabetes nurse specialist\(^1\) prescribing. This occurred throughout 2011 and was completed

\(^1\) Diabetes nurse specialists (DNS) are registered nurses who are qualified and experienced having met the specialist level requirements of the National Diabetes Nursing Knowledge and Skills Framework (2009) (refer [www.nzssd.org.nz/dnss.html](http://www.nzssd.org.nz/dnss.html)).
in November 2011. The 2011 DNS Prescribing Demonstration Project provided evidence of the benefits of suitably qualified and supported registered nurses practising as DNSs having the additional authorisation to prescribe diabetes-related medicines and products to people with diabetes. Benefits to patients included improved access to appropriate care, cost efficiencies, convenience, reduced duplication of visits, quality of care, satisfactory clinical outcomes and high overall satisfaction.

It was agreed that a managed roll out should occur through 2012 to ensure momentum is not lost and to extend the successful outcomes of the demonstration project.

3 Managed roll out aims and objectives

3.1 Project aim

The aim of the current project was to provide a managed roll out of DNS prescribing through dedicated project management and facilitation based on what was learnt from the demonstration project. It was designed to enable nurses in other services across different practice settings and geographical regions to take up the role of prescriber under the supervision of an authorised prescriber in a controlled and supported manner.

3.2 Project objectives

The objectives were:

(a) To establish between four and six sites across New Zealand where there are diabetes nurse specialists (DNSs) willing to take up the role with an authorised prescriber to supervise them. It was anticipated that up to 20 DNSs would be involved

(b) To monitor the progress of the DNSs and their prescribing practice

(c) To monitor clinical parameters of their patients to ensure ongoing safety and appropriateness of DNS prescribing

(d) To develop key communication messages and recommendations for the further implementation of diabetes nurse prescribing.
3.3 Project outcomes

Quality improvement and clinical improvement indicators formed the basis of monitoring and outcome measurement. It was also intended that critical success factors, enablers and barriers to embedding the DNS prescribing role into practice as ‘business as usual’ would be identified. Recommendations about any changes required to enable the model to be implemented and extended were also to be made.

4 Prescribing project

4.1 Overview

The Managed Roll Out aimed to support up to 20 DNS from six services/sites across practice settings (i.e. primary health care and acute/specialist services) and a broad geographical spread. In particular DNSs from primary health care were encouraged to participate.

In order to identify DNSs and their services/sites interested in participating in the Managed Roll Out a Registration of Interest (ROI) process was implemented ( Appendix A ). This required DNS and organisations to provide comprehensive documentation about the suitability of their service, including systems and processes in place in order to support DNS prescribing. In particular the ROI requested information pertaining to the characteristics of suitable diabetes services, as follows:

- At least two DNSs providing diabetes care who were likely to meet the Nursing Council of New Zealand’s authorisation criteria
- At least one authorised prescriber who will act as supervisor
- Clinical champions were identified
- Approval from nursing and medical leadership, and organisational management
- The service worked within a multidisciplinary team model
- Mature quality management systems in place
- Administrative support
- Sufficient throughput of patients to demonstrate a broad spectrum of work
- Clinicians had access to continuing education, managerial and professional support

The ROIs were evaluated by a panel convened by the NZSSD using a weighted scoring system to assess a range of eligibility criteria. All who applied were accepted resulting in six sites with 15 DNSs. Of these, three directly practised in primary health care and had strong collaborative relationships with their colleagues in specialist services. The remaining DNSs were based within specialist multidisciplinary teams with most providing outreach/satellite services in the primary health care setting. Clinical champions for the project were
identified within each site, usually the Director of Nursing and a prescribing supervisor. A set of resources was provided to the clinical champions to support consistency in the dissemination of project information in the form of ‘Key Facts’, Frequently Asked Questions for people with diabetes, and Frequently Asked Questions for health professionals. A service agreement was consequently made between NZSSD and each organisation to formalise agreements and support processes (Appendix B).

Guidelines developed in the demonstration project were updated and provided to each of the DNSs and their supervisors. These included: Guide to Medicines used in Diabetes; Guideline for Prescribing Practicum; and Guideline for Supervision of Prescribing Practice (the second two can be found in Appendices C to D).

Diabetes nurse specialists who had not already completed a prescribing practicum through a tertiary provider were required to undertake a practicum of six to twelve weeks duration alongside their prescribing supervisor. The Project Manager supported nurses and their supervisors with the set up and required processes of assessment and documentation. Having provided NCNZ with the necessary evidence for authorisation as designated RN prescriber practising in diabetes health and receiving NCNZ authorisation, DNSs commenced prescribing under supervision in December 2012 to January 2013.

The NZSSD held two project meetings with the DNSs and the NZSSD project team, one at the beginning of the project and another midway. The purpose of these meetings was to provide an opportunity for peer support, discussion of project documentation requirements, feedback on progress and clinical teaching provided by Dr Paul Drury, NZSSD Medical Director, Professor Tim Cundy, NZSSD President and other invited speakers such as PHARMAC, the local Chief Pharmacist and DNS prescribers from the demonstration phase.

Once the DNSs were prescribing the Project Manager undertook site visits to meet with the DNSs, their supervisors where possible and nursing leadership and/or relevant managers. Relevant guidelines and quality assurance processes were discussed and any required changes to support DNS prescribing within the organisation were identified.

A site for communicating project information and a repository for documents was set up within the Health Improvement and Innovation Resource Centre (HIIRC) website. Diabetes nurse specialists, clinical champions and project team members were able to post questions, comments and general information as a way of supporting communication and networking.
5  Project outcomes

This section addresses the project outcomes which were based on quality improvement, safety and clinical indicators. Each of these will be addressed in subsequent sections. Case studies were also developed to contextualise experiences and learning.

5.1  Quality improvement indicators

The quality improvement indicators for the roll out were as follows:

1. Patient satisfaction with DNS consultation where this resulted in a designated prescription
2. Regular case review as per guideline is in place and effectively supporting nurses’ prescribing practice
3. Case review embedded into usual practice for multidisciplinary team
4. Team satisfaction with DNS prescribing role
5. DNS satisfaction with prescribing role
6. DNS assessment of improvement to access to medicines for patients, such as: less delay, less visits, less duplication of care

5.1.1  Patient satisfaction

In order to assess patient satisfaction, a set of NHIs for each nurse were selected from the database. Patients were considered eligible if they had received a prescription from a DNS prescriber, if their English language skills were sufficient and they were not seriously unwell, as we did not wish to overburden them. The NHIs were selected by CB and sent to each of the nurses to check for adequacy of language skills and wellbeing. A questionnaire and cover letter (see Appendix E) with a prepaid envelope was sent out to each of the selected patients from their diabetes clinic. We aimed to send out 12 questionnaires for each nurse but this wasn’t always possible. Numbers ranged from 8 to 13 per nurse with a total of 173 being sent out. Forty six were returned giving a response rate of just over a quarter (26%). Responses were received from 27 (56%) males and 21 (44%) females ranging in age from 14 to 83 with an average of 53 years (median = 54). Nineteen (40%) had type 1 diabetes, 25 (53%) type 2, one (2%) had GDM, 2 (4%) didn’t know what type and one didn’t respond. While the largest group of respondents were New Zealand European (29, 61%)

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2 Cost and practicality precluded us from translating questionnaires
other ethnicities were also represented. Eight (17%) were Maori, 5 (10%) were Samoan, 3 (6%) Indian and one (2%) each were Tongan, Nepali, Cook Island, Niuean and German.3

Nearly all of the respondents (92%) were happy to receive a prescription from a DNS. Only four expressed any reservations, one added s/he was happy with the DNS providing repeat prescriptions, two said they were happy with the DNS but preferred the doctor to prescribe and one wasn’t sure.

The second set of questions asked patients about what was important to them when getting a prescription from a DNS. They were provided with a list of options and were encouraged to add other important characteristics if they wished. The responses in descending frequency appear in Table 1.

**Table 1: Things considered to be important by patients when receiving a script from a DNS**

<table>
<thead>
<tr>
<th>Listed options</th>
<th>Agreement Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>A thorough assessment of my needs</td>
<td>39</td>
<td>83</td>
</tr>
<tr>
<td>Clear explanations about my medications and how they work</td>
<td>35</td>
<td>75</td>
</tr>
<tr>
<td>The nurse is approachable</td>
<td>33</td>
<td>70</td>
</tr>
<tr>
<td>Convenience</td>
<td>32</td>
<td>68</td>
</tr>
<tr>
<td>Being listened to</td>
<td>32</td>
<td>68</td>
</tr>
<tr>
<td>The nurse to be skilled and competent</td>
<td>31</td>
<td>66</td>
</tr>
<tr>
<td>The nurse to be friendly</td>
<td>29</td>
<td>62</td>
</tr>
<tr>
<td>The nurse’s training and qualifications</td>
<td>26</td>
<td>55</td>
</tr>
<tr>
<td>Cost</td>
<td>23</td>
<td>49</td>
</tr>
</tbody>
</table>

These results suggest that assessment and explanations about medications are considered to be the most important aspects of DNS prescribing and, interestingly, cost is the least important. Four additional points were listed by three patient respondents: honesty; to know about the individual’s diabetic condition; to speak slowly, listen and understand the individual’s needs; and not to be reluctant to prescribe extra medication when needed.

The experience of getting a prescription from a DNS rather than a doctor was said to be different by 23 (48%) people. All but two of these described positive ways in which it was different with convenience, ease, cost, time, specialist knowledge and better communication featuring strongly.

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3 The percentages add to more than 100 as two respondents indicated they were Maori and NZ European.
Examples include:

“The nurse usually knows more than the doctor, easier to talk with”

“The nurse is easier to contact, rings back, keeps in contact more”

“More information is explained better. Nurse gives more time.”

The full list of comments can be found in Appendix F. The other two comments about difference were that the respondent was “not used to it” and that “it’s more stressful as you have to explain yourself more”.

The majority of respondents (44, 92%) expressed no concerns about getting a prescription from a DNS, one said s/he was not concerned as long as the scripts were repeats. Those who did have concerns listed: the geographical distance to get to the DNS instead of the doctor and asked if scripts could be “done over the phone at no cost”; concern that the amount prescribed wouldn’t be enough to last; and “who knows best the nurse or the doctor?”

The patients were asked about how getting a prescription from a DNS rather than a doctor affects them and were given a list of aspects to rate. The results are presented in Figure 1

![Figure 1: Effects of getting a prescription from a DNS for patient respondents](image)

These results demonstrate that most of the patients were equally or more satisfied with receiving a prescription from a DNS and felt that the quality of care they were receiving was
equivalent or better. The cost involved was predominantly seen to be the same or less and the process was considered by most people to be as convenient or more so. We realised that the issue of time and number of appointments was somewhat ambiguous. While we were thinking that less time spent and fewer appointments would be seen positively, some people reported spending more time and attending more appointments yet were more satisfied. This suggests that more time spent with the DNS is seen favourably by some patients, which aligns with the comments about doctors being too busy and not having enough time to address all the patients’ needs.

Forty five (96%) patients indicated that they were happy for their DNS to continue to write prescriptions for them, and 39 (89%) said there was nothing they would like to change about the process. Five said they would like something to be different and the points raised were: that it would be OK as long as it was the same nurse; could all medications needed be prescribed by the DNS; a request, as before, that it be done over the phone at no cost; that it would be nice if the nurse contacted the patient to see if they needed anything rather than the other way around; and “a quick check of diabetes equipment for calibration and accuracy – glucose pens and meters”.

5.1.2 Regular case review

The regulation within the Medicines Act for Designated prescriber: Registered Nurses Practising in Diabetes Health requires regular ongoing supervision of prescribing practice by an Authorised Prescriber. Supervision of prescribing practice was implemented primarily by way of structured and planned retrospective case review between the DNS and supervisor, in addition to opportunistic consultation as patient care dictated. The NZSSD guideline “Prescribing Practice Supervision” provided guidance on criteria for supervisor eligibility, the frequency and purpose of case review meetings, components of supervision and what should be demonstrated by the DNS during case review/supervision meetings, and responsibilities of both the DNS and the supervisor. The frequency of case review was determined and agreed by each DNS and supervisor, with it occurring more frequently in the early days of prescribing (weekly to fortnightly) as the DNS and supervisor gained experience and confidence with the prescribing role. Both DNSs and supervisors have noted the value of regular case review meetings, with some supervisors acknowledging that case review with the DNS was a worthwhile experience and saying that the “learning went both ways”.

The importance of having an Authorised Prescriber providing supervision was highly valued by all DNSs. As one nurse commented: “my supervisor has willingly and enthusiastically encouraged and supported the nurses in our service to achieve authorisation as Designated Nurse Prescribers and is always very open about his respect for how we practice. This has made all the difference to our ability to be able to achieve this goal and it is very much appreciated”.

26
However, whilst all supervisors were committed to providing regular case review and agreed on the importance, some difficulties were experienced due to busy workloads, time constraints and/or leave by both the DNS and the supervisor. Comments about this included:

“Time – we are all very busy. Sometimes it has meant staying quite late to catch up with supervisor”

“It’s just difficult when he is away but I need to build up more networks of support”

“I am endeavouring to get supervision fortnightly, however my supervisors have been away recently and due to workload this is sometimes very difficult – time may be deferred”

Whilst very supportive of DNS prescribing, some supervisors have expressed that there is a limit to how many DNSs any one supervisor can realistically support, potentially limiting the number of DNSs taking on the prescribing role within a given service. This was observed by supervisors in both primary health care and specialist services with one making the following comment:

“My advice to future supervisors of nurse prescribers is to be aware of the workload involved and to understand that it was not for a finite time. Taking on only one or two nurses is a good idea in order to supervise properly”.

However, it was also acknowledged that the time invested in supervising nurse prescribers did diminish as the nurses gained confidence and experience. One supervisor said he didn’t feel that a ratio could be calculated. The number of nurses any one supervisor or service supports should be determined on an individual basis, by the supervisor and service, taking into account other workload and supervisory demands.

5.1.3 Embedded case review

As mentioned above, case review is required to continue as part of ongoing supervision for as long as the DNS holds NCNZ authorisation to prescribe. Case review meetings are reported to be occurring weekly to monthly, depending on the nurse and supervisor pairing. In most services, where case review was not structured, it is now embedded into regular service meetings with other members of the multidisciplinary team, in particular non-prescribing nurses, invited to attend. When asked how often they think ongoing supervision should occur beyond the managed roll out, DNSs have indicated a varying frequency from weekly (n = 4), to fortnightly (n = 4) to monthly (n = 6).
In addition to supervision meetings with their supervisor/s, some nurses are keen to meet with other nurse prescribers for peer review and support and this would include discussion of specific cases – particularly the more complex scenarios. This is already occurring in some services where there are now a number of DNS prescribers, providing valuable opportunities for professional development and clinical teaching within services for each other and for other aspiring DNSs prescribers.

Many of the DNSs in the managed rollout cohort have significant teaching roles, in addition to their clinical case work, and use case review as a way of informing practice nurses, GPs and other health practitioners about diabetes and related condition clinical management decision making. From the case study interviews and questionnaires it is apparent that the nature and content of the DNSs’ teaching has developed through the extension of their role, and the increase in knowledge and breadth and depth of practice concomitant with becoming a prescriber. One nurse observed that in her teaching she now provides a broader base than just managing glycaemia.

5.1.4 Team satisfaction

In order to evaluate the multidisciplinary diabetes teams’ satisfaction with DNS prescribing, the nurses were asked to send brief questionnaires (Appendix G) to all the people they considered to be part of their practice team. Team members were asked to complete the questionnaire and return it directly to CB so that their responses were not seen by the nurses.

Forty seven responses were received although not all questions were answered by all respondents. Questionnaires were returned by: non-prescribing nurses (15); GPs (10); dietitians (8); endocrinologist/diabetologists (5); prescribing nurses (2); team leaders/managers (2); a nurse leader; a paediatrician; a Nurse Practitioner; and a nurse educator. All DHBs were represented with more responses coming from Auckland (16) than from the other regions.

The first set of questions asked about the perceived benefits of DNS prescribing. Eight potential benefits were listed with the response options; ‘great benefit’, ‘some benefit’ and ‘no benefit’. The frequency and percent of responses are presented in Table 2 Note that a ‘not applicable’ column has been included as some chose to use this as a response option.

This suggests that all team members felt there was at least some benefit in DNS prescribing for the fuller use of nursing skills, quality of patient care and access to diabetes services for patients. However not everyone perceived there to be other benefits of DNS prescribing. Of least benefit was effective use of team member’s own time with five respondents saying...
there was no benefit seen here and another five considering it to be not applicable. DNS prescribing was still seen to be beneficial in this respect by 31 (76%) of the team members.

Table 2: Team members’ views on the benefits of DNS prescribing expressed as a frequency

<table>
<thead>
<tr>
<th></th>
<th>Great benefit</th>
<th>Some benefit</th>
<th>No benefit</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>Access to diabetes services for patients</td>
<td>38</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>b</td>
<td>Management of glycaemia, blood pressure and lipids</td>
<td>41</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>c</td>
<td>Continuity of care</td>
<td>38</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>d</td>
<td>Quality of patient care</td>
<td>36</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>e</td>
<td>Delay in patients receiving a prescription</td>
<td>38</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>f</td>
<td>Effective use of diabetes nurse specialists’ time</td>
<td>35</td>
<td>11</td>
<td>1</td>
</tr>
<tr>
<td>g</td>
<td>Effective use of your own time</td>
<td>19</td>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td>h</td>
<td>Fuller use of nursing skills</td>
<td>37</td>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

In response to the question of whether there have been changes in how the team works now that some DNSs can prescribe medications, 21 respondents said there had been, 8 felt there had been no changes and 14 were unsure. When asked about how the team worked differently, 20 of those who had said there were changes provided comments. These could be divided into:

(a) observations about team functioning, for example “better use of nurse specialist role, able to work collaboratively as a team” and “DNS prescribers are sought out by junior nurses, and registrars sometimes, for advice/discussion of clinical issues, prescribing and other”;

(b) descriptions of the extended role, such as “nurse is able to write a script for medication plus has a more in-depth understanding of medications”; and

(c) outcomes for patients, for example “more complete follow up after referral has been made to DNSs. More consistent, transparent care” and “more accessible for the patient and the relationship is strengthened with the patients and the nurse specialists”.

Of the 14 respondents who were not sure about where there had been changes in team functioning, nine provided explanations. Three said it was too early to say, one said that it hadn’t affected the secondary care environment but was likely to have affected primary care and one noted that there were now more referrals to nurse specialists within the service. The remainder made unrelated comments.
The third question asked if team members had any concerns about DNS prescribing, and if so what was of concern. Thirty-four respondents (79%) said no, three were not sure and six (14%) did express concerns. Two of those who were not sure appeared to have no actual concerns, saying ‘as long as communication with GP is good, no concerns” and “no issues to date, it likely depends on the prescriber”. The third comment was that nurse prescribing was “OK for repeats”. The concerns expressed came from two non-prescribing nurses and four GPs. The nurses were concerned that there might not be adequate supervision - particularly in remote areas, and that nurses may have insufficient knowledge of pharmacology. Two of the GPS expressed concerns about nurse prescribers’ communications about their prescribing in letters back to GPs. Another felt that prescribing non-diabetes related medication could be risky without full knowledge of the patient history and the final one felt that there was potential for: fragmentation of service delivery; communication problems regarding medication; and patient confusion about doctor and nurse roles.

The team members were asked whether they thought that prescribing had changed aspects of DNS practice and 33 said yes, six said no and three were unsure. Of those who said their practice had changed, all but two of the comments were positive. The only response suggesting that practice had changed for the worse was that too much of a focus on prescribing took nurses’ time away from care and support. Another team member observed that the level of paperwork required had led to increased stress for the nurses – but presumably much of this is project rather than prescribing related. Another comment was simply ‘beneficial’. The other comments could be separated into those pertaining to the patients (17) and those related to the nursing role (31) and can be summarised as follows:

**Positive practice changes for patients (n)**
- Fewer delays (4)
- More efficient service (4)
- Improved patient care/results (3)
- Increased accessibility/convenience (2)
- Stronger nurse/patient relationship (1)
- Better patient information (1)
- Patients less rushed (1)

**Positive practice changes for nurses (n)**
- More autonomy/empowerment/accountability (9)
- More comprehensive role (6)
- Greater knowledge (5)
- Improved calibre of nursing (4)
- More confidence/enthusiasm (4)
- More interesting/challenging (2)
- Easier to make recommendations and changes (1)

The greatest advantages of having a DNS who can prescribe based in the service were seen to be predominantly for patients in terms of access, cost effectiveness, improved care, reduction in barriers, less waste of time and money, better health outcomes and fewer delays. The full list of responses can be seen in Appendix H, but some examples are:
“It is best for the patient – access to specialist knowledge and medication in a timely, informed and patient centric way”

“No waiting time – get right treatment in a timely manner, improve patient satisfaction and improve care provision and quality of life”

“More timely insulin starts and better info to patients re insulin as (nurses) generally have more time to spend”.

Thirty seven of the team members saw no disadvantages in DNS prescribing. Most of the comments describing disadvantages came from GPs who were concerned about the potential for poor communication/feedback about medication changes, that nurses might not recognise a deteriorating situation if they don’t consult the patient’s doctor and the need for more of a team approach around medication plans and changes. Comments from other sources noted that for the nurses it appeared to be stressful and that there are personal liability risks associated with medication error, and for patients that they may not think they need to go to the GP anymore for scripts and equipment needs. The same person observed that not all patients can get a prescription from DNS prescribers.

Overall it appears that the majority view is in favour of DNS prescribing, with many advantages and few disadvantages and concerns being noted. The concerns that were raised appeared to come from general practice in the main, and highlight the need for thorough and appropriate communication around prescribing decision making in order for GPs to feel involved and informed.

5.1.5 Diabetes nurse specialist satisfaction with the prescribing role

Questionnaires were sent out to the nurses after they had been prescribing for about a month, and again at the end of the six month prescribing project. These can be found in Appendices I and J.

a) Preparation for prescribing

The first question in the nurses’ early prescribing questionnaire concerned their views on the adequacy of five different aspects of their preparation for being a nurse prescriber, and their overall satisfaction with their preparation. The preparation question was repeated in the final questionnaire to see if their views had changed retrospectively. They were given a 10 point rating scale where 1 represented ‘completely inadequate’ and 10 represented ‘completely adequate’.
Table 3: Nurses’ ratings of the adequacy of their preparation for prescribing and satisfaction with that preparation

<table>
<thead>
<tr>
<th>Adequacy of ...</th>
<th>Early prescribing ratings</th>
<th>End of project ratings&lt;sup&gt;1&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Range</td>
<td>Mean</td>
</tr>
<tr>
<td>Academic preparation</td>
<td>6-10</td>
<td>8.3</td>
</tr>
<tr>
<td>Prescribing practicum</td>
<td>4-9</td>
<td>7.9</td>
</tr>
<tr>
<td>Project meetings</td>
<td>6-10</td>
<td>8.3</td>
</tr>
<tr>
<td>Other education</td>
<td>6-10</td>
<td>7.7</td>
</tr>
<tr>
<td>Support from supervisor</td>
<td>7-10</td>
<td>8.4</td>
</tr>
<tr>
<td>Support from NZSSD</td>
<td>6-10</td>
<td>8.1</td>
</tr>
</tbody>
</table>

<sup>1</sup> One nurse did not return the final questionnaire so the ratings and comments are based on 14 rather than 15 responses

The early prescribing results show that support from supervisors was rated most positively with academic preparation and the project meetings very close behind. The later ratings collected at the end of the prescribing project followed the same pattern but were slightly higher, ranging from 8.6 to 8.7. At both times the other education provided and the prescribing practicum received the lowest mean ratings, the latter receiving the lowest rating of the set (4). Five of the nurses focused on this in their responses to the question of how any of the identified aspects of preparation could be improved. Their comments suggested: that the requirements of the practicum would have benefitted from further clarification; the paperwork associated with the practicum should be reduced; a meeting at the beginning of the practicum when all the information came through would have been useful, if difficult to organise; and more time and more scenarios to work through to get some practice would have been helpful. Overall the means were fairly close, ranging from 7.7 to 8.4 at the start of prescribing and 8.2 to 8.8 five months later – a small but consistent increase.

Other suggestions for ways in which the preparation for prescribing could be improved included:

- the inclusion of case studies around anti-hypertensives, statins and aspirin to discuss at the project meeting would be useful
- more in-depth discussion of the specifics of the project related paperwork
more time to review in depth patient education previously undertaken. Perhaps a
guided tool could be developed i.e. knowledge of pharmacokinetics and
pharmacotherapeutics to support knowledge of individual medications on the schedule
• clearer information about what constituted the case study required for the initial
application to NZNC

b) Confidence with prescribing and stopping drugs

The confidence nurses initially felt in prescribing and stopping drugs is represented in the
following table.

Table 4: Summary statistics relating to nurses’ confidence in prescribing and stopping
medications during the early prescribing period

<table>
<thead>
<tr>
<th></th>
<th>Prescribing</th>
<th></th>
<th>Stopping</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Range</td>
<td>Mean</td>
<td>Range</td>
</tr>
<tr>
<td>Insulin</td>
<td>8-10</td>
<td>9.2</td>
<td>7-10</td>
</tr>
<tr>
<td>Metformin</td>
<td>7-10</td>
<td>9.1</td>
<td>7-10</td>
</tr>
<tr>
<td>Statins</td>
<td>4-8</td>
<td>6.3</td>
<td>3-9</td>
</tr>
<tr>
<td>ARBs</td>
<td>1-8</td>
<td>5.7</td>
<td>2-8</td>
</tr>
<tr>
<td>Diuretics</td>
<td>1-8</td>
<td>5.6</td>
<td>2-9</td>
</tr>
<tr>
<td>ACE inhibitors</td>
<td>3-9</td>
<td>6.7</td>
<td>3-9</td>
</tr>
<tr>
<td>Calcium channel blockers</td>
<td>1-8</td>
<td>5.1</td>
<td>2-8</td>
</tr>
<tr>
<td>Sulphonylureas</td>
<td>7-10</td>
<td>9.1</td>
<td>7-10</td>
</tr>
<tr>
<td>Aspirin</td>
<td>3-10</td>
<td>6.5</td>
<td>3-10</td>
</tr>
</tbody>
</table>

According to these results the greatest confidence in both prescribing and stopping drugs was
felt in relation to insulin, metformin and sulphonylureas. The least confidence was associated
with calcium channel blockers, diuretics and ARBs with mean confidence in prescribing being
marginally lower than confidence in stopping. As is apparent from these means there was very
little difference in the ratings of prescribing and stopping each class of drug.

The ratings at the end of the project were elicited slightly differently. Prescribing was separated
into two categories, starting and titrating, resulting in three sets of ratings. These are provided
in Table 5.
### Table 5: Summary statistics relating to nurses’ confidence in prescribing and stopping medications during the early prescribing period

<table>
<thead>
<tr>
<th>Drug Type</th>
<th>Starting Range</th>
<th>Starting Mean</th>
<th>Titrating Range</th>
<th>Titrating Mean</th>
<th>Stopping Range</th>
<th>Stopping Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insulin</td>
<td>7-10</td>
<td>9.1</td>
<td>8-10</td>
<td>9.5</td>
<td>7-10</td>
<td>9.2</td>
</tr>
<tr>
<td>Metformin</td>
<td>7-10</td>
<td>9.3</td>
<td>8-10</td>
<td>9.4</td>
<td>7-10</td>
<td>9.2</td>
</tr>
<tr>
<td>Statins</td>
<td>4-9</td>
<td>6.9</td>
<td>5-10</td>
<td>7.0</td>
<td>4-10</td>
<td>7.1</td>
</tr>
<tr>
<td>ARBs</td>
<td>3-8</td>
<td>5.6</td>
<td>3-9</td>
<td>5.9</td>
<td>3-10</td>
<td>6.3</td>
</tr>
<tr>
<td>Diuretics</td>
<td>3-9</td>
<td>5.9</td>
<td>3-8</td>
<td>5.8</td>
<td>3-10</td>
<td>6.6</td>
</tr>
<tr>
<td>ACE inhibitors</td>
<td>5-9</td>
<td>6.9</td>
<td>5-9</td>
<td>7.1</td>
<td>4-10</td>
<td>7.4</td>
</tr>
<tr>
<td>Calcium channel blockers</td>
<td>4-9</td>
<td>5.8</td>
<td>4-9</td>
<td>5.9</td>
<td>3-9</td>
<td>6.2</td>
</tr>
<tr>
<td>Sulphonylureas</td>
<td>7-10</td>
<td>9.1</td>
<td>8-10</td>
<td>9.4</td>
<td>7-10</td>
<td>9.3</td>
</tr>
<tr>
<td>Aspirin</td>
<td>3-10</td>
<td>6.8</td>
<td>3-10</td>
<td>6.9</td>
<td>3-10</td>
<td>7.3</td>
</tr>
</tbody>
</table>

The following figures present the mean scores for prescribing (starting and titrating were combined to reflect ‘prescribing’ for comparative purposes) and stopping the different classes of drug at the start and end of the project period.

![Figure 2: Nurses’ mean confidence in prescribing particular types of drug at the start and end of the project](image-url)

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34
This reflects the small increase in confidence with prescribing particular classes of drugs which has taken place during the prescribing project period. The largest increase has taken place with statins and calcium channel blockers. When asked about which drugs they felt they had gained confidence in starting and titrating over the six month period, all but one felt they had gained confidence with several types of medication, specifically the ones they were least familiar with prior to prescribing.

A similar trend can be seen with confidence in stopping medications with the slightly greater increases again occurring with the classes of drug nurses were less familiar with before prescribing. Four nurses reported not gaining any confidence in stopping medications, due to a lack of experience with doing so during the project period.

Initially, overall ratings of confidence in prescribing and stopping medications ranged from 5 to 10 with a mean of 7.5 and no clear mode. At the end of the prescribing project the range of confidence ratings was from 6 to 10 with a mean of 8, suggesting a slight increase in confidence.

The question of what additional information about drugs and prescribing would have been or would still be useful was asked on both questionnaires. Early in their prescribing, a number of suggestions were made including:

- pharmacodynamics and kinetics and associated complications
- aspirin – why, when and for whom it should be provided and primary versus secondary intervention

**Figure 3: Nurses’ mean confidence in stopping particular types of drug at the start and end of the project**
• antihypertensives/renal protection and lipid lowering treatment, choice of specific drugs, and timing of dose increases
• contra-indications and prescribing for the elderly particularly with respect to diuretics

Two additional comments suggested that practice was what was required and one nurse said “I think we need to talk more and educate ourselves more”. These requests for information were addressed at the mid project meeting via presentations and discussions led by Dr Paul Drury and Dr Helen Snell. The NZSSD booklet ‘Guide to Medicines used in Diabetes’ was mentioned as being a useful resource.

At the end of the project most of the responses suggested that more practice was needed and the need for ongoing updates was required. Several nurses mentioned the usefulness of case review with a couple proposing that regional meetings of nurse prescribers be arranged. A couple of more specific knowledge requirements concerned:

• Use of multiple blood pressure agents
• Thiazide use in people with gout

At the start of the project eight of the fifteen nurses said there was always somebody available to consult when prescribing advice was needed and the other 7 said there was mostly somebody available. However all reported having the support they needed to feel confident in prescribing, one adding that she received excellent support from her Endocrinology supervisor but would like more discussion with a GP. Another stated “my supervisor is around most of the time which is fantastic – she has also been very generous with her time”. At the completion point, ten reported that there was always somebody available to consult, the remaining four saying there was mostly somebody around. All but felt they were receiving the level of support needed to feel confident, one having had some problems with a senior colleague. These had subsequently been resolved.

c) Supervision

Only two issues with supervision had arisen one month into prescribing; one nurse had been unwell and had to miss supervision sessions as a result, another said that sessions were difficult to schedule due to the supervisor’s workload and that sessions tended to be disrupted or cut short which made in-depth discussion difficult. At the end a similar picture emerged with two nurses mentioning the difficulty in scheduling meetings due to lack of time, geography and weather conditions.

During the project supervision sessions were held weekly for five DNSs, weekly to fortnightly for two, fortnightly for six and monthly for one. They were asked how often they felt that supervision meetings should continue to take place once the project was over and the
suggestions were similar, with four still wanting weekly meetings but more being in favour of monthly meetings.

Suggestions for help needed with patient issues were generated by four of the DNSs at the time of the first survey. These were: patients on polypharmacy; how to manage patients on large doses of insulin with continuing poor glycaemic control; follow up responsibility for patients started on statins and ACE inhibitors; antihypertensives; and oral hypoglycaemic agents for patients with co-morbidities. Again these suggestions were incorporated into the mid project meeting. At the end of the project the same question generated the need for more support in addressing the needs of complex patients such as those with multiple co-morbidities and on multiple medications. The issue of non-compliance was also raised.

The DNSs were asked how many of the prescriptions they were writing they felt the need to consult around and most indicated it was 20% (9) or less (4). One said 40% and another 60%. An additional comment provided was “this is difficult to answer – I may have a general discussion around a specific medicine rather than a specific patient”. These figures had shifted slightly by the end of the project; nearly all DNSs indicated that they would like to discuss 20% (5) or fewer (8) of their prescriptions, and one stating (60%).

Apart from complaints about the amount of paperwork involved in documenting clinical and contact information the only barrier to DNS prescribing experienced so far was that one GP practice had stated they did not welcome nurse prescribers. In response to this issue the nurse in question was not writing prescriptions for the patients at that practice. On the other hand all DNSs described the support they had received from supervisors, peers, medical colleagues, pharmacists and patients. Comments made included:

“I have had excellent support from my supervisor, managers within workplace and pharmacists. No negatives yet”

“My nursing colleagues in the Diabetes Service and my medical colleagues have all been encouraging and supportive. I have had a few positive comments from pharmacists and many positive comments from patients”

“Consultant very positive and supportive. Clients appreciate receiving script at time of consultation making care more accessible and timely”

Initially, the documentation required by the prescribing project was reported to be taking from 8 to 34 minutes per patient, but this included completing the clinical data form which required seeking out previous test results and providing lists of other medical conditions and their associated medications. The only problem with the documentation was raised by one nurse who pointed out the existence of two versions of the clinical data form which she found confusing. Apart from that, the only negative comments made concerned the amount of time

4 An abbreviation (D) was added to the second version for documenting a drug being discontinued
involved in documentation, but it was said to be “getting easier” and “a lot of work but necessary”. In fact when asked if there were any positive aspects to completing the documentation only one nurse said no. The rest suggested that the specific information documented encouraged patient review, sound decision making and reflection. Examples of the comments provided are:

“it makes me go back through previous lab results and analyse trends”

“it helps me gather all the relevant data to promote sound clinical decision making”

“I have an increased awareness of patients’ other medical conditions – this has made me more thorough in review of clinical notes/assessments”

d) Impact of prescribing
The nurses were asked about the impact prescribing had had on them personally, on their career and on their workplace. The rating scale provided ranged from 1 (very negative impact) through 5 (no impact) to 10 (very positive impact) and they were asked to provide explanations where possible.

The personal impact of prescribing received a mean score of 8.4 (range 7 to 10) early in prescribing and a mean score of 8.1 (range 6 to 10) at the end of prescribing. Comments provided to support the ratings suggested that prescribing has improved nurses’ practice with respect to their: “knowledge of pharmacology and clinical application”; clinical decision making; more complete and informative consultations and assessments; accessing and consideration of patient results; and service provision. It has also enhanced their job satisfaction; as one nurse said “my expanded scope of practice with increased focus on cardiovascular risk management rather than just diabetes blood glucose management provides me with significantly increased job satisfaction”. Time was noted to be an issue with more to do in the same length consultation and the same number of work hours. However, it was also noted that this would improve with experience and with reduced paperwork as the project ended. One nurse said she felt proud of her achievements, another that she has developed self-confidence.

Mean ratings of the impact of prescribing on nurses’ careers started at 7.9 (range 5 to 10) and ended at 8.6 (range 7 to 10). Early on in prescribing a few comments were made about employers’ lack of acknowledgement of the changed role with respect to pay or work conditions, however these were not raised again at the end of the project and in fact a couple of comments suggested that some recognition had taken place. Positive comments focused on prescribing being: a natural progression along the career path, one nurse saying “I always thought it would be something I would be doing”; satisfying; rewarding; increasing autonomy;
acknowledged by peers and managers; good for future employment options; and beneficial for patients.

Finally the impact of prescribing on nurses’ workplaces was uniformly positive. Ratings of this averaged out at 7.9 in the early survey (range 5 to 10) and 8.3 (range 6 to 10) at the end. These ratings were possibly lower than they should have been from the tenor of the comments provided as a number of the nurses described the lack of acknowledgement of their own time, extra responsibility and the paperwork demands under this heading instead of the personal impact one. The more relevant comments suggested that their ability to prescribe was: beneficial for patient access and care; encouraging other nurses to increase their skills and education; helping to streamline practice; improving collegial relationships with GPs and pharmacists; decreasing the workload of other prescribers.

e) Overall satisfaction
The final question asked for their overall satisfaction with their decision to become a nurse prescriber and the response was very positive. At the start of prescribing, scores ranged from 6 to 10, with six rating it as a 9 and four as a 10. This produced a mean rating of 8.7 out of 10. At the end of the project the mean score had increased to 9.1, scores ranging from 8 to 10.

5.2 Safety

5.2.1 Appropriateness of prescribing: Clinical audit
In June, ten patients per nurse were selected for clinical audit of the prescribing decisions and their outcomes. The patients were selected by CB by NHI and patients with more than one documented contact during the project were prioritised. The selected NHIs were sent to the supervising physicians who audited the prescribing decisions according to a standard set of criteria (see Appendix K).

Overall, no clinically significant concerns were noted and no adverse events were identified, however comments were made on five patients’ notes. Of the 150 sets of notes audited, it was noted that laboratory tests were not ordered for two patients when they perhaps could have been, but this did not result in harm or a change to prescribing decisions. Two cases of hypoglycaemia were noted but comments from the physician suggested these were due to the patient’s self-management rather than the DNS’s prescribing, and a decision not to prescribe an antihypertensive medication was questioned however, no clinical consequences were identified.

5.2.2 Adverse event or safety concerns
Any adverse event or safety concerns were required to be reported to the Project Manager as well as via the DNS’s organisational processes. No adverse events were reported and no safety concerns were brought to the Project Manager’s attention during the managed roll out.
5.3 Clinical improvement indicators

A set of clinical indicators was identified at the outset of the managed roll, similar to that collected in the demonstration project. Diabetes nurse specialists were required to complete a Diabetes Clinical Data Record (Appendix L) for every patient referred to them at the first consultation. This included patient demographics, medical history, current medical diagnoses, current medications and where possible two sets of retrospective clinical data to be used for baseline data. Each time the nurse interacted with the patient, either face to face, on the telephone, or via email communication, a Nurse Prescribing Log was completed detailing decision making and rationale (Appendix M). This enabled the collection of clinical data on 1392 individuals. The next section provides the patient demographics, and the following one summarises the clinical data collected at baseline (when the patient was first seen in the project period) and at follow up (latest available clinical information).

5.3.1 Patient demographics

There were 1392 patients included in the managed roll out of DNS prescribing project, 52 percent of whom were male. The age range was from 3 to 93, with a mean age of 50 years. Using the ethnicity categories on the clinical data forms, exactly half were of European or New Zealand European ethnicity, followed by 14 percent Māori, 20 percent Pacific Island, 9 percent Indian, 2 percent Chinese and 5 percent ‘other’.

Type of diabetes was recorded as 31 percent type 1, 65 percent type 2, and 2 percent gestational diabetes. There was also an ‘other’ category (2%) consisting of alternative types of diabetes such as steroid induces, LADA, MIDD and MODY. The time since diabetes diagnosis ranged from less than one year to 65 years, the average duration being 12 years.

Smoking status was reported for 94 percent of the patients, and of these 12 percent were current smokers, 26 percent had previously smoked and 62 percent had never smoked. An additional 2 patients were listed as ‘passive smokers’. Information about the number of cigarettes smoked per day was available for 122 patients and ranged from less than one (for example 2-3 per week) to 45, the average being 9.

The types of medical conditions patients had in addition to diabetes are listed are presented in Table 6. Numbers of other conditions ranged from none (18%) to 13 with a mean of 3.
Almost all of the patients were on medication at baseline, only 24 (2%) were not being prescribed any at all. The medications listed on the clinical data form for each patient were classified according to type and the frequency distribution is presented in Figure 4.

<table>
<thead>
<tr>
<th>Condition</th>
<th>n</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypertension</td>
<td>813</td>
<td>59</td>
</tr>
<tr>
<td>Dyslipidaemia</td>
<td>830</td>
<td>60</td>
</tr>
<tr>
<td>Cerebrovascular disease</td>
<td>81</td>
<td>6</td>
</tr>
<tr>
<td>Ischaemic heart disease</td>
<td>221</td>
<td>16</td>
</tr>
<tr>
<td>Foot problems</td>
<td>122</td>
<td>9</td>
</tr>
<tr>
<td>Diabetic renal disease</td>
<td>365</td>
<td>27</td>
</tr>
<tr>
<td>Diabetic eye disease</td>
<td>360</td>
<td>26</td>
</tr>
<tr>
<td>Asthma/COPD</td>
<td>122</td>
<td>9</td>
</tr>
<tr>
<td>Obesity</td>
<td>324</td>
<td>23</td>
</tr>
<tr>
<td>Other</td>
<td>658</td>
<td>48</td>
</tr>
</tbody>
</table>

The total number of medications of the types included in Figure 4 ranged from none to 12 the average number being 4. The total number of additional medications (which included those for asthma, depression, insomnia, gout etc) ranged from none to 18, with an average of 1.8. When
combined, this made a range of total medications per patient of none to 18, the average number being 6. These details reflect a complex patient group who are living with a range of conditions as well as diabetes, some related some not.

5.3.2 Prescribing patterns
During the six month project 2582 patient contacts were made. The number of contacts ranged from 1 to 23, the average being 2. Most of the contacts were clinic based appointments (69%) or telephone calls (27%), but email contacts (3%) and home visits (1%) also featured. Of the clinic based contacts, 74 percent were in secondary care locations, 17 percent were primary care appointments, 6 percent were at satellite clinics and 3 percent of patient contacts were in hospital wards. One contact was made at a school.

Of the 2582 prescribing decisions made, 90 percent were made independently, 6 percent following consultation and 4 percent during dual consultations with an authorised prescriber. These decisions resulted in a medication change during 57 percent of the consultations. As decisions could relate to more than one medication during a single contact the number of medication decisions was far greater than the number of contacts. The number and type of medication changes made are presented in Table 7.

Table 7: Number of drugs titrated, initiated and discontinued by drug type

<table>
<thead>
<tr>
<th>Drug type (n)</th>
<th>Titration</th>
<th>Initiated</th>
<th>Discontinued</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insulin &amp; oral glycaemic agents (1786)</td>
<td>1309</td>
<td>321</td>
<td>156</td>
</tr>
<tr>
<td>ACE inhibitor (44)</td>
<td>16</td>
<td>22</td>
<td>6</td>
</tr>
<tr>
<td>Lipid lowering (34)</td>
<td>6</td>
<td>19</td>
<td>9</td>
</tr>
<tr>
<td>Aspirin (9)</td>
<td>-</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Calcium channel blocker (8)</td>
<td>4</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Smoking (8)</td>
<td>-</td>
<td>8</td>
<td>-</td>
</tr>
<tr>
<td>Diuretics (5)</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total (1894)</strong></td>
<td><strong>1336</strong></td>
<td><strong>380</strong></td>
<td><strong>178</strong></td>
</tr>
</tbody>
</table>

Prescriptions were provided during 857 (33%) of the contacts with patients and of these, 402 (47%) were for repeat medications only, 323 (38%) were for new medications only and the remaining 132 (15%) were for new and repeat medications. The largest number of repeat medications and consumables, such as test strips, needles and test meters, scripted on one occasion was nine and the largest number of new meds/consumables was five.
A range of reasons was provided to explain why scripts were not provided for patients. The most frequent reason was because medication was not currently needed (95%) followed by the patient being referred back to their GP (2%). The medication needed not being listed for DNSs to prescribe accounted for just under one percent of the reasons (0.9%) and the remaining 2 percent of reasons included a prescription being provided by another prescriber, more blood tests being needed first, and patient’s choice not to have a medication prescribed.

5.3.3 Clinical outcomes

As was noted earlier, each time a patient was seen by a nurse prescriber for the first time during the project, a clinical data form was completed providing demographics and clinical information including weight, blood pressure, HbA1c and other diabetes related blood results. The following table presents these averaged baseline data separately for the paediatric (aged under 16 years) and adult (aged 16 and over) subgroups.

<table>
<thead>
<tr>
<th>Measures</th>
<th>Children</th>
<th></th>
<th>Adults</th>
<th></th>
<th>Adult target</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>Mean</td>
<td>n</td>
<td>Mean</td>
<td></td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>36</td>
<td>42.1</td>
<td>1196</td>
<td>89.6</td>
<td></td>
</tr>
<tr>
<td>BP systolic (mmHg)</td>
<td>13</td>
<td>113.0</td>
<td>1157</td>
<td>126.6</td>
<td>&lt; 130</td>
</tr>
<tr>
<td>BP diastolic (mmHg)</td>
<td>13</td>
<td>67.9</td>
<td>1156</td>
<td>73.0</td>
<td>&lt;80</td>
</tr>
<tr>
<td>HbA1c (mmol/mol)</td>
<td>38</td>
<td>80.6</td>
<td>1303</td>
<td>74.9</td>
<td>50-55</td>
</tr>
<tr>
<td>eGFR/GFR* (ml/min)</td>
<td>0</td>
<td>-</td>
<td>1104</td>
<td>69.5</td>
<td>&gt;60</td>
</tr>
<tr>
<td>Total cholesterol (mmol/l)</td>
<td>9</td>
<td>4.5</td>
<td>1105</td>
<td>4.4</td>
<td>&lt;4</td>
</tr>
<tr>
<td>HDL (mmol/l)</td>
<td>9</td>
<td>1.4</td>
<td>1105</td>
<td>1.2</td>
<td>≥1</td>
</tr>
<tr>
<td>LDL (mmol/l)</td>
<td>9</td>
<td>2.6</td>
<td>1047</td>
<td>2.4</td>
<td>&lt;2</td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>Median (range)</td>
<td>n</td>
<td>Median (range)</td>
<td>Target</td>
</tr>
<tr>
<td>ACR* (mg/mmol):</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Male</td>
<td>5</td>
<td>0.9 (0.9 – 119)</td>
<td>500</td>
<td>3.1 (0.9 - 905.1)</td>
<td>&lt;2.5</td>
</tr>
<tr>
<td>- Female</td>
<td>3</td>
<td>23.9 (1.1 - 43.4)</td>
<td>441</td>
<td>2.8 (.1 - 947)</td>
<td>&lt;3.5</td>
</tr>
<tr>
<td>Creatinine (µmol/l)</td>
<td>15</td>
<td>63.0 (40 – 76)</td>
<td>1183</td>
<td>82.0 (6 – 1348)</td>
<td>77-119</td>
</tr>
</tbody>
</table>

* Where eGFR/GFR was recorded as >60 or >90, 91 or 91 was used, respectively
# Where ACR was recorded as <1 or negative, 0.9 or 0.1 was used, respectively
Follow up data for the under 16 year olds was limited by the small sample size and the fact that fewer blood tests are routinely run for the paediatric population. The only two measurements we could compare were weight and HbA1c. Weight measurement on two occasions, at project entry and follow up, was available for nine children and mean weight increased from 48.5 to 50.1 kilograms. HbA1c was available on both occasions for 11 children and the mean increased from 73.6 to 80.5 mmol/mol.

Follow up data for adults are presented in Table 9. The mean/median blood chemistry, weight and blood pressure measurements for all adults for whom data were available at the end of the project, and also on follow up, is shown here. The sample size is considerably smaller than in Table 8 as only those for whom project entry and follow-up data were available have been included in the analyses.

<table>
<thead>
<tr>
<th>Measures</th>
<th>Baseline</th>
<th>Follow up</th>
<th>Adult target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight (kg)</td>
<td>n=241</td>
<td>Mean=92.4</td>
<td>Mean=92.6</td>
</tr>
<tr>
<td>BP systolic (mmHg)</td>
<td>n=226</td>
<td>Mean=130.4</td>
<td>Mean=129.7</td>
</tr>
<tr>
<td>BP diastolic (mmHg)</td>
<td>n=226</td>
<td>Mean=74.2</td>
<td>Mean=74.3</td>
</tr>
<tr>
<td>HbA1c (mmol/mol)</td>
<td>n=425</td>
<td>Mean=78.7</td>
<td>Mean=70.2</td>
</tr>
<tr>
<td>eGFR/GFR* (ml/min)</td>
<td>n=328</td>
<td>Mean=65.4</td>
<td>Mean=67.3</td>
</tr>
<tr>
<td>Total cholesterol (mmol/l)</td>
<td>n=281</td>
<td>Mean=4.5</td>
<td>Mean=4.3</td>
</tr>
<tr>
<td>HDL (mmol/l)</td>
<td>n=281</td>
<td>Mean=1.2</td>
<td>Mean=1.2</td>
</tr>
<tr>
<td>LDL (mmol/l)</td>
<td>n=249</td>
<td>Mean=2.3</td>
<td>Mean=2.2</td>
</tr>
<tr>
<td>ACR# (mg/mmol):</td>
<td>n=119</td>
<td>Median=3.8</td>
<td>Median=4.8</td>
</tr>
<tr>
<td>- Male</td>
<td></td>
<td>(0.9 – 456)</td>
<td>(0.9 – 580.5)</td>
</tr>
<tr>
<td>- Female</td>
<td></td>
<td>(0.9 – 672)</td>
<td>(0.9 – 775.2)</td>
</tr>
<tr>
<td>Creatinine (µmol/l)</td>
<td>n=350</td>
<td>Median=87.0</td>
<td>Median=87.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(39 – 1110)</td>
<td>(42 – 946)</td>
</tr>
</tbody>
</table>

* Where eGFR/GFR was recorded as >60 or >90, 91 or 91 was used, respectively
# Where ACR was recorded as <1 or negative, 0.9 or 0.1 was used, respectively
These results suggest that the measures have predominantly remained stable over the prescribing project period. Exceptions are a slight improvement in total cholesterol and a larger improvement in HbA1c. As the ACR is not normally distributed, and has a large value range, the slight increase noted for men probably reflects these characteristics and is consequently not of clinical significance. Improvement in HbA1c is clinically important however, as any reduction confers a reduced risk of micro and macrovascular complications. The observed improvement is particularly noteworthy given that most of the patient population the DNSs are working with were not newly diagnosed and would therefore have been receiving treatment before the project started.

6. Critical success factors, enablers and barriers to embedding the role

The extension of prescribing into the DNS role was considered to be beneficial by DNSs, their supervisors and patients in improving the quality of patient care, enhancing service delivery and generally increasing capability of the diabetes workforce. A number of critical success factors, enablers and barriers to DNS prescribing have been identified, and will be presented in the section to follow.

6.1 Critical success factors

Critical success factors pertain to the DNSs’ preparation for prescribing, the availability of supervisors, collaborative team functioning, employer support, effective communication and national oversight.

6.1.1 Adequate preparation to become a prescribing DNS

Although all of the DNSs held the required postgraduate qualifications, met professional criteria, and had the required clinical experience in diabetes care, the step up to prescribing was challenging for all. As previously reported, soon after commencing prescribing, the DNSs’ rating of their overall satisfaction with their preparation for prescribing was variable. Scores ranged from one score of 5 to two of 10 out of a possible score of 10 with most DNSs (11 of the 15) scoring 8 or above. Early prescribing patterns showed the DNSs to be extremely cautious with making prescribing decisions and encouragement and reassurance was required by their supervisors and the Project Manager to expand their prescribing volumes and thereby increase their confidence. When asked how she would advise other nurses who are preparing to be prescribers one nurse said “don’t hold high expectations to be a confident prescriber at the outset – time and experience has helped me build confidence”.
In addition to adequate academic preparation, the prescribing practicum was considered essential by all and gave the opportunity for both the DNS and the supervisor to identify specific areas of strength and areas for further development and/or consolidation during the practicum period. The six months of NZSSD support post practicum and authorisation by the Nursing Council of New Zealand, provided additional oversight and assurance through regular contact and project meetings as the DNSs commenced their prescribing role.

6.1.2 Availability of suitably qualified supervisors with time to provide ongoing case review

The availability of supervisors with the required knowledge and skill in diabetes care, as well as the time available to provide supervision is critical. The regulation enabling diabetes nurse specialist prescribing stipulates a requirement for supervision but not how this should occur. The NZSSD implemented a retrospective case review approach to supervision. This was deemed to meet the requirements of supervision and to be the least intrusive on supervisor and DNSs’ time as case review was already considered to be an element of most services’ activities, and it would promote collaborative multidisciplinary team functioning.

As previously reported, all supervisors were committed to providing supervision and supporting their DNS, although some issues did arise. These related to leave, geography and supervisor workloads. However, workable arrangements were put in place to accommodate these.

One DNS commented on the value of supervision as: “My only advice would be to ensure there is a good supervisor. I have been very fortunate to have a very accessible supervisor who has been very supportive. Some of my colleagues have found making dedicated time with their supervisor more difficult. I think having this support is critical when making the step from suggesting a GP prescribe medications to prescribing them yourself”.

Whilst the workload associated with providing regular and ongoing case review was not considered to be overly burdensome, a limit of two DNSs for any one supervisor was suggested by one of the supervisors. This potentially limits the number of DNSs able to take up the role in any one service. In addition, where DNSs are practising in rural and at times isolated locations, the practicalities of supervision and regular case review could become problematic.
6.1.3 Well-developed collaborative relationships between DNSs and medical practitioners, especially in general practice/primary care

All of the DNSs had practised in the specialty of diabetes for a number of years, had established collaborative relationships with medical practitioners and other members of the multidisciplinary team and were known to their community. Therefore, the DNS/supervisor relationship was built on a foundation of previously demonstrated clinical knowledge, skills and team functioning. This was consolidated through undertaking a prescribing practicum together. Relationships were considered to be particularly important in the primary care setting with one DNS stating: “In primary care it’s having that relationship with general practice before you’d even consider it”.

6.1.4 Support from employer to take on additional role – in particular nurse leader and relevant manager

Support from the DNS’s organisational management and leadership team was a requirement in the Registration of Interest documentation and this proved to be invaluable for all DNSs and their supervisors. This assured that organisational guidelines and policies were changed (where they needed to be) to accommodate registered nurse prescribing, that any clinical risk issues were identified and processes put in place and professional nursing oversight within the organisation was assured. In particular, having the support and encouragement from the Director of Nursing or equivalent was critical.

6.1.5 Communication of key messages, clarification of roles and responsibilities to stakeholders

Clear communication of the prescribing role the DNSs were taking on, both at a local level and nationally was critical. This was facilitated through a variety of communication methods including:

- Media release from Minister of Health’s office
- PHARMAC Schedule and Contracts Manager (and team) proactively working with NZSSD project manager, releasing names of DNS and their NCNZ registration number in the Pharmaceutical Schedule updates.
- Frequently Asked Question sheets for patients and for health professionals made available to all clinical champions, supervisors and DNSs
- A letter to community pharmacies informing them of the new role for the named DNSs
• In some areas DNSs physically visited their community pharmacists, introduced themselves and made information available about the new role.

• A slip was provided to the DNSs by NZSSD that could be attached to the script informing pharmacists of the new role, the named DNSs in their community and their contact details. This ensured that the patient was not turned away at the pharmacy. Stories and showcasing in local papers.

• A story in the Diabetes New Zealand magazine informing consumers of the managed roll out.

6.1.6 Oversight, support and guidance from a clinically informed national body such as NZSSD, including collection, management and reporting of clinically relevant data

Many nurses have commented that they would not have liked to commence their prescribing role without the support provided by NZSSD, such as project manager contact and project meetings, where networking, peer support and clinical teaching occurred. “In diabetes we have been very lucky to have Helen as a driver and an organiser and getting us through Council and everything. So it’s almost dependent on whether other specialities have got somebody who can manage the process like she has”.

The two project meetings were an essential mechanism for communicating project documentation requirements, providing guidance on applications to NCNZ for authorisation, understanding the regulation and clinical teaching. One nurse commented: “I found the information we received at the prescribing meetings was very helpful – the interactive discussions and problem solving was challenging but relevant”.

Ongoing oversight and support from NZSSD, especially meetings for the prescribing DNSs is sought:

“Regular meetings with other prescribers would be hugely beneficial where cases can be discussed (possibly with a supervisor present). The project meetings were excellent; I only hope we get more of these! The information we were given was also fantastic”.

6.2 Enablers

A number of enablers have been identified that facilitated the implementation process of the managed roll out across services:
• Support for prescribing role from other clinicians within the multidisciplinary team and beyond. This was achieved through having clinical champions in each site

• Organisational support /acknowledgement of role extension by organisational nurse leaders and managers - very important for enabling changes in service delivery, referral pathways and quality processes, where required.

• Many of the DNSs expressed difficulty with taking on the new role of prescribing, in addition to their usual care activities, as additional time was required for more in-depth assessments and consideration of treatment options. Some have stated that extra time allocated as they first took up their role as a prescriber to come up to speed would be enabling, with others recommending a decreased clinical workload initially. For example one DNS said “I would negotiate allocated hours to ensure I could focus on gaining prescribing confidence in the first six months”

• As already included in critical success factors, effective communication locally was an important enabler so that patients were well informed, as were other stakeholders.

6.3 Barriers

Few barriers were encountered in the implementation of the managed roll out. They pertained to the additional time needed for project documentation, lack of organisational management and/or leadership to participate and, for primary health care nurses, a non acceptance of nurse prescribers by a small number of GPs.

Almost all DNSs complained about the data collection required by NZSSD. Whilst they understood this was required in order for outcomes of the managed roll out to be reported, it impacted on their workload and often required them to finish project paperwork in their own time.

Lack of organisational agreement to participate in the managed roll out was usually due to local factors where restructuring or reorganisation of services was occurring, thereby limiting capacity within services to take on the additional work associated with the new role in a short time.

Non acceptance of DNS prescribing for people with diabetes was only encountered in one general practice, however as roll out continues in primary care this needs careful consideration. The resistance appears to be from GPs who do not understand the academic and clinical preparation process the DNS must undertake in order to prescribe, alongside their perception of ‘ownership’ of patients by primary care. Additionally, the team satisfaction questionnaire identified a concern from general practice about the potential for poor communication of clinical decision making by DNS and changes to patients’ medications.
7 Case studies

Case studies of seven nurses (three from primary care and four from specialist services) from four sites with geographically and socially demographic differences were carried out. These were from Northland, South Auckland, Hutt Valley and Central Otago.

7.1 Case study one: Sharon Sandilands, Diabetes Nurse Specialist Central Otago Health Services.

7.1.1 Context
Sharon is employed by Central Otago Health Services Ltd which funds her to provide specialist diabetes nursing services to General Practice, and hospital outpatient and inpatient services. The physical region she is responsible for is large, encompassing Central Otago, Wanaka and Queenstown, and covers a population of 42,000 people. Her practice base is Dunstan Hospital, Clyde, which is a rural hospital with a 24 bed inpatient unit. It also provides outpatient services with visiting specialists from Dunedin - including Endocrinology. She runs outpatient clinics from Dunstan Hospital but also visits general practices in the region on a regular basis. Patients therefore have the option of seeing her at the hospital or at their own GP’s rooms. She runs diabetes clinics in health centres around the region including Queenstown, Wanaka, Cromwell, Ranfurly and Alexandra - this requires approximately two hours of travelling most days. This not only brings diabetes care closer to people’s homes but also enables mentoring of General Practice teams to support capability in primary care. There is a Practice Nurse (PN) in each general practice with a special interest in diabetes and they set up a clinic for her when she visits.

Although there are seven Diabetes Nurse Specialists (DNS) employed by Southern DHB, Sharon is the only one in her region and she is consequently responsible for diabetes care across the lifespan. Her caseload of about 300 individuals includes: paediatric type 1; obstetrics type 1 and type 2 and gestational diabetes mellitus (GDM); and adult type 1 and 2 with complications. Central Otago in general has an aging population, but Queenstown has a younger demographic. The population is predominantly NZ European with a low rate of Maori/Polynesian people and a moderate rate of Asian people based in Queenstown.

General Practitioners (GPs) in her region will refer patients firstly to their own diabetes PN and then, if too complex for the PN to manage, to Sharon. As well as patient consultations of 30-40 minutes duration, Sharon’s role encompasses running carbohydrate counting classes with a dietitian for people with type 1 diabetes, insulin pump starts and continuous blood glucose monitoring. A large component of her role both prior to and after gaining prescribing privileges has been the education and support of PNs to increase their skills in diabetes knowledge and care.
“I’m working a lot on up-skilling practice nurses, I mentor them and run peer review evenings, that sort of thing. So I think practice nurses are generally trying to deal more with the straightforward type 2 diabetes so I am seeing the more complex type 2 and type 1, paediatrics and pregnancy in Queenstown. There’s so much diabetes it’s the only way to manage to get PNs to do more with basic insulin starts and managing the more straightforward type 2s.”

The Diabetes Practice Nurse at each practice will generally sit in on Sharon’s consultations for mentoring.

7.1.2 Changes in practice, consultations and teaching

Prior to prescribing

A consultation prior to prescribing involved education and assessment of the patient. A typical example might be a person with type 1 or type 2 diabetes, she would look at the glycaemic control, look at what’s happening during the day and their profile. The patient would then have to go back to the GP for a script if needed. Sometimes Sharon would try to knock on the GP’s door and get a prescription on the spot but that wasn’t easy to do in a busy clinic setting. One GP likes to meet with Sharon and discuss the patients she’s seen in the clinic and would then write scripts for any patients needing them. She perceives that to be a great, collaborative model. For other clinics if she couldn’t see the GP she would have to leave a message to get a script done or send the patient back to the GP. The GPs would take her recommendation but she always provided them with really good background information and reasoning.

Following prescribing

Now the whole process is much more streamlined in that Sharon can do everything she did before but can write a prescription to give the patient during the consultation and dictate a letter to inform the GP and then do the follow-up herself. Word has got out and some patients have congratulated her on becoming a prescriber, which is seen as a real achievement, others are asking to be referred to her. Another point she made was that her practice has changed in that previously it was focused on glycaemic control but she is now looking more holistically at hypertension and cardiovascular issues as well.

“I feel different just being able to do everything for the patient at the time; it’s so much more straightforward for them”.

“It feels so much more satisfactory. I can deal with the problem, see it through to the end and ensure the patient has everything they need before they go”.

“I don’t worry more than I did before, in fact probably less because I was concerned that something might not be done the way I thought it should be done. If I’ve got concerns about
what should happen I’ve got the Endocrinology team to discuss with. I don’t leave myself with worries, I get back up or discuss with the GP or whatever needs to happen”

“It’s far more satisfactory for me as a nurse. And it’s not like I want to be rushing to a pen and a prescription pad, it’s that I want to help the patient to a better outcome at the end of the consult.”

7.1.3 Advantages of DNS prescribing for patients
Improved access to prescriptions was identified as a major advantage. “A lot of diabetes patients are lower socio-economic status and a visit to the doctor is going to cost them money whether or not they are enrolled in Care Plus. They are really grateful to be able to get a script and not have that cost attached. But I think overall it’s the convenience, they get what they need now and they know the follow up will be when I say it will be, in a week or whatever.”

7.1.4 Disadvantages of DNS prescribing for patients
No disadvantages were identified

7.1.5 Impact on other clinicians/service provision
Sharon’s endocrinologist supervisor Associate Professor Dr Patrick Manning feels that his patient workload has reduced as a result of Sharon’s prescribing, however this hasn’t impacted on his general workload due to the additional supervision requirements. He is writing fewer scripts, and although the type and complexity of patients he sees hasn’t changed, he is seeing them less often as Sharon is seeing them in the interim. He feels that the quality of patient care has been enhanced by Sharon being able to prescribe.

The only negative component of nurse prescribing mentioned was the amount of supervision required but he also observed that “this is probably the amount of supervision that all DNS’s ought to receive regardless of whether they are prescribing or not”. When asked about the positive aspects of nurse prescribing his response was that “it is good to have colleagues that are being up skilled so that they are more autonomous. Also means that what DNS’s normally do (adjusting insulin etc) is being done within a regulatory framework”. The preparation nurses received for prescribing was sufficient, and no suggestions for improvement were made, he rated nurse prescribing in his region as 8/10. His advice to other nurses who might be considering prescribing was to “do it” and to future supervisors of nurse prescribers was to be aware of the workload involved and that it was not for a finite time. He suggested that taking on only one or two nurses was a good idea in order to supervise properly.

7.1.6 Barriers
The only barrier Sharon has observed has come from one General Practice where the GPs have said they don’t welcome nurse prescribing and so she hasn’t written prescriptions for people at that practice. It’s a problem though as the patients have heard that she can prescribe and will ask her for scripts which she is not able to provide. In that practice she sees the patient and then leaves a message that a script needs to be written and informs the patient that they need to go and see their GP for it. She says it “feels really unsatisfactory now the way I’m working.”
7.1.7 Enablers
Sharon considers good relationships with GPs, hospital specialists and visiting specialists to be really important. She has received great support from all other General Practice staff and from specialists. All other GPs are happy with nurse prescribing and regularly ask Sharon’s advice.

National oversight and support has been important, especially in view of Sharon’s remote location: “In diabetes we have been very lucky to have Helen as a driver and an organiser and getting us through Council and everything. So it’s almost dependent on whether other specialties have got somebody who can manage the process like she has”.

7.1.8 Support for the role
Sharon gets excellent support from the Otago Specialist Endocrinology and Diabetes team who have always encouraged her to contact them for advice or back up. She is able to ring them during a consultation so that she can obtain further information from the patient at the time if required. Monthly case review takes place with Associate Professor Manning whom she describes as excellent.

7.1.9 Benefits to employers
She considers that nurse prescribers can offer a better, really comprehensive service to the population the organisation provides for. Cost doesn’t need to come into it.

7.1.10 Advice to nurses wanting to become prescribers
Sharon has found it to be important to have good relationships with GPs, hospital specialists and visiting specialists. She said that a clinical Masters degree gave a really good grounding and recommended that they discuss career pathways and look at the whole postgraduate requirement for the pathway in preparation.

Where nurses are prescribing, support is already in place. But in other DHBs nurses need to be lobbying for support within the organisation now, like with the Director of Nursing. It’s essential to have the Organisation’s support.

“My advice would be to go for it. I think it’s an excellent way of reaching potential as nurses and providing a better service for patients – especially in specialties – and to do all those clinical papers to get a good prescribing framework and probably to do a university prescribing practicum I think is very good. And I would encourage nurses to do it without reservation.”

Associate Professor Manning’s advice to other nurses who might be considering prescribing was to “do it”.

53
7.2 Case study two: Kate Smallman, Diabetes Nurse Specialist, East Tamaki PHO and Diabetes Projects Trust

7.2.1 Context
Kate works with a general practitioner (GP) Dr Walter Muller at East Tamaki Health Care Family Doctors which is part of a large PHO in South Auckland. Dr Muller works at the clinic seeing a predominantly Pacific Island population and he and any of the PHO doctors can refer patients to Kate. The service covers the Otara and Mangere districts and is situated in the Otara Mall. It is primary care and caters for a low socio-economic and relatively young (40 - 50 year old) Maori, Pacific and Asian population. Most people have complex health needs and many see themselves as old, they had their children young and now have grandchildren. Part of her approach is to try and find something they want to live for, such as see the grandchildren grow up, to encourage them to look after themselves and achieve that goal. Prevention is also a large focus because if the family has diabetes it is a question of how to prevent the grandchild developing it. Improved diet for the child hopefully improves it for the older family members as well.

The GP clinic is run without patients having booked appointment times. This means that there might be 20 or 30 patients waiting up to 2-3 hours to see the GP but it is what they are used to. Although Kate’s clinic does have set appointment times many of her patients do not observe them and tend to arrive when it suits them. The exceptions are those people who want early appointments before or after work/night shift. There is a high nonattendance rate and as a result more patients are booked in than can easily be seen. Although this is occasionally problematic if they all turn up, it is rare. The clinic starts as soon as the first person arrives and runs from there. It means that people do have to wait on occasions but they appear to be accepting of that. Kate’s concerned that most of those who do not attend are the ones who need to be on insulin as they are on the maximum oral medication for their diabetes. Non attenders will be rebooked but that doesn’t address the issue, so community health workers will go and visit them or Kate will ask the doctor to talk to them when they next visit him/her. Often they don’t attend as they don’t understand and don’t want to start insulin.

A large part of her role is discussion about medication; what it is, how they take it and how it makes them feel. Although they are generally being prescribed the medication they need, they’re not necessarily taking it and need education and support to do so. Finances play a large part for this population and for a while there were pharmacists in Otara offering free prescriptions which was great for Kate’s patients. However that has stopped with the introduction of the new contract and “suddenly I was having patients coming in saying ‘look I’ve got a bill for $50 for my medication and I can’t afford it, what do I do?’”. As an example Kate said she changed a woman from her existing insulin to one administered by a disposable pen to make it easier for her and she said she would have to wait for a week until her next pay came through as she couldn’t afford the $5 until then. Consultations are not very long, generally 15-20 minutes, because Kate acknowledges the importance of building relationships
in ways that will encourage people to return. She feels that most of them don’t want to spend a lot of time there, but want to come in, get the information and go away again, they have things to do. “I don’t think that’s a bad thing because we want to teach them this amount of information but they’re not going to remember it all so if we can give them a little bit each time they come, they’re going to understand it better and know where they’re going with it.”

As well as her clinical practice, Kate is the sole diabetes nurse specialist for the Diabetes Projects Trust. As part of this she manages healthy lifestyle contracts the NGO has with the Ministry of Health around education for patients and workforce, healthy lifestyle education in schools and healthy eating on a budget for the work force working in the community.

**7.2.2 Changes in practice, consultations and teaching**

*Prior to prescribing*

Previously, Kate would review the patient and see what’s happening as far as their diabetes is concerned. If they needed medication altering she would discuss it with Dr Muller and he would write a prescription. Although it wasn’t too problematic, as the GP was in the next room and she was able to walk in and out of consultations, it was still disruptive and time consuming and added to patient delays.

*Following prescribing*

Now she can write scripts for people as she sees them, knowing the GP is still there for consultation as needed. The additional education she has received and the process of becoming a prescriber has encouraged her to broaden the scope of her practice and to check clinical indicators more regularly. Particularly with the forms required by the project she has found that she is looking at her patients in greater detail, checking the drugs they are on and why and considering what changes might be needed more generally than just glycaemic control. “It’s just making me look a lot closer at my patients as a whole rather than the bits and pieces going on with each one. Now I feel a lot more comfortable”.

As an example, Kate had a Chinese patient in his 50s who didn’t speak English and was heading for renal failure. He had been given new medication by the Renal Clinic and although it was intended that the old medication be stopped, he still had it and Kate was not sure he understood what he should be taking. To confuse matters further the clinic had swapped one ACE inhibitor for another and then back again and she herself was unsure about what they intended him to take. She was also aware that he had received his medication from a chemist who had since lost his licence, therefore she was concerned that this was a complex and potentially dangerous situation. Prior to prescribing she would have sent him back to his GP for a chat, but instead she contacted a collaborating Senior Medical Officer at Middlemore Hospital to talk through the drug implications, provided new prescriptions and took him to a new pharmacist who spoke Chinese. “So being a prescriber enables me to be more holistic, bringing things together rather than being fragmented”.

55
7.2.3 Advantages of DNS prescribing to patients
Kate has found that having a greater understanding of the medications associated with diabetes and related conditions has been particularly useful for her work with Māori and Pacific people.

“We need to spend more time, we really need to understand medication and talk through with them and ask what the problems are. There are some issues about not taking medication, it might be for financial reasons, it may be they don’t understand it, or their mother or father was on it and then they died. And so it’s really trying to find out what’s the problem, why don’t they want to take their medication? They’re worried about hypos, they’re worried about their eyes, they’re worried that the tablets are going to make their kidneys worse, so there are a whole lot of issues. I don’t think I have the magic answer but I do think we need to spend more time talking with people and ideally need to spend more time with them 10 years ago. I think that's the sad thing, seeing them now with such big problems.”

Now that she is prescribing she feels she is having those important conversations with more knowledge and understanding of medications. “I have learned so much more and you also take more responsibility for writing that prescription and knowing what the drug does with that patient whereas before they’ve all been written by doctors who have already prescribed them.”

It also feels like she is able to complete the consultation as they are having everything done with her rather than being sent off for a script afterwards. She feels that her more thorough approach to education and support has really made a difference. “I've seen some of my patients I've put on insulin recently and their control has improved and it’s really nice to see and I don’t think it’s just going on the insulin, I think it’s the fact that they’re taking all their medication and they’re actually taking care of themselves”.

“One patient was very anti going on insulin but his HbA1c was in the 100s and so I started him on insulin and it’s down to 60 and he’s feeling better, really good. He’s now brought his wife to see me and I really feel he thought ‘yes, I've done it, it’s working for me so bring the wife along and get her sorted now’. He'd already seen the doctor who had referred him on to Kate and asked her to sort him out.

7.2.4 Disadvantages of DNS prescribing for patients
No disadvantages were identified.

7.2.5 Impact on other clinicians/service provision
Although his patient workload has not changed as yet Kate’s GP supervisor, Dr Muller, feels that the patients are getting a more comprehensive understanding and better maintenance of their diabetes. His general workload has increased but he is happy with putting extra input into the diabetes nurse and her training. Overall the quality of care provided has improved and the ongoing review is also better. Although he doesn’t see any negative aspects to DNS prescribing, he did add that it depends on the experience of the nurse and that nurses need to take into
account patients’ psychosocial issues including compliance, knowledge and understanding. He noted a couple of positive aspects to DNS prescribing; one being that it can decrease his workload, the other that nurses spend more time with the patients. Overall he gave his satisfaction with DNS prescribing a rating of 8/10. He described his supervision as a “well worthwhile experience”, observing that the learning goes both ways.

Kate described quite clearly where she felt her role as a nurse prescriber sits in relation to GP and DNS work.

“I see the tip of the iceberg, the GP practice at the PHO is huge and I see 10 or 12 patients a week. I don’t see them all and I don’t think we are taking away from the GPs as we are only seeing a small number and we are only seeing really sick patients. There’s a huge number out there with reasonably well controlled diabetes and they do see their GP for their medication and to be reviewed. For a PHO to allocate a practice nurse just to do that and for her to feel comfortable to prescribe all that medication I don’t think we are going to have many. Plus the time I spend talking to my patients about their medication, PNs would have difficulty doing that.”

7.2.6 Support for the role
Kate feels that supervision and the support she receives from other doctors and her peers has been fantastic and won’t change. “I think respect’s the thing. By becoming a DNS your level changed anyway and the doctors you work with did have that respect and you were becoming more of a peer ... and by prescribing you’ve gone up a notch again and your knowledge has increased.”

7.2.7 Barriers
In the hospital setting Kate feels that there is already a lot of support for nurse prescribing amongst consultants and Senior Medical Officers but it’s a different story in general practice. “I think it’s going to be a long hard struggle and you just talk to each GP as you come along and let them know what you are doing and why you are doing it and how you can make a difference.”

7.2.8 Enablers
“For nurses working in primary care it would be good to forge relationships with secondary services to get more support. The GP is very good but sometimes his knowledge is on diabetes management is limited as he is working with a much wider range (of conditions).”

Kate sees the value in keeping detailed records such as those required during the project in order to track patient changes easily and as a way of encouraging reflection. Once the project is complete she feels she will have to spend more time with the patient in front of her as she won’t be taking the time to reflect in the same way later. “Normally we don’t know if we’ve done a good job, we don’t audit our work. We see the patient come through the door and hope their HbA1cs have improved and things are better. So in a sense doing this project is making you look closer and think, you’ve got something tangible to look at.”
7.2.9 Benefits to employers
Kate observed that for employers it is often all down to money. “Nurses are cheaper than doctors and if we can see a patient once and do all the things that are needed for the patient it saves them having to see the doctor and enables the doctor to see the patients who are more ill, non-diabetic, more acute.”

“I would say that nurses are more stable in that they stay in the practice so you’re going to get continuity of care for your patients and they are going to come back.” She noted that in her area the most important thing is to develop relationships with the patients so that they do come back. “In the long run if we can keep them well they’re going to need less care in the future.”

7.2.10 Advice to nurses wanting to become DNS prescribers
Kate suggests that they look carefully at the available postgraduate training in terms of their own career path and needs, not just what is required by Nursing Council. “You need to look at those papers and get what you need; it’s not just getting a qualification it’s about getting the understanding about how the drugs work”.

“I feel that where I am in my role is supporting other nurses and encouraging them to go along the pathway. And the paperwork [clinical data collection], maybe that’s something that it’s good for newly prescribing nurses to look at and think about what they’re doing and keep a record and see what’s happening because otherwise we don’t know what we’ve done and who we’ve seen”.

Dr Muller provided the following advice for nurse prescribers:

- Understand the part psychosocial and cultural issues play
- Consider compliance/adherence to medication
- Understand side effects of medications and interaction with other meds and past medical history
- Don’t concentrate too much on HbA1c for elderly people, increased risk of hypos. It’s more important that they are happy rather than pushing for HbA1cs to reach 50.

7.3 Case study three: Lyn McPherson: Diabetes Nurse Specialist Hutt Valley District Health Board

7.3.1 Context
Lyn works within the Hutt Valley Diabetes and Education Management Service which is employed by Hutt Valley DHB to improve health outcomes for people with diabetes in the region. The Hutt district, known to local Māori as Te Awakairangi, has a population of nearly 145,000. Of this population 17 percent are Māori, 8 percent are Pacific and 6 percent Asian.
Rimutaka prison housing around 800 individuals is located in the area and as families of inmates often move into the area this has an impact on the regional demographics. It is a diverse district, with areas of extreme deprivation alongside areas of wealth. The population as a whole is relatively young with a mean age of 33 years and is virtually all urban based. It currently has one PHO, Te Awakairangi which was established in July 2012, and one large GP practice aligned with a PHO outside the Hutt Valley area. This adds up to approximately 100 GPs in the district.

The service Lyn is employed by is a specialist diabetes service based in a secondary care hospital. Her team consists of two diabetes physicians, a dietitian, an administrative support person and 5.4 FTE diabetes CNSs. Lyn is the third DNS to be authorised as a designated nurse prescriber in the service.

Although her primary role is as Team Leader and CNS in the adult and young adult service, due to the loss and current non-replacement of staff, from December 2012 she has also taken on responsibility for the paediatric service. This means that her caseload includes 49 children aged between 3 and 16; 36 young adults up to the age of 25; and around 20 adults.

Adult patients are referred to the Diabetes Service according to referral criteria and generally the CNSs work with a patient through an episode of care then discharge them back to primary care. In the adult service each nurse is assigned different practices and referrals from those practices go to that nurse. This provides continuity for the Practice Nurses and GPs. Children and young adults are generally managed exclusively in the secondary care service as are adults with type 1 diabetes, unless they prefer to receive their ongoing diabetes care from primary care or shared care. Patients are seen initially for approx 45 minutes then followed up either by phone, email or text. Further face to face appointments of 30-45 minutes can also be scheduled.

Lyn describes her work with newly diagnosed children as being of particular importance “you have to follow them up every day for several weeks and it’s really interesting to track the [insulin] titrations up and down as they settle in ... It’s such an important time in that person’s life and the family as well so you really have to be there for them.”

As well as providing direct patient support, the Diabetes Service invests considerable time into developing skills of other practitioners. A variety of training programmes incorporating teaching and skills maintenance are run for primary care and other groups. In addition, there is a shared care programme in conjunction with primary care clinicians. This includes regular primary/secondary shared clinical review programs for a range of PHO/practice groups and real time phone access for all primary care clinicians working in the Hutt district. This means “phone and email any time availability so they can run something past us and we don’t actually have to have a referral for that patient but can give advice. This enables us to work with the more complex cases”.

59
7.3.2 Changes in practice, consultations and teaching

*Prior to prescribing*

Before she could prescribe, Lyn would see the patients and then if she wanted to change or initiate any medication would write to the GP or fax something through to say “I would like to do this, this and this, if you are happy with this please sign and fax back with a copy of the prescription so you have that in the notes”. For the patients referred from specialists she would have to keep a list of the patients she wanted scripts for and then ask for scripts to be written at the weekly clinical review. If a prescription was urgent, she could email the doctor and would then have to go and meet them somewhere to collect it, “I’d be the one running around the hospital looking for them”.

*Following prescribing*

Now it is considerably easier for her; “I can generate it straight away without having to email the doctors or find them and it is more convenient for the patient. I’m making sure that I see them, and it must be better for the doctors because it’s frustrating ‘can you just write this’ when you know exactly what you want – particularly the repeat scripts”.

“Changing insulins is really great. Rather than having to wait until clinical review and then getting a prescription, you know if you want to swap them and you know what they need and you’d have to say ‘well I’ll talk to the doctors on Wednesday’ but now I can do it there and then and give them a new pen and away you go. It cuts out that whole step”.

Lyn feels that her consultations are now more comprehensive, they have extended beyond looking at just glycaemic control and now include cardiovascular risk factors. “I mean I used to look at those but I didn’t get so involved because now having the ability to adjust those medications and try to meet those targets, I think it’s really good.” She has also noticed changes in what she teaches during the practice nurse updates. She provides a broader base than just glycaemia and encourages them to look for early signs as “intervention at the early stages can make the biggest difference”.

7.3.3 Advantages of DNS prescribing for patients

Being able to prescribe is especially beneficial for the young adult service. Lyn notes that one of the main goals is to keep them engaged with the health service “until they grow their brains a bit more. We don’t have great expectations of fantastic HbA1cs, we just want to keep them alive”. Part of that is being accessible and there for them and prescribing makes it quicker for them. Previously they would have had to go to the GP for a script and as they are generally well and not needing an appointment for any other reason they wouldn’t go, and GPs won’t provide a script without seeing them even if they have letters from specialist services. Young people, particularly if they are at work or university, resent having to wait an hour or more at the GP’s surgery “for the GP to tick boxes – that’s how they see it and it just makes them anti health
services I think”. Lyn has an ongoing relationship with her patients, can be more flexible with when she sees them and can now provide a prescription on the spot “rather than them running out of insulin and ending up in hospital – which happens with young adults because they always run out on Friday afternoon or Christmas eve”.

An example of the benefits of being able to prescribe was a young adult who came to see Lyn when she became pregnant. She had previously been on insulin but had stopped taking it, her HbA1c level was high and she was really worried. Lyn was able to decide what to put her onto, based on what she had been taking before and her current condition, and start her on an effective dose. She knew how much she needed and was able to write a script for enough insulin to get her re-stabilised quite quickly. “Having the ability to make those sorts of decisions about things you are more than competent to do is really good”.

7.3.4 Disadvantages of DNS prescribing for patients
While she largely describes it as a “win win” situation, Lyn perceives there to be one disadvantage for some patients. These concerns the potential expectation set up by her prescribing for patients referred from general practice when she sees them in her specialist care clinic. Most of these individuals will be discharged back to primary care and will need then to return to paying for GP consultations for diabetes management and prescriptions.

7.3.5 Impact on other clinicians/service provision
The diabetes specialist who provides supervision for Lyn hasn't seen any significant effect of her prescribing on his patient or general workload, prescription writing or type/complexity of patients seen. However, he feels that the discussion and up-skilling involved “can only be positive for quality of care”. In his opinion there are no negative aspects to nurse prescribing but a number of positives which include a more skilled team, greater depth in the nursing workforce and enhanced confidence and capability. He feels that Lyn was adequately prepared for prescribing and had no suggestions for improving the preparation. His overall satisfaction with DNS prescribing in the Hutt Valley was 9/10.

7.3.6 Barriers
No barriers were identified.

7.3.7 Enablers
Lyn perceived an important feature of establishing prescribing to be communicating early with community pharmacies and general practice teams. She also found it really helpful already having two DNS prescribers in the service who could offer her support and guidance.

7.3.8 Support for the role
Lyn receives excellent supervision from a specialist diabetes physician, who also supervises the other two nurse prescribers, “he’s always made the time, he’s been fantastic and is really committed to it”. Supervision sessions are held weekly and Lyn can also rely on other doctors and the nurse prescribers for support as needed. The other prescribers have been useful for guiding Lyn through the project processes but also for “bouncing ideas off each other” and
“talking about regimens and adjustments. The insulin is our bread and butter but more the blood pressure medications I found, because we don’t prescribe a lot of those.”

7.3.9 Benefits to employers
“You’ve got specialist nurses, because by the time you’ve done the number of years and you’ve got your accreditation, you’ve got really good experience in diabetes. So you get safe, knowledgeable practitioners who can prescribe and run nurse-led clinics.” Lyn saw cost effectiveness to be another benefit, saying “for the DHB we fill a gap more cheaply and serve a useful purpose”.

Advice from Lyn’s supervisor, endocrinologist Dr Raymond Bruce, to service managers about the employment of nurse prescribers is “it adds depth, capability and knowledge, all of which inevitably impact favourably on service delivery. It is a useful extension of career development in experienced senior nurses.”

7.3.10 Advice to nurses wanting to become DNS prescribers
Lyn’s message would be “it’s great; I’m pleased I’ve done it. All the preparation was really good, the prescribing practicum was excellent, I found that really good experience with the case reviews, medication reviews and more comprehensive cardiovascular assessment.”

“It’s made a big difference to my practice and I think the more knowledge (you have) and the more that you feel like you want to share that knowledge, it enhances the nursing consultations.”

Lyn believes there should be a financial acknowledgment of the extended role and the inherent increase in responsibility but that’s not why she chose to take it on.

Advice from Dr Bruce to nurses who want to prescribe would be “go for it, especially if you already have a good working relationship with a physician or similar medical colleague”. His advice for supervisors of nurse prescribers is to “ensure regular review access and ease of communication”.

7.4 Case study four: Bronwyn Henderson: Diabetes Nurse Specialist, Manaia PHO, Northland.

7.4.1 Context
Bronwyn is employed by the Manaia Health PHO, a primary health care organisation in Whangarei. It services a population of 93,000 through 23 general practices and within this population 37,210 individuals are have high needs due to ethnicity (Māori/Pacific) or SES. Diabetes affects 4752 people with almost half (46%) having high needs. The PHO has employed Bronwyn as a full-time DNS since 2006. Her role is subsidized by Services to Improve Access (SIA) funding and her primary focus is working with Māori and Pacific Island people with type 2
diabetes, in particular those with deprivation scores of 9-10 and complex diabetes related needs. Bronwyn provides clinical assessment, short-term case management and makes recommendations for ongoing clinical management through clinics at the Manaia PHO and in general practice. In addition to seeing patients herself, Bronwyn can be contacted by other health practitioners seeking advice or information.

Another part of her role is to provide training for general practice nurses to become Diabetes Resource Nurses within their practice. This involves holding monthly study days and mentoring as required. She and the other Northland based nurse prescribers have observed that the nurses who have been involved in the training are more confident, not just about diabetes but about talking to the GPS and providing advice and making recommendations – which they didn’t do well before. Also at the start several said they personally didn’t want a bar of prescribing and now they are doing postgraduate papers and wanting to get on the framework.

Along with the PHO dietitians, Bronwyn has provided a Diabetes Self Management Programme for the last five years and more recently group education sessions for whanau. Non clinical aspects of her role include incorporating any new diabetes initiatives such as the Diabetes Care Improvement Package and strategic planning for the Manaia Diabetes Service.

Bronwyn has observed that as other practitioners have increased in knowledge and skills she is getting fewer referrals as more patients are being managed in general practice. However as a result of the new insulin initiation guidelines, she has been very involved in starting people on insulin.

7.4.2 Changes to practice, consultations and teaching

Prior to prescribing

Prior to prescribing she would receive a referral from general practice, would do an assessment and then send the patient back to get a prescription for insulin or other medication change.

Following prescribing

Now it’s considerably easier as they do a referral, she makes a decision on the insulin and prescribes it and the person can go away with everything. It’s one less step for the patient and for the GP practice and for her in communicating back to the practices.

7.4.3 Advantages of DNS prescribing for patients

Some patients have congratulated nurses following a newspaper article about nurse prescribers. Others don’t seem to have seen prescribing as a big change, as Bronwyn noted:

“They were more surprised before when I had to send them back to the GP that I wasn’t prescribing it because they looked at you like you were the specialist that they were referred to and they presumed that you would prescribe.”
It’s cut down the costs for them as they would have had to go back to see their GP and there’d be a prescription fee and probably a consultation fee in most cases so that’s cut back too.

7.4.4 Disadvantages of DNS prescribing for patients
No disadvantages were identified.

7.4.5 Impact on other clinicians/service provision
Bronwyn said that GPs who in the past would see a patient and contact her for advice on medication will now just send the patient to see her knowing she can write a script. So that’s a shift in workload for them. Bronwyn’s GP supervisor, Dr Kyle Eggelton, feels that her prescribing has had no impact on his workload, prescription writing or the type/complexity of patients seen – but this is due to them not sharing the same caseload. He doesn’t see any negative aspects to DNS prescribing and considers that it may reduce access difficulties for patient. There is also the potential for greater adherence to guidelines, in his opinion. He believes that the nurses were adequately prepared for prescribing and rates his satisfaction with DNS prescribing in the region as an 8/10.

7.4.6 Barriers
The only barrier alluded to was associated with the documentation required by the project itself.

7.4.7 Enablers
Bronwyn felt it was important to know your colleagues in primary health care and have good relationships.

7.4.8 Support for the role
Bronwyn’s experiences of prescribing have been wholly positive. “I’ve had excellent feedback and the GPs have been really supportive. I was a little bit worried about how they would feel, but a few of them said they thought I could prescribe anyway. I think I’ve got a good relationship, I’ve been working in the role for seven years so I know all the GPs pretty well and so they’re happy to refer to me and I think that makes a difference, that relationship, that they trust you.”

7.4.9 Benefits to employers
Bronwyn observed that in the PHO it’s all about targets and prescribing is going to be one of the indicators – that people with diabetes are prescribed statins and ACE inhibitors, so that’s going to help with targets. “That’s where prescribing is going to be most useful, the early preventative stuff”.

7.4.10 Advice to nurses wanting to become DNS prescribers
Bronwyn believes in primary care it’s having that relationship with general practice before you’d even consider it.
Dr Eggleton’s advice to nurses who want to prescribe is to ensure that they are well supported by peers and GP/physician colleagues and to future supervisors to ensure that time for supervision is regularly blocked out in advance.

7.5  Case study five: Amy Savage, Adrienne Coats and Liz Allen, Diabetes Nurse Specialists, Diabetes Services, Northland District Health Board

7.5.1  Context

**Amy Savage**

Amy has been a diabetes nurse specialist for 15 years and is employed by the Diabetes Service based at Whangarei Hospital. A multidisciplinary team including a physician (0.5 FTE), dietitian and psychologist run weekly clinics at regional hospitals (Hokianga, Kaitia, Dargaville and Bay of Islands) and work alongside CNSs there. They also provide specialist clinics within general practices. Amy works .8 FTE with 0.2 FTE clinical time. Her caseload varies between 30 and 50 patients, most of whom are complex. They include: renal, including post transplant; type 1; people on insulin pumps; and inpatients seen on behalf of the consultant who would usually be seen by a registrar.

**Adrienne Coats**

Adrienne is a diabetes nurse specialist, employed 0.8 FTE by Northland DHB Diabetes Service, and with a caseload covering the lifespan. It currently includes: 25 women with diabetes in pregnancy with either pre-existing type 1 or type 2 diabetes or Gestational Diabetes Mellitus, 13 children aged between 4 and 16 years; and 14 people with complex type 1 and type 2 diabetes. All attend clinic consultations and she follows them up with phone consultations as required. She also provides care for two children and one pregnant woman with type 1 diabetes on insulin pump therapy. Her other responsibilities include education courses for people requiring multiple daily injections and teaching for the Diabetes Service which provides two day courses for registered health professionals. Adrienne is also involved in MAUDE, a self management programme for people with type 1 diabetes. In addition she oversees continuous glucose measurement systems for the Diabetes Service, and has some involvement in the Young Adults education and social evenings. She has also led the development of guidelines for inpatient hypoglycaemia management with piloting the ‘hypo kit’ and ongoing roll out.

**Liz Allen**

Liz’s position is with the Diabetes Service based at Whangarei Hospital where she is employed 0.8FTE. Her main role is as a Clinical Nurse Specialist (CNS) for the Young Adult Service and she also provides specialist diabetes nursing input in Emergency Department and the Intensive Care Unit throughout her week. As part of her role she also co-leads, develops and delivers
the Northland diabetes programme and is the co-ordinator for clinical student placements in diabetes.

Liz has a caseload of 70, 43 of whom are young adults – many with multiple psychosocial issues. Her ability to prescribe has considerably sped up the process of getting medication to this population.

### 7.5.2 Changes in practice, consultation and teaching

**Prior to prescribing**

For Amy, prior to prescribing, the process was hugely time consuming for the consultant (Dr Nicole McGrath) as the DNSs would only see her once a week to discuss cases due to being out of the Whangarei base undertaking rural outreach clinics. The delay in making changes to a patient’s medication regimen could be a week or more as the discussion and any resulting prescription would have to wait until they had met with her.

Adrienne and her patients experienced the same delays with accessing the consultant in order to discuss cases and get prescriptions written. Her work with pregnant women requires very close monitoring and delays of up to a week in initiating insulin were concerning.

The youth population tends to be more impulsive and less aware of consequences in relation to their health and safety. Plus if they are employed, it is often under casual or tenuous employment contracts so concordance with treatment regimens and clinic attendance can be fraught. Therefore, Liz would try to ensure that they received a script through the service on the day that they were seen but this required accessing the specialist on the same day, generally by email. Liz would email through the NHI, details of the situation and what was required for the specialist to write a script and then get her clerk to fax it through to the appropriate pharmacy.

**Following prescribing**

Amy can now make those sorts of decisions and initiate statins and change insulins and then feedback what’s been done. “It’s reduced time delay in changing therapies and as we have worked with her (supervisor) for a long time she has confidence in our capabilities.”

Adrienne can write out a script, fax it to a pharmacist and get the pregnant woman started within 24 hours. “It’s fantastic, and it’s really interesting. I went up to the clinic and Nicole (consultant) reviewed one of the patients I’ve been following and it was like she didn’t need to do any of the work because it was already done and she was very very happy with that. And the woman was really well controlled.”

Similarly Liz can now just write the prescription thereby saving herself and Nicole considerable effort and disruption as Nicole may be in the middle of a clinic in a rural location when one of the nurses needs to contact her. Another aspect of working with youth is that they have a habit of turning up having already run out of medication and needing a quick response. In Liz’s
words, being able to prescribe has been “wonderful – especially if you want to avoid hospital admissions”. Being able to prescribe has “taken a weight off her shoulders” as she no longer has to add to her workload with all the toing and froing with Nicole and no longer has to “intrude on her precious time”.

7.5.3 Advantages of DNS prescribing for patients
Amy has had nothing but positive response from patients regarding prescribing.

Adrienne observed that the process of handing over a prescription encouraged her to be more thorough about the medications, how they work, potential side effects and what to look for than she had previously been.

Being able to give young people prescriptions and get them to appointments is great. A lot of them already have serious complications and have poor outcomes and by prescribing Liz feels she can deal with their health needs better. “I can get them to provide samples and give them scripts and Nicole has decided she will take the bloods as well so we can take urine and blood samples in the clinic to ensure we get them.”

7.5.4 Disadvantages of DNS prescribing for patients
No disadvantages were identified

7.5.5 Impact on other clinicians/services
For the Northland specialist diabetes nurses, they feel that they are working at registrar level rather than as DNSs already. They only have a half-time consultant for the entire region and, as she doesn’t have a registrar to run clinics, the nurses are seeing the more complex patients with the expectation that they will be looking at the broader aspects of their health and initiating things as required. As they do more, they increase in confidence and are looking more closely at the bigger picture “which fits really nicely with how we’re supposed to be practising anyway”.

The three Northland nurses are also supervised by Dr Nicole McGrath who is very happy with the DNS prescribing, rating it as 9 out of 10. She can see no negative aspects of nurse prescribing, and considers that the nurses were well prepared to take on the prescribing role. The complexity of patients she is seeing hasn’t changed, and although her general workload initially increased as a result of supervision requirements, her patient workload has decreased due to nurses writing scripts. She also feels that the quality and efficiency of patient care has improved.

7.5.6 Support for the role
Overall there has been support for the role of DNS prescribing but it has met with a degree of cautiousness in some medical circles “where somebody said ‘you do realise this is a huge change in practice don’t you?’ But he doesn’t see nurse specialists in that scenario of how you worked before, and the preparation you’ve had and that you’ve been doing this for a long time so it’s just a natural step. They don’t see that... If anything we’re overly cautious, we’re hardly
gung ho, we’re not going to leap in. If anything, we’re going to tie ourselves in knots, we’re very cautious and respectful of things.”

Some pharmacists have contacted nurses to check that they intended a medication change or addition but the comment was made that that happens with GPs as well.

7.5.7 Benefits to employers
Liz suggests it’s saving them money. It must be a huge benefit as they do not have to employ a registrar or expand the physician role. It decreases barriers in access to service as well as saving time and money for patients and increasing productivity for clinical staff. If you want to improve outcomes this is an obvious way to go.

Dr McGrath describes nurse prescribing as beneficial and a way to improve service delivery.

7.5.8 Advice to other nurses
Amy would advise nurses to “get involved in a collaborative team working with somebody who’s going through the same thing” as she has appreciated the support she has received from making the transition to nurse prescriber alongside Liz and Adrienne.

Adirenne’s suggestion was to “get yourself a good physician, somebody you are comfortable with. If you had a difficult relationship it would make it extremely hard”. All three nurses really appreciate the support and encouragement they receive from Nicole McGrath who clearly appreciates them as well.

Dr McGraths’s advice to would be prescribers is to “go for it and expect that it will be stressful at the start” and to potential supervisors that “it is worthwhile”.

7.6 Case studies: A summary

While the case studies were undertaken to characterise the nurses’ individual experiences and work contexts, the messages seem to be ones of similarity rather than difference. It is clear that in prescribing they have taken on what is traditionally seen as part of the medical role, however they are approaching their prescribing practice as nurses. They continue to assess, communicate, educate and support holistically but with added knowledge, understanding and capability. Their attitude towards prescribing is one of caution and consideration with the result that they feel no risks are being taken. They are consulting when necessary and they feel confident that patients are benefiting from a more thorough, timely and cost-efficient process. All nurses feel like they now have more to offer in consultations with respect to patient assessment, patient education and medication review and also in sharing their knowledge with other nurses and the primary care practitioners they provide education and support for.
Because of the extra attention paid to co-morbidities, medications and laboratory results, the nurses are increasingly confident in their prescribing decisions and have more surety that patients are receiving what they need. The satisfaction partly comes from the fact that being able to assess, monitor, educate, prescribe and write a script to give to patients as they leave, completes the consultation process and enables them to better manage the whole process. Previous reliance on somebody else to write the script and ensure it got to the patient or pharmacy, often with inadequate follow up documentation, felt uncomfortable and incomplete.

The entire prescribing shift appears to have broadened the scope of patient assessment for all nurses. They are all looking beyond the glycaemic control and even when they feel that the patients they see are already well managed in general practice with respect to lipids and cardiovascular health, they are considering the medications patients are on with more detail and understanding. For example they observed that they are thinking about whether the medications are appropriate and whether there are any possible dose rate or interaction concerns.

Nearly all of the nurses made the point that by the time the patients, who are generally more complex and consequently not easily managed in general practice, are referred to them it is often too late to make much of an impact on the disease trajectory. They said that there was need for earlier detection and intervention which would improve glycaemic control and limit the development of complications.

The nurses have come up against very few barriers to prescribing, with the exception of one general practice in Central Otago, all GPs, pharmacists, specialists, nurse colleagues and patients have been supportive of, and generally grateful for, the role extension.

Although some doctors may have concerns that by introducing DNS prescribing nurses are somehow taking on a medical role, the way in which the nurse prescribers talk about their practice highlights quite clearly that this is not the case. The additional knowledge and understanding of medications which has prepared them for writing prescriptions has enhanced their nursing practice such that they are providing better holistic care for their patients while continuing to build good relationships, communicate with them and generally fill in gaps as they have always done. Kate’s description of her support of the Chinese patient exemplifies this.

8 Benefits to employers and advantages of diabetes nurse specialist prescribing

Several benefits to employers have been identified by the DNSs and their supervisors. Maximising the capability of the workforce and enabling DNSs to work to their potential within their scope of practice appears to be a major one. Through prescribing they can offer a more
comprehensive service to the population the organisation provides for, enabling doctors and nurse practitioners to focus on the more medically complex patient, thus creating efficiencies in service delivery. This applies to both primary health care and specialist services.

The relative stability of the nursing workforce was also identified as being of benefit in terms of providing continuity of care. It is well understood in diabetes care that developing therapeutic relationships is very important and will encourage patients to return for subsequent appointments. This is especially relevant when working with Māori and Pacific Peoples.

The benefits of ongoing national oversight from a body such as NZSSD are clear; both for the maintenance of standards and the support of DNS, supervisors and employers as the roll out of diabetes nurse prescribing continues.

Some specific advantages of employing DNSs with prescribing authority were identified as:

- GPs are swamped, DNS prescribing increases capacity, continuity of care and access to appropriate medicines in primary health care
- In specialist services, the DNS can provide interim follow up of patients, thereby decreasing physician and nurse practitioner workload, enabling them to focus on more medically complex patients
- Where DNSs who can prescribe provide outreach services/satellite clinics, access to care is improved and although not directly measured ‘did not attend’ rates were reported to decrease
- Overall, by having more clinicians able to provide diabetes related prescriptions, this increases access points for patients for scripts
- There is an increasing number of people commencing on continuous subcutaneous insulin pump therapy and this is labour intensive. Where there are DNS prescribers, ‘pumping’ care and clinics can be run by specialist nurses rather than doctors
- Improved team functioning, with quality activities such as case review, becoming routine
- Through improving access to care, the ability for services to meet the intended goals of ‘Better, Sooner and More Convenient’ are enhanced
- The immediacy of the DNS being able to provide scripts as part of the consultation provides clinical benefits as education is able to be provided at the time of prescribing, thereby improving understanding of medications and potentially encouraging adherence
- With an increasing prevalence of diabetes of 8% per annum compounding, all clinicians in the diabetes team need to practising to their fullest potential in order to meet demand.
9 Recommendations

Preparation for the prescribing role

- Registered Nurses need to have experience in the specialty and already have collegial relationships with their medical colleagues
- A formal and thorough prescribing practicum is a must prior to starting prescribing
- Relevant, structured education should be provided early into prescribing as a strong foundation is needed and confidence takes time to build

Clear supervision requirements

- It is vital that supervisors are committed to providing support in the long term, and have the time, ability and inclination to do this. This applies not only to regular case review meetings but also daily availability for consultation. For this reason services should consider carefully how many nurses they feel able to supervise before agreeing to take them on.
- Supervision should continue on a fortnightly to monthly basis once the six month initial prescribing phase is completed

Additional time allocated to prescribing nurses as they start prescribing role

- Consider decreasing the clinical load initially until prescribing becomes more routine and familiar
- If data collection is required, sufficient time should be allowed for this over and above usual work time

National oversight, facilitation and co-ordination

- The NZSSD be supported to maintain ongoing oversight of prescribing nurses, current and future
- Further roll out needs to be managed as per the NZSSD processes to ensure a consistent standard of implementation and support.
- In further roll out, efforts should be made to recruit registered nurse prescribers in areas of need and where there are currently few or no registered nurse prescribers. This would include remote geographical regions and the South Island.
- Educational meetings with other prescribing nurses would enhance peer support and learning experiences
Communication to stakeholders

- Education is needed for the public with respect to what prescribing and non-prescribing diabetes nurse specialists do and how their role fits in with other practitioners such as GPs, specialists, nurse practitioners and practice nurses.

Ongoing evaluation of clinical outcomes

- A national clinical data base/repository would support ease of access to clinical data and consequent reporting of clinical outcomes

- Ongoing clinical audit should occur to ensure quality and safety are maintained.
Appendix A

Request for Registrations of Interest (ROI)

New Zealand Society for the Study of Diabetes

Registered Nurse Prescribing in Diabetes Care

2012 Managed National Roll Out
REGISTRATIONS OF INTEREST FOR THE DIABETES NURSE SPECIALIST (REGISTERED NURSE) PRESCRIBING 2012 MANAGED NATIONAL ROLL OUT.

New Zealand Society for the Study of Diabetes Incorporated (NZSSD) is seeking registrations of interest from parties interested in participating in the Diabetes Nurse Specialist (Registered Nurse) 2012 Managed National Roll Out Project.

This document sets out NZSSD’s procedures and requirements for Registrations of Interest (“ROIs”), which all submissions should follow. If you are in doubt about the relevance of providing information, we advise that the information should be included rather than omitted.

NZSSD will evaluate ROIs for suitability.

Your attention is drawn in particular to clause 2.5 relating to this ROI process and that there is no intention that the ROI process creates legal relations between NZSSD and those registering an interest.
1 BACKGROUND

The prescribing of medicines is regulated under the Medicines Act 1981 and its associated regulations which provide for two classes of prescribers: authorised and designated prescribers.

Authorised prescribers are medical practitioners, dentists and registered midwives and have full prescribing rights and access to all medicines in the Medicines Regulations based on their scope of practice.

In 2011 a new regulation was created within the existing Medicines Act (1981) within the designated prescriber category, to allow suitably qualified Registered Nurses prescribe a limited range of diabetes related medicines and devices under the supervision of an authorised prescriber. NZSSD was contracted by Health Workforce New Zealand Health (HWNZ), in partnership with the Nursing Innovations Team of the Ministry of Health and collaboration with the Nursing Council of New Zealand, to implement the innovation project in 2011. The external Evaluation Report confirmed the safety and effectiveness for the twelve diabetes nurse specialists and now a national managed roll out is planned.

NZSSD has been commissioned to lead the implementation of the managed roll out of Diabetes Nurse Specialist (Registered Nurse) Prescribing in 2012.

NZSSD is seeking interest from suitable diabetes services/sites throughout New Zealand to participate in the managed roll out. N.B. For the purposes of this project, a ‘site’ is not necessarily a single service but may be one or two services within a district combining to form a collaborative site. A collaborative ROI between local services to form a site may be submitted but must be geographically nearby.
2 PROCEDURE AND TIMETABLE

2.1 Submission of registration of interest

Closing Date and timelines

ROIs must be received by 5pm on 24th August 2012 (“the Closing Date”) by NZSSD’s Contact Person specified in clause 2.2 below. Late submissions will not be considered.

The key milestones associated with the issue of the ROI are expected to be as follows (note that this timetable may be subject to change):

<table>
<thead>
<tr>
<th>Date</th>
<th>Milestone</th>
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<tbody>
<tr>
<td>1 August 2012</td>
<td>Issue of ROI</td>
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<tr>
<td>14 August 2012</td>
<td>Last date for questions from submitters</td>
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<tr>
<td>24 August 2012</td>
<td>Closing date for receipt of interest</td>
</tr>
<tr>
<td>12 September 2012</td>
<td>Evaluation and selection of preferred submitters</td>
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<tr>
<td>14 September 2012</td>
<td>Notification to preferred submitters &amp; service agreements sent</td>
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<tr>
<td>28 September 2012</td>
<td>Service agreement finalised</td>
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<tr>
<td>1 October</td>
<td>Preparation for the go-live of the Sites commences</td>
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Format of ROIs

Your ROI must be delivered to NZSSD’s Contact Person, by the Closing Date, in a sealed envelope marked Registrations of Interest for Diabetes Nurse Specialist (Registered Nurse) Prescribing Workforce Innovation Project in the following format:

- **Six** printed copies (one unbound); and
- **One** electronic copy on a computer disk(s), USB stick or a CD ROM in Microsoft Word format.

You may not submit your ROI by facsimile or email.

You may amend or withdraw your ROI at any time before the Closing Date specified above by providing written notice to NZSSD’s Contact Person.

NZSSD will acknowledge the receipt and the withdrawal of ROIs.

All notices in regards to this ROI will be forwarded to the address provided by submitters in their ROI.
2.2 Enquiries

General enquiries about this ROI must be made during business hours to NZSSD’s Contact Person:

Helen Snell
Project Manager

Telephone: 06 3508114
Email: helen.snell@midcentraldhb.govt.nz

Post: Department of Diabetes and Endocrinology
MidCentral Health
Private Bag 11036
Palmerston North 4442

Street address: Department of Diabetes and Endocrinology
MidCentral Health
Gate 9, Ruahine Street
Palmerston North 4442

Note that your ROI may only be delivered to NZSSD’s Contact Person by post or delivery.
Submitters must not:

- contact any other person at NZSSD regarding this ROI without the express authorisation of NZSSD’s Contact Person.
- approach or directly or indirectly lobby, attempt to influence or provide any form of incentive to, any representative of NZSSD concerning any aspect of this ROI process. Any submitter who either directly or indirectly makes any such approach may be disqualified.
- make any public statement in relation to this ROI, the ROI process, their ROI or participation in the ROI process, without NZSSD’s prior written consent.

NZSSD’s Contact Person is not obliged to address any enquiries received within seven (7) calendar days prior to the Closing Date in clause 2.1.

Any communication with you where NZSSD provides information that is applicable to all submitters, and is not in this ROI or its attachments, may be notified to others to whom this ROI has been provided and may be published on the NZSSD and Health Workforce New Zealand websites.

### 2.3 Confidentiality

If your ROI contains information that you consider should be held confidential you are advised to clearly identify such information and indicate the reason(s) why you consider the information should be held confidential.

Please note that information held by NZSSD may be subject to request(s) under the Official Information Act 1982 as this project is sponsored by Health Workforce New Zealand and the Ministry of Health.

NZSSD may also release summary information about submitters short listed following this ROI process.

### 2.4 Ownership of ROI documents

All ROI documents will become the property of NZSSD on lodgement.

Ownership of the intellectual property rights in a ROI does not pass to NZSSD with the lodgement of the ROI. However in submitting a ROI, the submitter grants NZSSD a licence to retain, use, disclose and copy the information contained in any ROI document for the purposes of:

- evaluating or clarifying the ROI;
- negotiating any resultant contract;
- managing a contract with the successful submitter (if any);
- responding to any challenge to the ROI process, audit and complying with governmental and parliamentary reporting requirements or request for information; and
- any other purpose related to the ROI process or above purposes.
2.5 ROI selection process

NZSSD must be satisfied that you and your ROI meet certain eligibility criteria before your ROI may be considered.

The criteria for your ROI to be eligible are that NZSSD is satisfied that:

- your submission complies with the requirements of this ROI;
- you have the ability to provide the services specified in Part 3;
- you satisfy the evaluation criteria in Part 5.

The evaluation criteria are not in any particular order, are not exhaustive and will not necessarily be accorded equal weight or any particular weight at all.

NZSSD’s preference is to short list submitters on the basis of this ROI. However, NZSSD may (at its option) consider non-conforming ROIs. Any non-conforming ROIs should clearly identify the aspects of your proposal that do not conform to the ROI requirements.

In considering your ROI, NZSSD may ask you for further information, or to verify information, in relation to any aspects of your ROI.

If NZSSD’s discussions with submitters or other circumstances make it necessary to extend the indicative date by which NZSSD wishes to shortlist submitters in clause 2.1, NZSSD may notify parties who have submitted a ROI of the necessary extension of time.

NZSSD reserves the right at any time to:

- accept or reject all or any ROI;
- consider, accept, or reject any non-conforming ROI, at NZSSD’s sole discretion;
- suspend or cancel (in whole or in part) this ROI and the ROI process at any time;
- re-invite ROIs;
- seek additional ROIs;
- waive any irregularities or informalities in the ROI process;
- amend any timetable in this ROI;
- amend this ROI, or any associated documents, by the issue of a written amendment notice;
- consult with the public and/or any other party interested in the delivery of the required services;
- notify all other submitters and offer any of the other submitters the opportunity to amend their ROIs where, as a result of one or more ROIs received or for any other reason, NZSSD decides to change the services that NZSSD intends to contract for;
- not enter into any contract in relation to the matters described in this ROI.
2.6 General

(a) NZSSD is not liable (whether in contract, tort or otherwise) for any liability, loss (including a direct, indirect or consequential loss), cost or expense arising from your ROI or from its preparation or lodgement.

(b) Submitters and their officers, employees, agents and advisers must not engage in any collusion, anti-competitive conduct or any similar conduct with any other submitters or person in relation to the preparation or lodgement of their ROIs.

(c) ROIs shall remain valid for a period of 180 days from the Closing Date.

(d) By responding to this ROI, you accept the terms and conditions of this ROI and the ROI process.

3 THE SERVICES

NZSSD requires suitably qualified and experienced Diabetes Nurse Specialists to participate in the Diabetes Nurse Specialist (Registered Nurse) prescribing managed roll out project.

The project requires up to six services/sites across practice settings (i.e. primary health care and acute/specialist services) and a broad geographical spread that meet certain criteria outlined below. **N.B. For the purposes of this project, a site is not necessarily a single service but may be one or two services within a district or close geographical region combining to form a collaborative site.**

3.1 Characteristics of suitable diabetes services

Minimum requirements for consideration as a demonstration site:

- At least two diabetes nurse specialists (DNS) who are registered nurses (maximum four per site) providing diabetes services who meet Nursing Council of New Zealand’s qualification and training requirements
- Nurses must provide evidence of indemnity insurance via a relevant professional organisation
- At least one authorised prescriber, who will act as a supervisor, and be the clinical champion for the project within the service(s)/site
- At least one authorised prescriber who will undertake a clinical audit of a sample of clinical files which includes evidence of DNS prescribing
- Approval from the Nurse Leader and Medical Head (or equivalent) of the service(s) for participation in the project as a site
- Approval from the Director of Nursing and other relevant managers (e.g. Chief Operating Officer, Medical Director) for participation in the project as a site

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5 Refer Nursing Council of New Zealand for specific requirements
- The service works within a multi-disciplinary team model
- Mature quality management systems that include policies, processes and evidence of continuous quality improvement having been implemented
- Administrative support to enable the accurate collection and reporting of data and information
- An undertaking that a high level of commitment and priority will be given to this project (meeting timeframes, using project documentation, participating in project meetings, sharing knowledge and experience with other sites, internal audit, proactively identifying patients for DNS management that will include prescribing etc)
- Have sufficient throughput of patients to demonstrate a broad spectrum of work for DNS across the diabetes continuum e.g. minimum of 10-15 patients per week per nurse
- Clinicians have access to continuing education, managerial and professional support

Diabetes nurse specialists within the service/site will met the Nursing Council of New Zealand’s authorisation criteria for prescribing. This includes registration in the Registered Nurse scope of practice and:

a) completion of two level eight papers or equivalent as assessed by the Nursing Council. The papers must include the following content; pathophysiology, clinical assessment and decision making, and pharmacology; and

b) demonstrates a clear understanding of diabetes disease processes at level eight or equivalent as determined by the Nursing Council; and

c) completion of a six to twelve week practicum with the authorised prescriber supervising the prescribing, which demonstrates knowledge to safely prescribe all specified diabetes medicines and knowledge of the regulatory framework for prescribing*.

d) accreditation on the Diabetes Nurse Specialist framework by the New Zealand Nurses Organisation or a competence assessment demonstrating speciality level on the Diabetes Knowledge and Skills Framework or attainment of level three on a Professional Development Recognition Programme with a focus on diabetes.

e) the applicant is sufficiently knowledgeable to safely prescribe all specified diabetes medicines, has knowledge of the regulatory framework; medicines on the schedule and can provide rationale for prescribing decisions. This evidence may be in the form of a letter which can contain examples, case studies, documentation, work books, or a diary and must be verified and supported by the applicant’s supervising medical practitioner.

*The prescribing practicum will commence after site selection. If a nurse has already completed a prescribing practicum via a tertiary provider, the medical practitioner supervising his/her prescribing practice will complete an assessment (using NZSSD documentation) and determine if any further practicum experience is required prior to authorisation.

In addition NZSSD require evidence of the DNS having:

- The ability to order and obtain results of laboratory tests
- The ability to establish a collaborative working relationship with other professionals
Clear and effective communication skills
- Sound judgement in clinical decision making
- The ability to assist in the development of clinical guidelines, protocols and processes
- The ability to implement and maintain clinical records and contribute to quality management including collection of data, reporting and analysis

3.2 Requirements of services/sites throughout the project

Each site will:
- Follow project protocols
- Provide medical supervision for DNS prescribers
- Undertake regular review of DNS prescribing by the authorised prescriber
- Document regular reviews with the DNS and authorised prescriber
- Determine whether the frequency of reviews require amendment and if so, notify the NZSSD project manager accordingly
- Ensure DNS prescribers are supported in their role by the service(s) and are able to participate in regular teleconferences and scheduled meetings with the project manager and DNS prescribers in other sites
- Collect and supply data as required by the project, including pre-and post project surveys.
- Maintain accurate records as required by the project. This includes:
  - Clinical records including but not limited to demographic data, other medical conditions and medicines, clinical and laboratory data, indications for change in medication (if any) and changes made
  - Project records of meetings, policies, procedures, internal audits, data collection, quality management system records
- Undertake clinical audits against criteria as set by the project and at intervals as set by the project
- Maintain good communication and reporting to the project manager
- Make changes within the project as indicated by the project manager in response to monitoring across the project (for example collection of additional data, change in process)
- Provide full access to all records including clinical records to the project manager or project support staff when the project manager or project support staff are on site assisting with monitoring activities
- Work cooperatively with the project manager in the release of any communications related to the project (for example local community newspaper articles, notices within diabetes services, letters to referrers etc)
- Immediately report any sentinel event or patient harm should a sentinel event or serious incident occur
- Meet project milestones and timeframes required including:
  - Supply of baseline data as required by project protocol
  - Supply of project data fortnightly throughout the six month project, with final data provided within two weeks following completion of the project
  - Supply results from clinical audit and prescription audits conducted during the project
  - Supply of any tools, forms, templates, policies and procedures specific to the project

---

6 The project manager is a Nurse Practitioner and has been appointed by NZSSD
4 CONTENT OF YOUR REGISTRATION OF INTEREST

Please complete the following in your response.

4.1 Declaration - refer Attachment one

4.2 Response form – refer Attachment two

5 REGISTRATION OF INTEREST EVALUATION CRITERIA

The following criteria will be used when assessing the ROIs received. The criteria are not in any particular order, are not exhaustive and will not necessarily be accorded equal weight or any particular weight at all.

1. The application must meet any terms and conditions of the ROI before it will be evaluated.

2. The evaluation panel (consisting of representatives from the Executive Committee of NZSSD,) will evaluate the ability of the submitter to demonstrate services as described in Part 3 can be met.

3. Each application will be assessed against each criteria and a majority view formed as to whether it meets the criteria – scoring a 5 (exceeds); 3 (meets), a 0 (does not meet) or conditional 1 (may meet if conditions are met or additional information supplied).

4. Preference will be given to ROI’s where there is strong support from governance and management for their participation in the project.

5. In the event that there are more than six suitable demonstration sites, the short listed submissions will be prioritised with consideration to throughput of patients where DNS prescribing is likely to occur, spectrum of work available within the continuum of services offered, prior experience working collaboratively to enhance clinical decision making, budget requirements (if any) of the diabetes service and geographical or service issues.
Preferred applicants will be offered an opportunity to participate as sites. This offer will be made in writing and will include a draft service agreement in the form of a Letter of Understanding. Applicants must accept the offer and terms of the Letter of Understanding within five days of the offer having been made. Note that the Letter of Understanding will reflect the requirements of this ROI.

Unsuccessful applicants will be notified in writing that their submission has not been successful.

All notices will be forwarded to the address provided by applicants in their interest form attached to this ROI at Attachment 1.
ATTACHMENT 1 – Registration of Interest Declaration – DNS Managed National Roll Out

I have examined the request for registration of interest (ROI) for the DNS 2012 Prescribing Managed National Roll Out.

I submit this application to be a site in accordance with the ROI.

I understand NZSSD is not obliged to accept any application it may receive.

I attach all information outlined in the Appendices and other information required by the ROI.

I declare the following known or perceived conflicts of interest should this submission be successful:

•

•

Contact details for this submission are:

<table>
<thead>
<tr>
<th>Employer Name:</th>
<th></th>
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<tbody>
<tr>
<td>Contact Person:</td>
<td></td>
</tr>
<tr>
<td>Phone (Direct Dial):</td>
<td></td>
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<tr>
<td>Mobile Phone:</td>
<td></td>
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<td>Fax:</td>
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<tr>
<td>Email:</td>
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<tr>
<td>Physical Address:</td>
<td></td>
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<tr>
<td>Postal Address:</td>
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</tbody>
</table>

Signed for and on behalf of the organisation:

<table>
<thead>
<tr>
<th>By:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Name:</td>
<td></td>
</tr>
<tr>
<td>Position:</td>
<td></td>
</tr>
<tr>
<td>Date:</td>
<td></td>
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</tbody>
</table>
ATTACHMENT 2 – Registration of Interest application format and information required – DNS Managed National Roll Out

Applications should be completed on the form below. Additional information may be supplied where appropriate.

Please ensure you provide the following with your application:

- Letter of support from the Director of Nursing and Operational Manager (e.g. Chief Operating Officer) of the organisation
- A copy of your organisation chart (to show reporting lines to governance) and staff names and qualifications within the diabetes service
- A profile of your diabetes service outlining the services offered and characteristics of the population your service serves
- Letter of support from the Nurse Leader and Medical Head of the diabetes service wishing to be a demonstration site
- Curricula vitae of the two (or more) DNSs that will participate as designated prescribers within the service together with evidence of ability to meet the Nursing Council of New Zealand’s authorisation criteria.
- A copy of the diabetes service annual quality and risk management plan
- An outline of an implementation plan for your diabetes service that identifies:
  - Steps necessary to prepare to participate in the project (e.g. completing prescribing practicum, amendment of policies and procedures, development of new procedures, training for reception and booking staff, changes to internal audit schedules, creating regular meeting times for authorised prescriber reviews with DNSs, collection of baseline data, applications of DNSs to the Nursing Council of New Zealand for authorisation to prescribe as a designated prescriber etc)
  - Regular activities that will be taken throughout the project (e.g. scheduling time for meetings, collection of data, implementation of revised policies and procedures, liaison with the project manager, correspondence with patients, undertaking internal audits, undertaking clinical audits etc)
- Any additional supporting documents you wish to append with your submission
Please confirm that:

☐ The site has one or more clinical champions that are authorised prescribers (please ensure the name or names are included in the organisation chart attached with this submission)

☐ The site has one authorised prescriber (this may be the clinical champion) who will undertake clinical audits as directed by the project manager (please ensure the name or names are included in the organisation chart attached with this submission)

☐ DNS prescribers will have the ability to order and obtain results of laboratory tests

☐ The service is adequately resourced to provide administrative support to ensure the timely and accurate collection of data

☐ Each of the DNSs nominated within this application to participate as designated prescribers are anticipated to meet the requirements for authorisation as set by the Nursing Council of New Zealand

☐ The service is confident that there will not be any resourcing changes within the next year that may impact on the ability of the service to fully participate in the project where data can be provided for a six month period of DNS prescribing

If your service cannot confirm each of the requirements above, please provide details including how your service would propose to meet these requirements prior to the commencement of the project.

If your service expects any remuneration for participation in the project, please detail and quantify what these expectations are.

How many patients does your diabetes service see per annum?

How many of the above patients are seen at least once per annum by a DNS?

How many patients **per month** would your service anticipate could be seen by one or more DNS where a prescription may be written?

Outline the spectrum of work provided by your service.
Describe how your service works as a multidisciplinary service. Use an example where clinical decision making was enhanced through a multidisciplinary process.

Outline any prior experience your service has had in participating in innovations or research projects.

Provide an example of a continuous improvement project your service has initiated as a result of quality monitoring.

Summarise the results from your last patient satisfaction survey for the service and what actions if any have been taken upon analysis of the results.

List the continuing education, managerial and professional support DNS have access to within your diabetes service.

Describe the regulatory frameworks for safe prescribing by designated prescribers.
<table>
<thead>
<tr>
<th>Question</th>
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<tbody>
<tr>
<td>Describe existing quality controls within your service for maintaining accurate clinical records.</td>
</tr>
<tr>
<td>Provide a typical example where a DNS within your service has used sound clinical decision making that has impacted on the onward care or management of a patient with diabetes.</td>
</tr>
<tr>
<td>Describe an example where a DNS has worked collaboratively to improve the care or management of a patient with diabetes (do not use the same example as given above)</td>
</tr>
<tr>
<td>Outline any concerns or difficulties your service may have in meeting the requirements of being a site within the project</td>
</tr>
</tbody>
</table>
LETTER OF AGREEMENT

1. PURPOSE

The purpose of this letter of agreement is to set out the general terms and conditions that apply between the New Zealand Society for the Study of Diabetes Incorporated (NZSSD) and, Diabetes Projects Trust (DPT) in respect of the project referred to below, that are to be provided by the Diabetes Projects Trust.

2. LEGAL RELATIONSHIP

This is a collaborative project where the relationship between NZSSD and DPT has formed an agreement to participate in the diabetes nurse specialist (registered nurse) prescribing managed roll out as a site for the project.

3. COSTS

DPT will be responsible for the payment of all staff costs associated with their involvement in the project. NZSSD will contribute costs associated with attending project meetings.

4. PROJECT REQUIREMENTS

Overview: NZSSD has been commissioned by Health Workforce New Zealand to undertake a managed national roll out of diabetes nurse specialist (DNS) (Registered Nurse) prescribing in up to six services/sites.

Project Scope: As a participating service/site, the Diabetes Projects Trust will work with NZSSD to implement protocols consistent with the project requirements to allow identified DNSs to prescribe a limited number of prescription medicines that are used for people with diabetes under the supervision of an authorised prescriber. The project will be monitored by both the Diabetes Projects Trust and NZSSD.
Requirements: the Diabetes Projects Trust will:

- Follow project protocols as developed and approved by NZSSD
- Ensure all staff complete pre and post project surveys
- Authorised prescriber/s will provide supervision of DNS’ prescribing activities through case review meetings held:
  - Daily for the first week, then
  - Weekly for the following two months, then
  - Fortnightly for the duration of the project
  - Monthly post project or at a frequency deemed appropriate and agreed by both the DNS and the authorised prescriber
- Maintain documentation of supervision/review meetings with the DNS and authorised prescriber
- Determine whether the frequency of reviews require amendment and if so, notify the NZSSD project leader accordingly
- Ensure DNS prescribers are supported in their role by the service and are able to participate in regular teleconferences and scheduled meetings with the project leader and other site DNS prescribers
- Collect and supply data as required by the project.
- Maintain accurate records as required by the project. This includes:
  - Clinical records including but not limited to demographic data, other medical conditions and medicines, clinical and laboratory data, indications for change in medication (if any) and changes made
  - Project records of meetings, policies, procedures, internal audits, data collection, quality management system records
- Undertake clinical and patient satisfaction audit against criteria as set by the project (anticipated to occur once near completion of the project)
- Maintain effective communication and reporting to the project leader.
- Make changes within the project as indicated by the project leader in response to monitoring across the project sites (for example collection of additional data, change in process)
- Provide full access to all records including clinical records to the project leader or project support staff when the project leader or project support staff are on site assisting with monitoring activities
- Work cooperatively with the project leader in the release of any communications related to the project (for example local community newspaper articles, notices within diabetes services, letters to referrers etc)
- Immediately report any sentinel event or patient harm should a sentinel event or serious incident occur
- Meet project milestones and timeframes required including:
  - Supply of retrospective (baseline) patient data as required by project protocol within two weeks of commencement of DNS prescribing
  - Supply of patient data fortnightly throughout the project
  - Undertake a clinical and patient satisfaction audit at a time designated by the project leader
  - Supply of final data by two weeks after completion of the project at the site
  - Supply of any tools, forms, templates, policies and procedures specific to the project

Reporting: The Diabetes Projects Trust will report to Helen Snell, Project Leader, NZSSD in relation to the project.
### Timeframe: Critical timeframes are described below:

<table>
<thead>
<tr>
<th>Description</th>
<th>Timeframe for completion</th>
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<tbody>
<tr>
<td>Agreement signed</td>
<td>28 September 2012</td>
</tr>
<tr>
<td>Start up meeting - all participating nurses and physicians</td>
<td>Anticipated to be the week of 12 November 2012 but is subject to change</td>
</tr>
<tr>
<td>Project and data collection commences</td>
<td>Supply of retrospective (baseline) patient data after two weeks of commencement of prescribing by diabetes nurse specialists</td>
</tr>
<tr>
<td>Mid-project meeting</td>
<td>March/April 2013</td>
</tr>
<tr>
<td>Project clinical and patient satisfaction audit data provided</td>
<td>At five months from commencement of prescribing</td>
</tr>
<tr>
<td>Project reporting</td>
<td>Monthly via teleconference, HIIRC site or site visits</td>
</tr>
<tr>
<td>End of project meeting</td>
<td>June 2013</td>
</tr>
<tr>
<td>Supply of final project data</td>
<td>By two weeks after completion of the project data collection at the site</td>
</tr>
<tr>
<td>Project concludes</td>
<td>End of June 2013</td>
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</table>

#### 5. CONFIDENTIALITY

**Diabetes Projects Trust** will not during the term of this agreement or at any time thereafter, unless authorised to do so by NZSSD, disclose information, processes or any proprietary details relating to the project.

#### 6. TERM AND TERMINATION

This agreement commences immediately and will terminate as agreed, on completion of the project (estimated end June 2013).

Either party may terminate this contract without cause by giving one month’s notice at any time.
7. CONTACT PERSON

Correspondence in relation to this agreement is as follows:

<table>
<thead>
<tr>
<th>Diabetes Projects Trust</th>
<th>NZSSD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact name</td>
<td>Helen Snell</td>
</tr>
<tr>
<td>Designation</td>
<td>Project Leader</td>
</tr>
<tr>
<td>Telephone</td>
<td>06 3508114</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:helen.snell@midcentraldhb.govt.nz">helen.snell@midcentraldhb.govt.nz</a></td>
</tr>
<tr>
<td>Address line 1</td>
<td>c/- NZ Society for the Study of Diabetes (NZSSD)</td>
</tr>
<tr>
<td>Address line 2</td>
<td>Medical and Surgical Sciences</td>
</tr>
<tr>
<td>Address line 3</td>
<td>9th floor Dunedin Public Hospital</td>
</tr>
<tr>
<td></td>
<td>PO Box 913</td>
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<td></td>
<td>Dunedin</td>
</tr>
</tbody>
</table>

Signed for and on behalf of **Diabetes Projects Trust**       Signed for and on behalf of **NZSSD**

Name: Helen Snell

Date: 17 September 2012
GUIDELINE:
Prescribing Practicum for Diabetes
Nurse Specialist Prescribing
Managed Roll Out
2012

A Resource for Registered Nurses and Authorised Prescribers
INTRODUCTION

This guideline has been developed for Diabetes Nurse Specialists (DNS) undertaking a prescribing practicum prior to applying for authorisation by the Nursing Council of New Zealand as a Designated Prescriber: Registered Nurse Practising in Diabetes Health. N.B. The DNS is practising within the Registered Nurse scope of practice (Attachment A).

The guideline provides some background to DNS prescribing within the specialty of diabetes and its related conditions in New Zealand, and an overview of the content and structure of a prescribing practicum programme. Please note: DNS are responsible for negotiating and organising their prescribing practicum with their nominated authorised prescriber. The guideline will also provide essential information to the authorised prescriber and nurses’ managers regarding the requirements of the prescribing practicum.

BACKGROUND

The New Zealand Society for the Study of Diabetes (NZSSD) was commissioned in 2010 by Health Workforce New Zealand in partnership with the Nursing Innovations Team of the Ministry of Health to establish four demonstration sites to test the effectiveness and safety of registered nurse prescribing within the speciality of diabetes. RNs were authorised by the Nursing Council of New Zealand under the newly created Medicines (Designated Prescriber - Registered Nurse Practising in Diabetes Health) Regulation 2011 (Appendices A and B). The demonstration project occurred throughout 2011 and was successfully completed in November 2011. The 2011 diabetes nurse prescribing demonstration project provided evidence of the benefits of suitably qualified and supported registered nurses practising as DNS having the additional authorisation to prescribe diabetes-related medicines and products to people with diabetes. Benefits to patients included improved access to appropriate care, cost efficiencies, convenience, reduced duplication of visits, quality of care, satisfactory clinical outcomes and high overall satisfaction.

Eligibility requirements for DNS to apply for prescribing authority is as follows:

The Nursing Council of New Zealand’s authorisation criteria require:

(a) registration in the Registered Nurse scope of practice (refer Attachment C); and
(b) completion of two Level 8 papers or equivalent as assessed by the Nursing Council. The papers must include the following content: pathophysiology, clinical assessment and decision-making, and pharmacology; and

(c) demonstration of a clear understanding of diabetes disease processes at Level 8 or equivalent as determined by the Nursing Council; and

(d) completion of a six to twelve week practicum with the authorised prescriber who will be supervising the prescribing, in which to demonstrate knowledge to prescribe safely all specified diabetes medicines and knowledge of the regulatory framework for prescribing.

In addition applicants need to show evidence:

• that the applicant is accredited on the Diabetes Nurse Specialist framework by the New Zealand Nurses Organisation; or has a competence assessment demonstrating speciality level on the Diabetes Knowledge and Skills Framework; or has attained Level 3 on a Professional Development Recognition Programme with a focus on diabetes.

• that the applicant is sufficiently knowledgeable to safely prescribe all specified diabetes medicines, has knowledge of the regulatory framework; medicines on the schedule and can provide rationale for prescribing decisions. This evidence may be in the form of a letter which can contain examples, case studies, documentation, work books, or a diary and must be verified and supported by the applicant’s supervising medical practitioner.

The DNS then undergoes a process of Nursing Council authorisation through submission of a portfolio. Only then can DNS incorporate prescribing into the range of care they offer to their patients.

The period of learning during the prescribing practicum experience is to be directed by an authorised prescriber who will be responsible for assessing whether the learning outcomes have been met and whether the DNS has acquired the required level of competence to prescribe as set by the Nursing Council of New Zealand.

Eligibility criteria for prescribing supervisors is as follows:

• the prescribing supervisor must be an authorised prescriber and
• has had at least three years recent clinical experience for a group of patients with diabetes and related conditions and
• has the support of the employing organisation or general practice to act as the prescribing supervisor who will provide supervision, support and opportunities to ensure competence in prescribing practice and
• has some experience or training in teaching and/or supervising in practice and
• normally works with the DNS applying for prescribing authorisation. If this is not possible, arrangements can be agreed for another authorised prescriber to take on the role of the prescribing supervisor, provided the above criteria are met and the learning in practice relates to the clinical area in which the DNS will ultimately be carrying out their prescribing role.
PROGRAMME DURATION

A prescribing practicum, over six to twelve weeks, requires the DNS to have a supervised placement in a relevant clinical setting in which assessment, clinical decision-making and prescribing is undertaken. Ideally, the placement is in the DNS’s usual work setting. The length of time of the practicum (6 - 12 weeks) will be determined by the authorised prescriber once an self-assessment is undertaken by the DNS (Attachment D) and by the authorised prescriber (Attachment F) and learning needs have been identified and agreed by the RN and authorised prescriber. The project manager must be informed of agreed timeframes.

LEARNING OUTCOMES

The Prescribing Practicum provides RNs with the opportunity to develop and hone knowledge, skills and competence within their scope of nursing practice under the supervision and mentorship of an authorised prescriber. At the completion of the practicum the DNS will be able to demonstrate the following:

Clinical knowledge and skills

Clinical knowledge

- Knowledge of common signs and symptoms of dysglycaemia and related conditions
- Knowledge of clinical pharmacology, including the effects of co-morbidity
- Knowledge of drug doses, side effects and drug interactions for:
  - Insulin
  - Oral hypoglycaemic agents
  - ACE inhibitors/ARBs
  - Calcium channel blockers
  - Statins
  - Thiazide diuretics
  - Aspirin
  - Glucagon
  - Nicotine replacement therapy

Professional knowledge

- Knowledge of and works within relevant regulatory frameworks
- Knowledge of local guidelines and policies
- Understands principles behind prescribing and how they are applied to practice
- Understands how medicines are monitored and licensed
- Demonstrates accountability:
  - able to articulate boundaries of prescribing practice in relation to the duty of care to patients and society
  - able to account for cost and effects of prescribing practice
  - able to undertake audit of practice, undertake reflective practice and identify continuing professional development needs

Clinical documentation
• Adequacy of detail in:
  o written records
  o legibility
  o accurate prescribing
  o able to use adverse reaction reporting mechanisms

History taking

• Ability to take comprehensive health history including:
  o medical history
  o social history
  o medication history, including over the counter and complementary medicines

Clinical Judgement

Diagnostic skills

• Able to assess patients clinical condition/s
• Identifies and prioritises patient problems
• Makes accurate provisional diagnoses
• Generates appropriate treatment options

Patient management

• Synthesises data
• Makes appropriate management decisions
• Proactively develops dynamic clinical management plan
• Appropriately decides whether or not to prescribe
• Identifies appropriate drugs if required
• Aware of need to monitor response to medication and lifestyle advice
• Responds appropriately to acute calls and provides emergency advice as required

Recognising limits

• Accurate assessment of own skills
• Refers and consults with others as required
• Take responsibility for actions

Cost effective prescribing

• Prescribing is appropriate and considers cost implications
Patient Communication

Communication skills

- Able to work with patients as partners in treatment decision-making
- Communicates prescribing recommendations effectively
- Advises patient on any risks, expected effects, and potential side effects
- Explains rationale with clarity and logic of expression

Sensitivity, ethical and cultural awareness

- Is aware of options and networks available to patients
- Considers cultural beliefs in prescribing decisions
- Able to work and communicate as part of a multidisciplinary prescribing workforce
- Able to refer to medical or nurse practitioners when appropriate

Team working principles and practice

- Able to communicate effectively with professional colleagues

PROGRAMME REQUIREMENTS

In collaboration with authorised prescriber and their nurse leader/manager, the DNS develops a clinical experience that will enable them to meet the Nursing Council requirements for authorisation as prescriber in diabetes care.

DNSs will be expected, after undertaking the self assessment (Attachment D) and in consultation with their supervising authorised prescriber, to submit a written proposal containing the following information:

- An outline of the clinical experience they wish to undertake
- The place where they wish to complete the practicum
- The nominated authorised prescriber and other clinical staff who will facilitate the development of their learning and mentor and assess the practicum
- The name and qualifications of the supervising authorised prescriber
- Written permission from the appropriate manager to carry out the practicum
- During the course of the prescribing practicum the DNS is required to present one in-depth clinical case study that focuses on the prescribing and clinical decision-making process (marking criteria found in Attachment F)
- Undertake a final assessment by supervising authorised prescriber at completion of practicum (Attachment E).

The supervising authorised prescriber has a crucial role in educating and assessing diabetes nurse specialists who will be prescribing. This involves:

- Establishing a learning plan with the DNS
- Planning a learning programme which will provide the opportunity for the DNS to meet their learning objectives and gain competency in prescribing
- Facilitating learning by encouraging critical thinking and reflection
Providing dedicated time and opportunities for the DNS to observe how the DNS conducts a consultation/interview with the patient and or carers and the development of a management plan
- Allowing opportunities for the DNS to carry out consultations and suggest clinical management and prescribing options, which are then discussed with the DNS
- Helping ensure they integrate theory with practice
- Taking opportunities to allow in-depth discussion and analysis of clinical management using a random case analysis approach, when the patient and prescribing behaviour can be examined further
- Assessing and verifying that, by the end of the practicum, the DNS is competent to assume the prescribing role and ready to apply to the Nursing Council of New Zealand for authorisation as a designated prescriber.

PROGRAMME ASSESSMENT REQUIREMENTS

Achievement of learning outcomes will be demonstrated through:

- Completion of a six to twelve week prescribing practicum (actual number of weeks to be determined following assessment and identification of learning needs)
- Recording the following in a clinical log:
  - Supervised clinical hours with supervising authorised prescriber
  - Supervisor contact (general)
  - Prescribed drugs including indications for use, doses, monitoring the patient’s response and relevant pharmacokinetics
  - Referrals to health care professionals
- In-depth patient case study reflecting knowledge of the assessment process, to determine provisional diagnoses and plan of care demonstrating applied knowledge of pharmacopoeia
- Accurate assessment of patient and investigation results documented in clinical notes and discussed with supervising authorised prescriber
- Passing an assessment by supervising authorised prescriber as per Attachment F

**Practicum checklist:**

- Identify authorised prescriber who will supervise your prescribing practice
- Nurse leader/manager approval to undertake practicum
- Self assessment completed (Attachment D)
- Supervisor assessment completed and discussed (Attachment E)
- Learning needs identified and agreed
- Duration of practicum agreed
- Proposal agreed and approved by supervisor and nurse leader/manager
## Proposal Approval Checklist

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<thead>
<tr>
<th>Proposal Approved By</th>
<th>Signature</th>
<th>Date</th>
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<td>(Obtain approval in order listed)</td>
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<td>1  Authorised prescriber</td>
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<td>Name:</td>
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<td>2  Nurse leader or relevant manager</td>
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<td>Name:</td>
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Medicines (Designated Prescriber—Registered Nurses Practising in Diabetes Health) Regulations 2011

Anand Satyanand, Governor-General

Order in Council

At Wellington this 21st day of March 2011

Present:
His Excellency the Governor-General in Council

Pursuant to sections 105 and 105B of the Medicines Act 1981, His Excellency the Governor-General, acting on the advice of the Minister of Health tendered after consultation with the organisations or bodies appearing to the Minister to be representative of persons likely to be substantially affected, and acting on the advice and with the consent of the Executive Council, makes the following regulations.

Contents

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>1</td>
<td>Title</td>
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<tr>
<td>2</td>
<td>Commencement</td>
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<tr>
<td>3</td>
<td>Purpose</td>
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<tr>
<td>4</td>
<td>Interpretation</td>
</tr>
<tr>
<td>5</td>
<td>Authority to prescribe specified diabetes medicine</td>
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<tr>
<td>6</td>
<td>Requirements for commencing for first time to prescribe</td>
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Medicines (Designated Prescriber—Registered Nurses Practising in Diabetes Health) Regulations 2011

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<td>7</td>
<td>Other training to be undertaken</td>
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<tr>
<td>8</td>
<td>Assessment of competence to be completed</td>
</tr>
<tr>
<td>9</td>
<td>Gazette notices</td>
</tr>
<tr>
<td>10</td>
<td>Prohibition on prescribing without meeting requirements</td>
</tr>
<tr>
<td>11</td>
<td>Consequential amendment</td>
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</table>

Schedule

Medicines that are specified diabetes medicines if they are prescription medicines

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**Regulations**

1 **Title**
These regulations are the Medicines (Designated Prescriber—Registered Nurses Practising in Diabetes Health) Regulations 2011.

2 **Commencement**
These regulations come into force on the day after the date of their notification in the Gazette.

3 **Purpose**
The purpose of these regulations is to—
(a) authorise registered nurses practising in diabetes health who meet specified requirements for competency, qualifications, and training to prescribe certain prescription medicines for the management of diabetes; and
(b) specify, and provide for the specification of, the requirements; and
(c) prohibit registered nurses practising in diabetes health who fail to comply with the requirements from prescribing the medicines; and
(d) make contraventions of that prohibition an offence.

4 **Interpretation**
In these regulations, unless the context otherwise requires,—
*Act* means the Medicines Act 1981
Nursing Council means the Nursing Council of New Zealand continued by section 114(1)(a) of the Health Practitioners Competence Assurance Act 2003

registered nurse practise in diabetes health means a health practitioner who—
(a) is registered, or is deemed to be registered, with the Nursing Council as a practitioner of the profession of nursing under the Health Practitioners Competence Assurance Act 2003; and
(b) is authorised by the Nursing Council under sections 21 and 22 of the Health Practitioners Competence Assurance Act 2003 to prescribe specified diabetes medicines under these regulations

specified diabetes medicine—
(a) means a medicine listed in the Schedule and that is declared to be a prescription medicine by regulations under the Act or by a notice given under section 106 of the Act; but
(b) if the medicine is declared to be a prescription medicine only in 1 or more specified forms or only for 1 or more specified purposes, does not include the medicine in other forms or for other purposes.

5 Authority to prescribe specified diabetes medicine
(1) A registered nurse practising in diabetes health may prescribe a specified diabetes medicine if he or she meets—
(a) the requirements in regulation 6 for commencing for the first time to prescribe the medicine; and
(b) the additional requirements in regulations 7 and 8 (if relevant) for prescribing the medicine.

(2) A registered nurse practising in diabetes health must prescribe specified diabetes medicines under these regulations under the supervision of an authorised prescriber (as that term is defined in section 2 of the Act).

(3) Subclause (1) is subject to subclause (2).
6 Requirements for commencing for first time to prescribe
Before commencing for the first time to prescribe a specified diabetes medicine, a registered nurse practising in diabetes health must have—

(a) obtained the qualification required for nurses practising in diabetes health that is specified for the purposes of this paragraph by the Nursing Council by notice in the Gazette; and

(b) undertaken successfully the training (if any) that is specified for the purposes of this paragraph by the Nursing Council by notice in the Gazette; and

(c) demonstrated, to the satisfaction of the Nursing Council, that he or she—
   (i) has a clear understanding of diabetes disease processes; and
   (ii) is sufficiently knowledgeable to safely prescribe all specified diabetes medicines; and

(d) been authorised by the Nursing Council to prescribe specified diabetes medicines.

7 Other training to be undertaken
To prescribe a specified diabetes medicine, a registered nurse practising in diabetes health must have—

(a) undertaken successfully the training (if any) that is specified for the purposes of this regulation by the Nursing Council by notice in the Gazette; and

(b) done so within the periods, or at the times, specified for the purpose in the notice, if the training is of an ongoing nature.

8 Assessment of competence to be completed
To prescribe a specified diabetes medicine, a registered nurse practising in diabetes health must have—

(a) completed successfully the assessment (if any) of competence to prescribe the medicine that is specified for the purposes of this regulation by the Nursing Council by notice in the Gazette; and
(b) done so within the periods, or at the times, specified for the purpose in the notice, if the assessment is to be completed at regular intervals.

9 Gazette notices
(1) For the purposes of these regulations, a notice in the Gazette—
(a) comes into force on the day after the date of publication or on a later date specified for the purpose in the notice; and
(b) may provide that it expires, if not sooner revoked, with the close of a specified day.

(2) Within 5 working days after the date of publication of a notice in the Gazette for the purposes of these regulations, and while the notice remains in force, the Nursing Council must ensure that an up-to-date version of the notice is—
(a) available on the Internet; and
(b) available at the office of the Nursing Council during business hours, so that members of the public may—
(i) inspect the notice free of charge; or
(ii) obtain a photocopy of the notice for a reasonable fee.

10 Prohibition on prescribing without meeting requirements
(1) A registered nurse practising in diabetes health must not prescribe a specified diabetes medicine unless he or she—
(a) complies with the requirements in regulations 6, 7, and 8; or
(b) prescribes that medicine under and in accordance with another enactment.

(2) A person commits an offence if he or she contravenes or fails to comply with subclause (1).

(3) The offence is punishable on summary conviction by a fine not exceeding $500.

11 Consequential amendment
The Medicines (Designated Prescriber: Nurse Practitioners) Regulations 2005 (SR 2005/266) are consequentially amended by revoking regulation 10(1) and substituting the following:
“(1) A nurse practitioner must not prescribe a nurse practitioner
medicine unless he or she—
“(a) complies with the requirements in regulations 6, 7, and
8; or
“(b) prescribes that medicine under and in accordance with
another enactment.”

Schedule

Medicines that are specified diabetes
medicines if they are prescription
medicines

Medicines listed in this schedule are specified diabetes medicines
only if, and only in the forms and for the purposes that, they are
declared to be prescription medicines by regulations made under the
Act or a notice given under section 106 of the Act.

1 Amlodipine
2 Atorvastatin
3 Bendroflumazide
4 Candesartan
5 Captopril
6 Cilazapril
7 Cilazapril with hydrochlorothiazide
8 Diltiazem hydrochloride
9 Enalapril
10 Enalapril with hydrochlorothiazide
11 Felodipine
12 Glibenclamide
13 Gilazide
14 Gilipizide
15 Hydrochlorothiazide
16 Insulin(s)
17 Lisinopril
18 Losartan
19 Losartan with hydrochlorothiazide
20 Metformin
21 Perindopril
22 Quinapril
Medicines (Designated Prescriber—Registered Nurses Practising in Diabetes Health) Regulations 2011

Explanatory note

23 Quinapril with hydrochlorothiazide
24 Simvastatin
25 Trandolapril
26 Verapamil hydrochloride

Rebecca Kitteridge,
Clerk of the Executive Council.

Explanatory note

This note is not part of the regulations, but is intended to indicate their general effect.

These regulations, which come into force on the day after the date of their notification in the Gazette, authorise registered nurses practising in diabetes health to prescribe the prescription medicines for the treatment of diabetes that are listed in the Schedule, if those nurses meet certain requirements relating to competence, qualifications, and training, and are authorised by the Nursing Council to prescribe those medicines. Details of the competence, qualification, and training requirements will be specified by the Nursing Council by notices in the Gazette.

Registered nurses practising in diabetes health who do not meet those requirements must not prescribe the medicines listed in the Schedule, and commit an offence if they do (unless they are authorised to prescribe the same medicine under another enactment).

Most of the medicines listed in the Schedule are also listed in the Schedule of the Medicines (Designated Prescriber: Nurse Practitioners) Regulations 2005 (the 2005 regulations). Clause 11 makes a consequential amendment to the offence provision in the 2005 regulations, to clarify that a person who prescribes a medicine in accordance with the requirements of these regulations, but who does not meet the requirements to prescribe that same medicine under the 2005 regulations, will not be committing an offence under the 2005 regulations.
Medicines (Designated Prescriber—Registered Nurses Practising in Diabetes Health) Regulations 2011

Issued under the authority of the Acts and Regulations Publication Act 1989.
Date of notification in Gazette: 24 March 2011.
These regulations are administered by the Ministry of Health.

Wellington, New Zealand
Published under the authority of the New Zealand Government—2011

8
Medicines (Designated Prescriber: Registered Nurses Practising in Diabetes Health) Notice 2011

Pursuant to sections 105 and 105B of the Medicines Act 1981 and the Medicines (Designated Prescriber: Registered Nurses Practising in Diabetes Health) Regulations 2011, the Nursing Council of New Zealand gives the following notice.

Notice

1. Title and commencement—This notice is the Medicines (Designated Prescriber: Registered Nurses Practising in Diabetes Health) and comes into force 1 April 2011

2. The purpose—The Schedule to this notice sets out the requirements that the Nursing Council of New Zealand (“Council”) has determined must be met by registered nurses practising in diabetes health who wish to prescribe prescription medicines. These requirements are imposed under Regulations 6, 7 and 8 of the Medicines (Designated Prescriber: Registered Nurses Practising in Diabetes Health) Regulations 2011.

Schedule

A Requirements for commencing for first time to prescribe (Regulation 6)
The nursing council requirements for education and training that registered nurses practising in diabetes health must undertake before commencing prescribing for the first time are as follows:
(a) The completion of two level eight papers or equivalent, as assessed by the Council. The papers must include the following content; pathophysiology, clinical assessment and decision making, and pharmacology; and
(b) demonstrates a clear understanding of diabetes disease processes at level eight or equivalent as determined by Nursing Council; and
(c) completion of a six to twelve week practicum with the authorised prescriber supervising the prescribing, which demonstrates knowledge to safely prescribe all specified diabetes medicines and knowledge of the regulatory framework for prescribing.

B Other training to be undertaken (Regulation 7)
Registered nurses practising in diabetes health must undertake:
(a) a minimum of 40 days per year of ongoing practice in a supervised prescribing relationship; and
(b) ongoing competence requirements of professional development must include specific development relating to prescribing in diabetes health.

C Assessments of competence to be completed (Regulation 8)
Registered nurses practising in diabetes health authorised to prescribe must provide to the Council each year with their application for a practising certificate, evidence that they have maintained their prescribing competence.

Dated at Wellington this 29 March 2011.
CAROLYN REED, Registrar, Nursing Council of New Zealand.
Attachment C

Registered Nurse Scope of Practice

Registered nurses utilise nursing knowledge and complex nursing judgment to assess health needs and provide care, and to advise and support people to manage their health. They practise independently and in collaboration with other health professionals, perform general nursing functions and delegate to and direct enrolled nurses, healthcare assistants and others. They provide comprehensive assessments to develop, implement, and evaluate an integrated plan of health care, and provide interventions that require substantial scientific and professional knowledge, skills and clinical decision making. This occurs in a range of settings in partnership with individuals, families, whanau and communities. Registered nurses may practise in a variety of clinical contexts depending on their educational preparation and practice experience. Registered nurses may also use this expertise to manage, teach, evaluate and research nursing practice. Registered nurses are accountable for ensuring all health services they provide are consistent with their education and assessed competence, meet legislative requirements and are supported by appropriate standards. There will be conditions placed in the scope of practice of some registered nurses according to their qualifications or experience limiting them to a specific area of practice.

The Nursing Council competencies for Registered Nurses describe the skills and activities of registered nurses. Go to www.nursingcouncil.org.nz for competencies for the Registered Nurse scope of practice.
Attachment D  Diabetes Nurse Specialist Prescribing - National Managed Roll Out 2012

Prescribing practice assessment record to be undertaken by the Diabetes Nurse Specialist as a self assessment:

- Prior to commencement of practicum to identify learning needs and duration of practicum
- At the completion of prescribing practicum

Please rate your judgement of readiness to prescribe. You need to score 3 or more in order to progress to applying for authorisation.

Please comment in space provided at the bottom of the table, especially if any aspects of your knowledge and skill for prescribing scores 1 or 2.

<table>
<thead>
<tr>
<th>I consider my readiness to prescribe against each of the domains as:</th>
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<th>2</th>
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<tr>
<td>Clinical Knowledge and Skills</td>
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<td>Clinical knowledge</td>
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  - Knowledge of common signs & symptoms of dysglycaemia & related conditions
  - Knowledge of clinical pharmacology, including the effects of co-morbidity
  - Knowledge of drug doses, side effects & drug interactions for:
    - Insulin
    - Oral hypoglycaemic agents
    - ACE inhibitors/ARBs
    - Calcium channel blockers
    - Statins
    - Thiazide diuretics
    - Aspirin
    - Glucagon
    - Nicotine replacement therapy
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<th>I consider my readiness to prescribe against each of the domains as:</th>
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<td><strong>Professional knowledge</strong></td>
<td>Not at all ready</td>
<td>Ready</td>
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<td>Completely ready</td>
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<td>▪ Knowledge of &amp; works within relevant regulatory frameworks</td>
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<td>▪ Knowledge of local guidelines &amp; policies</td>
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<td>▪ Understands principles behind prescribing &amp; how they are applied to practice</td>
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<td>▪ Understands how medicines are monitored and licensed</td>
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<td>▪ Demonstrates accountability:</td>
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<td>o able to articulate boundaries of prescribing practice in relation to the duty of care to patients and society</td>
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<td>o able to account for cost &amp; effects of prescribing practice</td>
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<td>o able to undertake audit of practice, undertake reflective practice &amp; identify continuing professional development needs</td>
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<td>o written records</td>
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<td>o accurate prescribing</td>
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<td>▪ Able to use adverse reaction reporting mechanisms</td>
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<td><strong>History taking</strong></td>
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<td>▪ Ability to take comprehensive health history including:</td>
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<td>o medical history</td>
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<td>o social history</td>
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<td>o medication history, including over the counter and complementary medicines</td>
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<td><strong>Clinical Judgement</strong></td>
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<td><strong>Diagnostic skills</strong></td>
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<td>▪ Able to assess patients clinical condition/s</td>
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<td>▪ Identifies and prioritises patient problems</td>
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<td>▪ Makes an accurate provisional diagnosis</td>
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<td>▪ Generates appropriate treatment options</td>
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<td><strong>Patient management</strong></td>
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<td>Synthesises data</td>
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<td>Makes appropriate management decisions</td>
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<td>Proactively develops dynamic clinical management plan</td>
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<td>Appropriately decides whether or not to prescribe</td>
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<td>Identifies appropriate drugs if required</td>
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<td>Aware of need to monitor response to medication &amp; lifestyle advice</td>
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<td>Responds appropriately to acute calls and provides emergency advice as required</td>
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<td><strong>Recognising limits</strong></td>
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<td>Accurate assessment of own skills</td>
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<td>Refers and consults with others as required</td>
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<td>Takes responsibility for actions</td>
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<td><strong>Cost effective prescribing</strong></td>
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<td>Prescribing is appropriate and considers cost implications</td>
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<td><strong>Communication skills</strong></td>
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<td>Communicates prescribing recommendations effectively</td>
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<td>Able to work &amp; communicate as part of a multidisciplinary prescribing workforce</td>
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<td>Able to refer to medical or nurse practitioners when appropriate</td>
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<td>Able to communicate effectively with professional colleagues</td>
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</table>
Name (please print): ___________________________________  Reg #: ____________

Signature: ___________________________________________  Date: ______________
Prescribing practice assessment record to be undertaken by Authorised Prescriber supervising the DNSs prescribing practice:

- Prior to commencement of practicum to identify learning needs and duration of practicum
- At the completion of prescribing practicum

Please rate the Diabetes Nurse Specialist’s (DNS) knowledge and skills for prescribing using the key with a score from 1-5. The DNS needs to score 3 or more in order to progress to applying for authorisation. Please comment in space provided at the bottom of the table, especially if any aspects of the nurse’s prescribing practice scores 1 or 2.

<table>
<thead>
<tr>
<th>Clinical Knowledge and Skills</th>
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<td><strong>Clinical knowledge</strong></td>
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<td>Knowledge of common signs &amp; symptoms of dysglycaemia &amp; related conditions</td>
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<td>Knowledge of clinical pharmacology, including the effects of co-morbidity</td>
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<td>Knowledge of drug doses, side effects &amp; drug interactions for:</td>
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<td>- Insulin</td>
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<td>- Oral agents</td>
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<td>- ACE inhibitors/ARBs</td>
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<td>- Calcium channel blockers</td>
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<td>- Statins</td>
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<td>- Thiazide diuretics</td>
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<td>- Aspirin</td>
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<td>- Glucagon</td>
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<td>- Nicotine replacement therapy</td>
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<td>Knowledge of &amp; works within relevant regulatory frameworks</td>
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<td>Knowledge of local guidelines &amp; policies</td>
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<td>Understands principles behind prescribing &amp; how they are applied to practice</td>
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<td>Understands how medicines are monitored and licensed</td>
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<td>Demonstrates accountability:</td>
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<td>o Able to articulate boundaries of prescribing practice in relation to the duty of care to patients and society</td>
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<td>o Able to account for cost &amp; effects of prescribing practice</td>
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<td>o Able to undertake audit of practice, undertake reflective practice &amp; identify continuing professional development needs</td>
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<td>o accurate prescribing</td>
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<td>o Able to use adverse reaction reporting mechanisms</td>
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<td>History taking</td>
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<td>Ability to take comprehensive health history including:</td>
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<td>o Medical history</td>
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<td>o Medication history, including over the counter and complementary medicines</td>
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<td>Clinical Judgement</td>
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<td>Diagnostic skills</td>
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<td>Able to assess patients clinical condition/s</td>
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<td>Identifies and prioritises patient problems</td>
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<td>Makes an accurate provisional diagnosis</td>
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<td>Generates appropriate treatment options</td>
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<td> Makes appropriate management decisions</td>
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<td> Proactively develops dynamic clinical management plan</td>
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<td> Appropriately decides whether or not to prescribe</td>
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<td> Identifies appropriate drugs if required</td>
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<td> Aware of need to monitor response to medication &amp; lifestyle advice</td>
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<td> Responds appropriately to acute calls and provides emergency advice as required</td>
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<td><strong>Recognising limits</strong></td>
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<td> Accurate assessment of own skills</td>
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<td> Refers and consults with others as required</td>
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<td> Takes responsibility for actions</td>
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<td><strong>Cost effective prescribing</strong></td>
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<td> Prescribing is appropriate and considers cost implications</td>
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<td><strong>Patient Communication</strong></td>
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**Authorised Prescriber:** Describe strengths, areas for improvement

| Authorised prescriber’s name (please print):   | ______________________________ |
| Reg #: | _________ |

| Authorised prescriber’s signature: | ______________________________ |
| Date: | _________ |
Registered Nurse

My signature indicates this assessment has been discussed with me. I would like to make the following comments:

Name (please print): ________________________________ Reg #: _____________

Signature: ________________________________ Date: _______________
### Attachment F: Case study marking grid

**Name:**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Yes = ✓</th>
<th>No = X</th>
<th>Not applicable = N/A</th>
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<tbody>
<tr>
<td>Using a nursing model or framework when undertaking a clinical assessment</td>
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<tr>
<td>Demonstrates required health assessment and diagnostic decision making skills</td>
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<tr>
<td>Orders and interprets diagnostic tests and makes decisions/interventions based on diagnostic information, current evidence and local practice information</td>
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<tr>
<td>Prioritises data collection and assessment processes in complex situations according to the patient’s immediate and/or continuing needs</td>
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<td>Consults and refers to other health professionals appropriately</td>
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<tr>
<td>Issues of access are considered when making patient management plans</td>
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<td>Addresses the patient’s cultural preferences, health behaviours and attitudes regarding care and incorporates information into management plan</td>
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<td>Makes prescribing recommendations within legislation, codes, scope of practice and according to established prescribing processes and New Zealand guidelines</td>
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<tr>
<td>Demonstrates an understanding in the use, implications, contraindications and interactions of the relevant prescription medications and with any other medications</td>
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<td>Where appropriate applies knowledge of the age-related pharmacokinetic differences and the implications for prescribing</td>
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<tr>
<td>Monitors the effectiveness of the patient’s response to changes in medications</td>
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<td>Decision-making is based on sound clinical judgement, scientific evidence, critical reasoning and patient determined outcomes</td>
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<td>Briefly reflects on how the case was managed</td>
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<td>Sample script provided</td>
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<tr>
<td>Reference list correct as per APA 6th Edition</td>
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**Pass/resubmit/Fail** (please circle)

Prescribing supervisor signature and date: ________________________________
GUIDEINE:
Prescribing practice supervision. Diabetes Nurse Specialist
(Registered Nurse) Prescribing:

National Managed Roll out
2012

This guideline was adapted from the Medical Council of New Zealand’s Induction and Supervision for Newly Registered Doctors guide (2007)
GUIDE: PRESCRIBING PRACTICE SUPERVISION

1. Background

The New Zealand Society for the Study of Diabetes (NZSSD) has been commissioned by Health Workforce New Zealand (HWNZ) to implement a managed roll out of prescribing by Diabetes Nurse Specialists (DNS).

Diabetes Nurse Specialists are required to be authorised by the Nursing Council of New Zealand to prescribe a limited number of prescription medicines used for people with diabetes, and will do so under the supervision of an authorised prescriber. Data relating to DNS prescribing will be collected and monitored by the NZSSD. A report will be made available to HWNZ at the conclusion of the rollout process.

2. Purpose of this guideline

This guideline has been developed to assist participating Diabetes Nurse Specialists (DNS), authorised prescribers and employers to understand and apply supervision of the DNS’s prescribing practice.

3. What Constitutes Supervision?

Supervision can be both formal and informal:

Formal supervision is regular protected time, specifically scheduled and kept free from interruptions, to enable facilitated in-depth reflection on clinical practice. Case review is suggested mechanism for formal supervision to occur.

Informal supervision is the day to day communication and conversation providing advice, guidance or support as and when necessary.

Supervision is flexible:

Supervision is time limited and is flexible depending on the DNS’s requirements. Closer supervision is usually required in the beginning and decreases over time once the DNS and the authorised prescriber become confident with clinical reasoning and prescribing decisions.
3.1 Frequency of meetings

- The authorised prescriber is expected to meet with the prescribing DNS:
  - Daily for the first week, then
  - Weekly for the following two months, then
  - Fortnightly for the duration of the project
  - Post project monthly or at a frequency deemed appropriate and agreed by both the DNS and the authorised prescriber.

3.2 Purpose of regular case review meetings

The purpose of the regular meetings is to:

- Review of prescribing activities.
  - this will require review of clinical notes, lab results and copies of scripts written
- Review and give feedback on prescribing practice
- Enhance knowledge and clinical practice skills
- Discuss difficult or unusual cases
- Discuss general related topics as they arise

4.0 Who can provide supervision of prescribing practice?

The prescribing supervisor must be an authorised prescriber and:

- has had at least three years recent clinical experience for a group of patients with diabetes and related conditions and
- has the support of the employing organisation or general practice to act as the prescribing supervisor who will provide supervision, support and opportunities to ensure competence in prescribing practice and
- has some experience or training in teaching and/or supervising in practice and
- normally works with the DNS applying for prescribing authorisation. If this is not possible, arrangements can be agreed for another authorised prescriber to take on the role of the prescribing supervisor, provided the above criteria are met and the learning in practice relates to the clinical area in which the DNS will ultimately be carrying out their prescribing role.

5. Components of prescribing practice supervision

5.1 Prescribing

Explain pharmaceutical schedule and prescribing:

- Minimal requirements for legally acceptable prescribing
- Appropriate use of pharmaceuticals in diabetes care
- Monitoring processes for effectiveness, safety and cost
5.2 Patient safety

Detail patient safety issues:

- Define limits of prescribing responsibility and lines of accountability
- Backup arrangements when the supervising physician is unavailable

5.3 Legislative requirements

Ensure there is appropriate information available so that the DNS understands the legislative requirements relevant to the following, as they relate to prescribing within the Registered Nurse’s scope of practice in New Zealand (refer to Attachment A for a synopsis on each Act):

- Health Practitioners Competence Assurance Act 2003
- Misuse of Drugs Act 1975

5.4 Scholarship

Outline the practice review activities and available publications that form part of scholarship:

- Peer review
- Continuing nursing education
- Clinical audits
- Critical incident debrief
- Participation in case review, grand rounds etc:
- Relevant clinical journals

5.5 Professionalism

Outline these personal aspects of professionalism:

- Therapeutic boundaries
- Mentoring
- Limits of clinical responsibility pertaining to scope of practice as a registered nurse
- Patient expectations and accommodating the burden of care
6. Responsibilities of Diabetes Nurse Specialists Prescribing under Supervision

6.1 Set-up and management

Your responsibilities regarding set-up and management are to:

- make a commitment to take part fully in the supervision process
- take responsibility for setting up an appointment schedule with the authorised prescriber and diary the appointments
- work with the authorised prescriber to set supervision and educational objectives as necessary
- keep a prescribing/clinical log (Attachment B)
- keep a record of your participation in continuing professional development activities in your log book

6.2 During supervision

Your responsibilities during supervision are:

- to communicate clearly with the authorised prescriber. If you need specific supervision or experience, discuss this with authorised prescriber
- if you are calling your authorised prescriber, to preface your conversation with a clear indicator of why you are ringing, for example:
  - for approval of a management plan
  - for advice, or
  - for active assistance
- to be prepared to accept constructive comments and be receptive to change and develop your prescribing practice if required
- to take part in audit and peer review
- to ask for advice
- if you need more support, to consider asking for mentoring to be arranged

6.3 Problems

Your responsibilities regarding problems are:

- to contact your authorised prescriber early if you have a problem

7. Responsibilities of supervising authorised prescribers

7.1 Supervisors are not civilly liable
Nursing practice is regulated by the HPCA Act through the Nursing Council of New Zealand. Authorised prescribers are not civilly liable for the actions of the DNS they are supervising unless they act in bad faith or without reasonable care.

7.2 Requirements and responsibilities of a supervisor:

- demonstrate a positive attitude in relation to nurse prescribing and the role of nurse prescribers within the multidisciplinary team
- possess a keen desire to work with and supervise nurse prescribers
- possess a commitment to be available on a day to day basis for clinical consultation
- be readily available and approachable
- make sure that alternative arrangements are made for ongoing supervision if you cannot fulfill the supervisory obligations for any reason
- be clear about the lines of communication
- make sure that protected supervision time is scheduled regularly and kept free from interruptions to both the authorised prescriber and the nurse/s being supervised
- provide clear clinical notes and comprehensive management plans, which include parameters clarifying when specialist involvement is required for a particular patient
- monitor and verify appropriateness of the diabetes nurse specialist’s prescribing of diabetes medicines and products
- maintain case review meetings as detailed in 3.1.

7.3 General review at commencement of project

Arrange for review of the DNS’s understanding and knowledge of key clinical areas such as:

- referral guidelines
- prescribing guidelines
- relevant investigations
- screening and treatment protocols
- medico-legal awareness
- communication and patient satisfaction
- understanding of the Accident Compensation Corporation (ACC), HealthPAC, PHARMAC and other agencies, and other issues relevant to the nurse’s prescribing practice
- complete the prescribing practice assessment record as per the Prescribing Practicum Guideline, prior to and at completion of the prescribing practicum. Assessments are to be made available to the project manager.
Attachment A: Relevant legislation


The Act and Code are designed to promote the rights of people using health services. They also serve to ensure the fair, simple and efficient resolution of complaints. The Act establishes the office of a Health and Disability Commissioner, whose duties include investigating complaints against health care providers.

The Code outlines ten ‘Rights of Consumers and Duties of Providers’.

These rights are:

1. To be treated with respect
2. To freedom from discrimination, coercion, harassment and exploitation
3. To dignity and independence
4. To services of an appropriate standard
5. To effective communication
6. To be fully informed
7. To make an informed choice and informed consent
8. To support
9. Rights in respect of teaching and research
10. To complain.

A consumer information brochure outlining consumer’s rights and responsibilities has been developed and it is readily available throughout the organisation.

How does this work day to day?

Some of the key actions that you will need to take in your daily work follow:

- Patients/clients/consumers are informed of their rights and responsibilities
- Care plans and treatment options reflect ‘rights’ and ‘duties’
- Patients/clients/consumers are listened to and give fully informed consent
- Provision is made for chosen support people
- Privacy is ensured as far as practical
- Complaints procedures are followed, and if the patient/client/consumer is dissatisfied after the consultation/contact they are informed of their rights to complain to the Health and Disability Commissioner.
Health Practitioners Competence Assurance Act 2003

The Health Practitioners Competence Assurance (HPCA) Act 2003 provides for the regulation of Health Practitioners, to protect the public by putting into place mechanisms to help ensure the competence of Health Practitioners. It also provides for discipline and complaint procedures.

This Act provides a consistent approach across all registered health occupations.

There is a registering authority for each health discipline. Each Authority is responsible for prescribing and publishing the scope of practice of the discipline – that is, the content of the profession and the qualifications, or experience considered acceptable for a competent practitioner and thus suitable for registration. The Scope may include an extended scope to signify specialisation. Each Authority prescribes acceptable standards for registration, accepts applications and decides whether a person should be registered.

The Nurses Act 1977 was repealed by the Health Practitioners Competence Assurance Act 2003 in September 2004, along with similar legislation providing for all other Health Professionals. The Health Practitioners Competence Assurance Act 2003 provides for the regulation of Health Practitioners, to protect the public by putting into place mechanisms to help ensure the competence of Health Practitioners. It also provides for discipline and complaint procedures.

In New Zealand under the HPCA Act, every nurse has a scope of practice. The three scopes of practice and qualifications are listed below. The three scopes of practice are:

- Nurse practitioner
- Registered Nurse
- Enrolled Nurse

All Registered Nurses and Nurse Practitioners have their practising certificate certified annually.

Enrolled Nurses work under the direction and supervision of a Registered Nurse, Nurse Practitioner or Medical Practitioner.

Nurse Practitioner Qualifications

A nurse practitioner requires:

a) Registration with the Nursing Council of New Zealand in the Registered Nurse Scope of Practice **AND**
b) A minimum of four years of experience in a specific area of practice **AND**
c) Successful completion of a clinically focused Masters Degree programme approved by the Nursing Council of New Zealand, or equivalent qualification **AND**
d) A pass in a Nursing Council assessment of Nurse Practitioner competencies and criteria.

Nurse Practitioners seeking registration with prescribing rights are required to have an additional qualification:
e) Successful completion of an approved prescribing component of the clinically-focused master’s programme relevant to their specific area of practice.

**N.B.** There is no requirement for supervision of Nurse Practitioner prescribing practice

**Registered Nurse Qualifications (for New Zealand Graduates)**

a) A bachelor degree in nursing (or an equivalent qualification) approved by the Nursing Council of New Zealand, AND

b) A pass in an assessment of Nursing Council Competencies for Registered Nurses by an approved provider, AND

c) A pass in an Examination for Registered Nurses.

**Enrolled Nurse Qualifications (New Zealand Graduates)**

a) Successful completion of an 18-month programme in enrolled nursing at level 5 on the New Zealand Qualification Authority – National Qualifications Framework accredited by the Nursing Council; and

b) a pass in an assessment of the Nursing Council competencies for enrolled nurses by an approved provider; and

c) a pass in an Examination for Enrolled nurses

The Act dictates the processes to be used by the Authority for new health professionals to be registered under the Act, establishes a disciplinary and complaints procedure applying uniformly to all registered health professional, and provides for the Authority to monitor and review competence of health practitioners.

Each Authority sets up a Professional Conduct Committee, to which complaints, channelled through the Health and Disability Commissioner, may be directed. Other complaints may be referred to the Health Practitioners Disciplinary Tribunal. There are provision in the Act for a range of penalties and actions, formulated to protect the public from risk. An employer, for example, must notify the appropriate Authority when it dismisses a Health Practitioner for incompetence.

The Act permits an Authority to require that practitioners undertake continuing competence programmes and reviews. Failure to comply with these requirements may see a Health Practitioner’s practising certificate suspended.

Provisions relating to Quality Assurance Activities apply to all Health Practitioners. This relates to assessing the services performed by one or more Health Practitioners, and provides for an application to the Minister of Health to keep the activity protected, which includes keeping confidential information about the protected activity confidential, and to appoint a person to carry out the assessment.

**How does this work day to day?**

This Act is the most important for Health Practitioners, and sets out the professional parameters for all Health Practitioners. Health Practitioners may make a report to the Authority when he or she believes that a Health Practitioner is incompetent. The registering body may continue the same, but there will be overarching, consistent and comprehensive requirements of all Authorities in terms of
how they carry out their functions and the same disciplinary processes are now common to all Health Practitioners. Practitioners must be able to show that they are competent and that they are complying with their obligation to maintain competency, and be up-to-date with their knowledge.

**Medicines Act 1981 as amended in 1990**

**Medical Practitioners**

Medical practice in New Zealand is governed by the HPCA Act 2003, and the Medical Council is the registration authority for implementing this legislation.

To practice in New Zealand all doctors must be registered and hold an annual practising certificate (APC). The APC is the council’s assurance to the public, that the doctor is competent to practice.

**Specific Compliance for Nurses**

**Nurse Practitioners**

Registration with the Nurse Practitioner scope of practice requires completion of at least one approved formal post-registration nursing programme to a Masters level, and appropriate experience and expertise in the area of specialisation. Once registered by the Nursing Council, the area of specialization will be noted against the nurse’s registration, and appear on the practising certificate.

The [Medicines (Designated Prescriber: Nurse Practitioners) Regulations 2005](#) provides that Nurse Practitioners who meet particular requirements to prescribe, under certain conditions, particular medicines – there are currently 1379 medicines listed.

In order to qualify to prescribe, a Nurse Practitioner is required to have:

(a) Obtained a Nurse Practitioner prescribing qualification that is specified for the purposes of this paragraph by the Nursing Council by notice in the Gazette; and

(b) Undertaken the training (if any) that is specified for the purposes of this paragraph by the Nursing Council by notice in the Gazette; and

(c) Demonstrated, to the satisfaction of the Nursing Council, that he or she is sufficiently knowledgeable to safely prescribe all Nurse Practitioner medicines.

The medicines that designated Nurse Prescribers may prescribe are set out in the Medicines Regulations 1984. This list may be changed from time to time.

**Registered Nurses**

Registration with the Registered Nurse scope of practice requires completion of a bachelor degree in nursing (or an equivalent qualification) approved by the Nursing Council of New Zealand.
The Medicines (Designated Prescriber: Registered Nurses Practising in Diabetes Health)

Regulation 2011 provides that registered nurses who meet particular requirements to prescribe, under certain conditions, particular medicines – there are currently 26 medicines listed.

In order to qualify to prescribe the registered nurse must have:

a) Completed two level eight papers or equivalent, as assessed by the Council. The papers must include the following content; pathophysiology, clinical assessment and decision making, and pharmacology; and

b) Demonstrates a clear understanding of diabetes disease processes at level eight or equivalent as determined by Nursing Council; and

c) Completion of a six to twelve week practicum with the authorised prescriber supervising the prescribing, which demonstrates knowledge to safely prescribe all specified diabetes medicines and knowledge of the regulatory framework for prescribing.

In addition Registered nurses practising in diabetes health must undertake:

(a) A minimum of 40 days per year of ongoing practice in a supervised prescribing relationship; and

(b) Ongoing competence requirements of professional development must include specific development relating to prescribing in diabetes health.

Assessments of competence to be completed:
Registered nurses practising in diabetes health authorised to prescribe must provide to the Council each year with their application for a practising certificate, evidence that they have maintained their prescribing competence.

**Misuse of Drugs Act 1975**

The Misuse of Drugs Act 1975 was enacted to consolidate and amend the Narcotics Act 1965, and to make further provisions for the prevention of the misuse of drugs.

Definition of a controlled Drug:

Any substance, preparation, mixture, or article specified or described in the First, Second and Third Schedules to the Misuse of Drugs Act 1975.

Those drugs specified in the:

- First Schedule are Class A Controlled drugs and are considered to pose a very high risk of harm
- Second Schedule are Class B Controlled drugs, and are considered to pose a high risk of harm
- Third Schedule are Class C controlled drugs, and are considered to pose a moderate risk of harm
Section 4 of the Act allows for the amendment of these Schedules, so the Schedules can be updated, by removing, adding, moving items from one schedule to another, amend descriptions of items, etc.

**Misuse of Drugs regulations 1977**

These Regulations provide additional detailed information needed to meet the requirements of the Misuse of Drugs Act. That is, the Act specifies required practice and the Regulations add more information on ‘how to’. Local organisational and professional policies, procedures, codes and standards support the Act and Regulations, and may increase the day-to-day practice requirements.

**Consequences of Non-Compliance:**

The consequences of non-compliance under the Act and the Regulations vary depending on the offence committed. They can range from imprisonment to substantial fines. Professional Councils, Boards and Disciplinary Committees may become involved in issues of non-compliance. MidCentral Health may also take disciplinary action.

For further information, check the Regulations, or Medicines Act.
Dear Sir/Madam

I am writing to you on behalf of the New Zealand Society for the Study of Diabetes. Recently, a group of experienced diabetes nurses have started writing prescriptions for people with diabetes. The Society is involved with this initiative and is collecting information from people who are receiving prescriptions from diabetes nurses. You have been chosen because there is a diabetes nurse specialist writing prescriptions at a place where you receive diabetes care. We would like to hear your views on this, and your clinic has been asked to send a short questionnaire to you on the Society’s behalf.

We would be grateful if you could complete the enclosed questionnaire and return it in the prepaid envelope to Claire Budge (NZSSD’s project data manager) as soon as possible. Your responses will be anonymous. Feel free to ask a family member or friend to help you to fill in the form if you would like to.

Your opinions are important to us, and also to Health Workforce New Zealand who have asked us to consult with people with diabetes. The views of people living with diabetes make an important contribution to improving the quality of the care provided.

I look forward to hearing from you.

Best wishes

Helen Snell, Nurse Practitioner
NZSSD Project Leader

Email: Helen.Snell@midcentraldhb.govt.nz Phone: (06) 3508114
Questions

1. How do you feel about receiving your prescription from a diabetes nurse specialist rather than a doctor? (Please tick one box)
   - I’m happy for the diabetes nurse specialist to prescribe my medications
   - I prefer a doctor to prescribe my medications
   - I’m not sure
   - Other (please explain)

2. What is important to you when you get a prescription from a diabetes nurse specialist? Please tick as many options as apply and describe other things that are important if you would like to.
   - A thorough assessment of my needs
   - The nurse is approachable
   - The nurse’s training and qualifications
   - Clear explanations about my medications and how they work
   - Cost
   - Convenience
   - Being listened to
   - The nurse to be skilled and competent
   - The nurse to be friendly
   - Other (please explain)

3. Is the experience of getting a prescription from your diabetes nurse specialist different from getting it from a doctor?
   - No
   - Yes
   If yes, how is it different?

4. Do you have any concerns about getting a prescription from a diabetes nurse specialist?
   - No
   - Yes
If you have concerns, what are they?

5. How does getting a prescription from your diabetes nurse, rather than a doctor, affect you? Please tick a box for each one (a to f) that best matches how you feel

a) Cost: It costs less □ About the same □ It costs more □

b) Convenience: It is less convenient □ About the same □ It is more convenient □

c) Number of visits/appointments: There are fewer visits □ About the same □ There are more visits □

d) Time involved: Less time is involved □ About the same □ More time is involved □

e) Quality of care: Care is worse □ About the same □ Care is better □

f) Overall satisfaction: I am less satisfied □ About the same □ I am more satisfied □

6. Are you happy for your diabetes nurse specialist to continue to write prescriptions for you?

□ Yes □ No □ I don’t know

7. Is there anything you would like to change about getting a prescription from a diabetes nurse specialist? □ No □ Yes

If yes, please tell us about what you would change
8. Please tick the boxes that describe you:

(a) Sex: [ ] Male [ ] Female

(b) Ethnicity: [ ] NZ European [ ] Maori [ ] Samoan [ ] Tongan

[ ] Indian [ ] Other (please explain) .............................................

(c) Age: ...........................................

(d) Type of diabetes: [ ] Type 1 [ ] Type 2

[ ] Other (please explain) ....................... 

Many thanks for answering these questions. Please use the rest of the page if there is anything else you would like to tell us.
Patient responses to the question of how the experience of getting a prescription from their DNS is different from getting it from a doctor

- Because if I may have any allergic reaction to medication I can go to the nurse and tell her without being ignored
- Convenience
- Diabetes nurse has a better understanding with me
- Doctors are in a hurry to end our explanation but the nurse is listening and asking to bring what we need to explain
- Easier, more time to focus on my needs, more discussion and monitoring
- I don’t have to make an appointment with my doctor which means I don’t have to pay doctor’s fees
- I think ‘specialist’ explains it. Doctors specify a range of health, sickness etc. Diabetes I think focus on the ‘fact’
- It’s easier
- It’s more stressful as you have to justify yourself more
- Keep in touch more often with the nurse – nurse is easier to reach
- More approachable
- More convenient a easier to see nurse rather than specialist in hospital setting
- More convenient as you have to wait 24 hours to collect it and it costs $16 for a repeat or if I see the doctor $34 per visit
- More information is explained better. Nurse gives more time
- Not used to it
- Nurse takes more care in examining my record book and listens to my questions and reasons for change in results
- Nurse usually knows more that the doctor. Easier to talk with
- Personal service
- The nurse is easier to contact, rings back, keeps in contact more
- The nurse is more focused on their job
- They know you and your diabetes
DIABETES NURSE PRESCRIBING: TEAM SURVEY

What benefit do you consider diabetes nurse prescribing has for each of the following...

(a) Access to diabetes services for patients
   - No benefit
   - Some benefit
   - Great benefit
   - N/A

(b) Management of glycaemia, blood pressure and lipids
   - No benefit
   - Some benefit
   - Great benefit
   - N/A

(c) Continuity of care
   - No benefit
   - Some benefit
   - Great benefit
   - N/A

(d) Quality of patient care
   - No benefit
   - Some benefit
   - Great benefit
   - N/A

(e) Delay in patients receiving a prescription
   - No benefit
   - Some benefit
   - Great benefit
   - N/A

(f) Effective use of diabetes nurse specialists’ time
   - No benefit
   - Some benefit
   - Great benefit
   - N/A

(g) Effective use of your own time
   - No benefit
   - Some benefit
   - Great benefit
   - N/A

(h) Fuller use of nursing skills
   - No benefit
   - Some benefit
   - Great benefit
   - N/A
2. Have there been any changes in how the team works now that some diabetes nurse specialists can prescribe medications?
   - Yes
   - No
   - Not sure

   If you answered yes or not sure, how does the team work differently?

3. Do you have any concerns about diabetes nurse specialist prescribing?
   - Yes
   - No
   - Not sure

   If you answered yes or not sure, what are your concerns?

4. Do you think that prescribing has changed aspects of diabetes nurse specialists' practice?
   - Yes
   - No

   If yes, how has it changed?

5. What is the greatest advantage of having a diabetes nurse specialist who can prescribe in your service/practice?

6. Do you see any disadvantages in diabetes nurse specialist prescribing?
   - Yes
   - No

   If yes, what are they?
7. What is your role in the team?

- Non prescribing nurse
- Endocrinologist/Diabetologist
- Team leader
- Manager
- Podiatrist
- Dietitian
- GP
- Other (please describe) ...........................................

8. Which DHB/PHO are you in? .................................................................

If you have any additional comments to make please use the space below

Many thanks for your time, if you have any questions please contact Helen Snell
(Helen.Snell@midcentraldhb.govt.nz)
Team responses to the question of what is the greatest advantage of having a DNS who can prescribe in your service/practice

- Better access and streamlining of care for patients. Takes the pressure of us who are prescribing
- More accessible for the patients
- See comments above. Efficient, timely patient treatment, less double handling of messages, easier for patient, cost effective for patient. Enhanced job satisfaction for nurses involved
- Improved patient care, reduced barriers as patients would not have to make another appointment to see the GP/specialist to make changes or get a prescription
- Greater access to prescribers. This is particularly useful in community clinics when there aren’t always Dr’s on hand to review prescriptions
- Improved care of patient
- Better quality of care; opportunistic/timely response; less need for patients to go back to GP just to get a script – which wastes time and money
- Many of our clients come from low SE groups who find affordable health care difficult to access and who often delay seeing their GP to renew prescriptions, with negative impact on their glycaemic control. This should remove this barrier to service access for their clients
- Our patients come from a lower socioeconomic background where a visit to the GP is cost prohibitive and all too frequently patients do not get prescriptions filled (for a variety of reasons). Better health outcomes for patients with diabetes. They can get their prescriptions here form a prescriber and have their diabetes monitored on a regular basis
- Can prescribe for patients under their care
- Great for patients as there is not a delay in getting a script
- Provides a more holistic, complete service
- Increases access to ‘at risk’ groups – more likely call the nurse for a script than pay at the GPs
- Far better service for patients and educational for me
- Patients can feel less intimidated by a nurse than a Dr
- Better opportunitistic medication prescribing/change of meds for better control
- Can do the whole job, not having to interrupt Drs or send people back to their GP for a prescription
- Reducing time spent accessing a prescription from GP and specialist
- Legitimacy to long established practice of glycaemic management. With increasing experience, improved management of other aspects of diabetes care. Less scripts for me to write
- Upgrading nurse practice to the benefit of patients
• Improving access to care for our clients, many of whom have ongoing financial issues
• At satellite clinics where there are no doctors, the DNS can start a patient on a new medication. Also, if you think the patient would prefer to see their nurse who they have seen before then they can
• Improved outcomes for patients. Increased accessibility to specialist (nurse) care for patients. Added another layer of expertise to the greater team
• Improved patient care, reduced barriers as patients would not have to make another appointment to see the GP/specialist to make changes or get a prescription
• Filling repeat scripts between clinics for patients which allows increased contact and review in between
• Being able to access scripts for test strips and needles and repeat prescriptions for patients
• More convenience for patients
• It is best for the patient – access to specialist knowledge and medication in a timely, informed and patient centric way
• No waiting time- get right treatment in timely manner, improve patient satisfaction and improve care provision and quality life
• Continuity of care. Timely care and excellent follow up. More knowledgeable in educating patients
• Better management of patients. More organised internal system. Patients most needing to be seen get referred and continue to be followed up, adjusting medication as necessary
• Improves access for clients. Reduces costs for clients with fewer GP visits
• Yes – more timely insulin starts and better info to patients re insulin as generally more time to spend
• Improved ability to see patients in an efficient and holistic way
• Reduce cost and time for patients
• They can now be more reactive to elevated HbA1c, lipids and BP rather than encouraging GP’s to make changes which often do not happen or referring to a specialist
• As above it has not yet impacted into the general way our clinics and patients are managed, but I am sure that for the patients that have recieved the prescription it has been very advantageous
• Specialist knowledge
• They can start new diabetes medication or increase/decrease present medications
• OK for the status quo
• Saves patient time and money
• Great help
• Saving time and perhaps more timely patient care
• Opportunity for some collaboration and clarifying roles/responsibilities clearly
### Appendix I

**Early prescribing questions for DNS prescribers**

**PREPARATION FOR PRESCRIBING**

1. Please rate the adequacy of the following aspects of your preparation to be a nurse prescriber on the 10 point scale provided. Please circle a number for each one.

<table>
<thead>
<tr>
<th>Aspect</th>
<th>1</th>
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<th>9</th>
<th>10</th>
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</thead>
<tbody>
<tr>
<td>Academic preparation</td>
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<td>Prescribing practicum</td>
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<td>Other education provided</td>
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<td>Support from your supervisor</td>
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<tr>
<td>Support from NZSSD</td>
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</tbody>
</table>

2. Are there any ways in which any of the above aspects of your preparation could be improved?

- [ ] No
- [x] Yes (please tell us in the space below)

3. Overall how satisfied are you with the preparation provided for you to start prescribing?

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
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</thead>
<tbody>
<tr>
<td>Not at all satisfied</td>
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<td>Extremely satisfied</td>
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CONFIDENCE WITH PRESCRIBING AND STOPPING DRUGS

4. We understand that it is still early days but would like you to rate your current confidence in prescribing the following types of drugs using a 10 point scale where 1 represents ‘not at all confident’ and 10 represents ‘extremely confident’. Circle a number for each drug or group.

<table>
<thead>
<tr>
<th>Drug</th>
<th>Not at all confident</th>
<th>Extremely confident</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insulin</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
<td></td>
</tr>
<tr>
<td>Metformin</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
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<tr>
<td>Statins</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
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<tr>
<td>ARBs</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
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<tr>
<td>Diuretics</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
<td></td>
</tr>
<tr>
<td>ACE inhibitors</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
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<tr>
<td>Calcium channel blockers</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
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<tr>
<td>Sulphonylureas</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
<td></td>
</tr>
<tr>
<td>Aspirin</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
<td></td>
</tr>
</tbody>
</table>

5. If there is any extra information/education about drugs and prescribing them that you would at this stage find useful to support your practice please tell us about it here.
6. Please rate your current confidence in stopping the following types of drugs using the same 10 point scale. Again circle a number for each drug or group.

<table>
<thead>
<tr>
<th>Drug</th>
<th>Not at all confident</th>
<th>Extremely confident</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insulin</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
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<td>Statins</td>
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<tr>
<td>Aspirin</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
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</tbody>
</table>

7. If there is any extra information/education about stopping drugs that you would at this stage find useful to support your practice please tell us about it here.

8. What is your overall confidence in prescribing/stopping diabetes related drugs?

<table>
<thead>
<tr>
<th>1 2 3 4 5 6 7 8 9 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all confident</td>
</tr>
</tbody>
</table>

147
9. Is there always somebody to consult if you need advice with prescribing?

☐ Always    ☐ Mostly    ☐ Sometimes    ☐ Never

10. Are you currently getting the support you need to feel confident in your role as a nurse prescriber?

☐ Yes    ☐ No (please explain)

11. Have any issues with supervision arisen since the project started?

☐ No    ☐ Yes (please explain)

12. Are there any specific patient issues that you feel you need more help with?

☐ No    ☐ Yes (please explain)

13. Approximately what proportion of the prescriptions you write are you wanting to discuss before writing?

☐ none    ☐ <20%    ☐ 20%    ☐ 40%    ☐ 60%    ☐ 80%    ☐ 100%
BARRIERS AND SUPPORTS

14. Since the project started have you experienced anything (e.g. events, people) that has acted as a barrier to your prescribing?

☐ No    ☐ Yes (please tell us about them)

15. Has any action been taken to deal with these barriers?

☐ N/A    ☐ No    ☐ Yes (please explain)

16. Since the project started have you experienced anything (e.g. events, people) that has acted to support your prescribing?

☐ No    ☐ Yes (please tell us about them)

DOCUMENTATION

17. About how long is the project documentation (not counting writing a prescription) taking for each patient interaction? __________ minutes

18. Do you have any issues/concerns about the documentation at this stage?

☐ No    ☐ Yes (please tell us about them)

19. Are there any positive aspects to completing the prescribing documentation?

☐ No    ☐ Yes (please tell us about them)
IMPACT OF PRESCRIBING

20. We are interested in how the experience of being a nurse prescriber is affecting you. Please use the rating scales and spaces below to tell us about the impact it is having on you personally, your career and your workplace:

<table>
<thead>
<tr>
<th>Impact of prescribing on</th>
<th>Very negative impact</th>
<th>None at all</th>
<th>Very positive impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>You personally</td>
<td>1  2  3  4  5  6  7  8  9  10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Please explain</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Your career</td>
<td>1  2  3  4  5  6  7  8  9  10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Please explain</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Your workplace</td>
<td>1  2  3  4  5  6  7  8  9  10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Please explain</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

21. How satisfied are you at this stage with your decision to become a diabetes nurse prescriber?

<table>
<thead>
<tr>
<th>1  2  3  4  5  6  7  8  9  10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all satisfied</td>
</tr>
</tbody>
</table>
And finally ...

22. What are your nursing qualifications?

23. What post-graduate papers have you done and where?

<table>
<thead>
<tr>
<th>Paper</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

24. How long have you been working within diabetes health? ____________ years

25. Did you complete a prescribing practicum as part of your education in addition to the one set up by NZSSD in preparation for your authorisation as a prescriber? (Please tick the relevant box.)

☐ NZSSD prescribing practicum only

☐ Prescribing practicum as part of prior education as well as the NZSSD practicum. Please provide details.

Many thanks for your time. If you have any further comments to make please write them in the space above.
Confidence with Prescribing and Stopping Drugs

1. Please rate your current confidence with starting the following types of drugs using a 10 point scale where 1 represents not at all confident and 10 represents extremely confident. Circle a number for each drug or group.

<table>
<thead>
<tr>
<th>Drug Type</th>
<th>Not at all confident</th>
<th>Extremely confident</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insulin</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
<td></td>
</tr>
<tr>
<td>Metformin</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
<td></td>
</tr>
<tr>
<td>Statins</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
<td></td>
</tr>
<tr>
<td>ARBs</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
<td></td>
</tr>
<tr>
<td>Diuretics</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
<td></td>
</tr>
<tr>
<td>ACE inhibitors</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
<td></td>
</tr>
<tr>
<td>Calcium channel blockers</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
<td></td>
</tr>
<tr>
<td>Sulphonylureas</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
<td></td>
</tr>
<tr>
<td>Aspirin</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
<td></td>
</tr>
</tbody>
</table>
2. Are there any types of drug you feel you have gained confidence in starting since your involvement in the prescribing project?

☐ No  ☐ Yes (please list)

3. Please rate your confidence with titrating/adjusting the following types of drugs using the same 10 point scale. Again circle a number for each drug or group.

<table>
<thead>
<tr>
<th>Drug</th>
<th>Not at all confident</th>
<th>Extremely confident</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insulin</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
<td></td>
</tr>
<tr>
<td>Metformin</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
<td></td>
</tr>
<tr>
<td>Statins</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
<td></td>
</tr>
<tr>
<td>ARBs</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
<td></td>
</tr>
<tr>
<td>Diuretics</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
<td></td>
</tr>
<tr>
<td>ACE inhibitors</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
<td></td>
</tr>
<tr>
<td>Calcium channel blockers</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
<td></td>
</tr>
<tr>
<td>Sulphonylureas</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
<td></td>
</tr>
<tr>
<td>Aspirin</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
<td></td>
</tr>
</tbody>
</table>

4. Are there any types of drug you feel you have gained confidence in titrating/adjusting since your involvement in the prescribing project?

☐ No  ☐ Yes (please list)
5. Please rate your confidence with stopping the following types of drugs using the same 10 point scale. Again circle a number for each drug or group.

<table>
<thead>
<tr>
<th>Drug</th>
<th>Not at all confident</th>
<th>Extremely confident</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insulin</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
<td></td>
</tr>
<tr>
<td>Metformin</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
<td></td>
</tr>
<tr>
<td>Statins</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
<td></td>
</tr>
<tr>
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<td></td>
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<td></td>
</tr>
<tr>
<td>ACE inhibitors</td>
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<td></td>
</tr>
<tr>
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<td></td>
</tr>
<tr>
<td>Sulphonylureas</td>
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<td></td>
</tr>
<tr>
<td>Aspirin</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
<td></td>
</tr>
</tbody>
</table>

6. Are there any types of drug you feel you have gained confidence in stopping since your involvement in the prescribing project?

☐ No  ☐ Yes (please list)

7. What is your overall confidence in prescribing/adjusting/stopping diabetes related drugs?

1 2 3 4 5 6 7 8 9 10

Not at all confident  Extremely confident
8. If there is any extra information/education about drugs and prescribing that you would still find useful to support your practice please tell us about it here.

9. Are there any specific patient issues that you feel you currently need more help with?
   □ No  □ Yes (please explain)

SUPERVISION

10. How often are you receiving supervision from an authorised prescriber?
   □ More than weekly  □ Weekly  □ Fortnightly
   □ Monthly  □ Every few months  □ Not at all

11. Once the project is over, how often do you think ongoing supervision should occur?
   □ More than weekly  □ Weekly  □ Fortnightly
   □ Monthly  □ Every few months  □ Not at all

12. At the moment, is there always somebody to consult if you need advice with prescribing?
   □ Always  □ Mostly  □ Sometimes  □ Never

13. Are you currently getting the support you need to feel confident in your role as a nurse prescriber?
   □ Yes  □ No (please explain)
14. Have any issues with supervision arisen during the project?

☐ No  ☐ Yes (please explain)

15. Approximately what proportion of the prescriptions you write would you like to discuss before writing?

☐ none  ☐ <20%  ☐ 20%  ☐ 40%  ☐ 60%  ☐ 80%  ☐ 100%

16. We are interested in how the experience of being a nurse prescriber has affected you. Please rate the impact it has had using the questions and scale provided and then give explanations where you can.

<table>
<thead>
<tr>
<th>Impact on ...</th>
<th>Very negative impact</th>
<th>None at all</th>
<th>Very positive impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>You personally</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please explain

<table>
<thead>
<tr>
<th>Your career</th>
<th>1 2 3 4 5 6 7 8 9 10</th>
</tr>
</thead>
</table>

Please explain

<table>
<thead>
<tr>
<th>Your workplace</th>
<th>1 2 3 4 5 6 7 8 9 10</th>
</tr>
</thead>
</table>

Please explain
17. How satisfied are you with your decision to become a diabetes nurse prescriber?

1 2 3 4 5 6 7 8 9 10
Not at all satisfied Extremely satisfied

18. In retrospect, please rate the adequacy of the following aspects of your **preparation to be a nurse prescriber** on the 10 point scale provided. Please circle a number for each one.

<table>
<thead>
<tr>
<th></th>
<th>Completely inadequate</th>
<th>Completely adequate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic preparation</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
<td></td>
</tr>
<tr>
<td>Prescribing practicum</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
<td></td>
</tr>
<tr>
<td>Project meetings</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
<td></td>
</tr>
<tr>
<td>Other education provided</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
<td></td>
</tr>
<tr>
<td>Support from your supervisor</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
<td></td>
</tr>
<tr>
<td>Support from NZSSD</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
<td></td>
</tr>
</tbody>
</table>

19. Finally, what advice would you give to another nurse thinking about starting out as a prescriber now? Is there anything you would do differently if you were starting out now?

Many thanks from Claire and Helen for your time. If you have any additional comments, please add them where you can.
<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
<th>NA</th>
<th>Don’t know</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Were the medications prescribed appropriately overall?</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>- Was the indication/s for the prescribed medication/s appropriate?</td>
<td></td>
<td></td>
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<tr>
<td>- Was the dose/s of the prescribed medication/s appropriate?</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Were decisions not to prescribe medications appropriate?</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Were lab tests ordered appropriately, if required?</td>
<td></td>
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</tr>
<tr>
<td>Did any clinically significant medication interactions or adverse consequences occur as a result of the nurse’s prescribing?</td>
<td></td>
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</tr>
<tr>
<td>In the event of any clinically significant medication interactions occurring, was appropriate action taken?</td>
<td></td>
<td></td>
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<tr>
<td>In the event of an unexpected outcome, was an appropriate consultation requested?</td>
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<tr>
<td>Were there any adverse events as relating to nurse prescribing that led to a hospital presentation or admission</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Nurse’s name</td>
<td>Name, address, DOB, sex and NHI: (Attach patient label if available)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>---------------------------------------------------------------------</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

### DIABETES CLINICAL DATA RECORD

#### Ethnicity
- New Zealand European
- Cook Island Maori
- Indian
- Maori
- Niuean
- Tongan
- Samoan
- Chinese
- Other _________

#### Type of diabetes
- Type 1
- Type 2
- GDM
- Pregnancy
- Other _________

Year of diagnosis ______________________

#### Other medical conditions
- Hypertension (H)
- Dyslipidaemia (D)
- Cerebrovascular disease (CVD)
- Ischaemic heart disease (IHD)
- Foot problems (F)
- Diabetic renal disease (R)
- Diabetic eye disease (E)
- Asthma/COPD (A)
- Obesity (O)
- Other _________

#### Smoking status
- Current - number smoked per day _______
- Past
- Never

#### Current medications and the reason for them (medication name only, no dose required).

<table>
<thead>
<tr>
<th>Medication</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<tr>
<td></td>
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</tr>
</tbody>
</table>

The following clinical data should come from previous appointments and results prior to the start of your prescribing, but only from mid 2012 onwards. This is baseline information about your patient.

Please provide two sets where possible and include the date (dd/mm) for each measurement.

<table>
<thead>
<tr>
<th>Weight (kg)</th>
<th>ACR (mg/mmol)</th>
<th>Total Cholesterol (mmol/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood pressure (mmHg)</td>
<td>Creatinine (µmol/l)</td>
<td>HDL (mmol/l)</td>
</tr>
<tr>
<td>HbA1c (mmol/mol)</td>
<td>eGFR/GFR (ml/min)</td>
<td>LDL (mmol/l)</td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>ACR (mg/mmol)</td>
<td>Total Cholesterol (mmol/l)</td>
</tr>
<tr>
<td>Blood pressure (mmHg)</td>
<td>Creatinine (µmol/l)</td>
<td>HDL (mmol/l)</td>
</tr>
<tr>
<td>HbA1c (mmol/mol)</td>
<td>eGFR/GFR (ml/min)</td>
<td>LDL (mmol/l)</td>
</tr>
</tbody>
</table>

159
# NURSE PRESCRIBING LOG

<table>
<thead>
<tr>
<th>Date of contact:</th>
<th>Type of contact:</th>
<th>Location (if clinic):</th>
<th>How was the prescribing decision made?</th>
<th>Reason for med, what was changed, and how (S, D, ↑ or ↓)?</th>
<th>Was a prescription written?</th>
<th>List each repeat medication prescribed</th>
<th>List each new medication prescribed</th>
<th>If no prescription was provided, why not?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient: New or Repeat</td>
<td>Clinic visit or Telephone or Home visit or Email or Fax</td>
<td>Primary care or Secondary care centre or Satellite or Other</td>
<td>Independently or Following consultation with a prescriber or Dual consultation with a prescriber</td>
<td>Hyperglycaemia or Hypoglycaemia or Renal protection or Hypertension or Other</td>
<td>Yes, repeat med only or Yes, new med only or Yes, repeat and new med or No</td>
<td>(specify)</td>
<td>(specify)</td>
<td>None required or Patient referred back to GP for review/prescription or The prescription required was not listed for diabetes nurse prescribing (specify med needed) or Other reason (please specify)</td>
</tr>
</tbody>
</table>

# CLINICAL DATA LOG

<table>
<thead>
<tr>
<th>Date:</th>
<th>Weight (kg):</th>
<th>Blood pressure (mmHg):</th>
</tr>
</thead>
<tbody>
<tr>
<td>HbA1c (mmol/mol):</td>
<td>ACR (mg/mmol)</td>
<td>Creatinine (µmol/l):</td>
</tr>
<tr>
<td>eGFR/GFR (ml/min):</td>
<td>Total cholesterol</td>
<td>HDL (mmol/l):</td>
</tr>
</tbody>
</table>