

# Education, Accreditation & Practice of the nurse specialising in diabetes in New Zealand

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# New Zealand



# Overview

- Diabetes nursing in NZ
- Aotearoa College of Diabetes Nurses (ACDN) NZNO
- Education standards & options
- National Diabetes Nursing Knowledge & Skills Framework (NDNKSF)
- ACDN (NZNO Accreditation process
- Registered nurse prescribing in diabetes care



# Diabetes nursing in NZ

- Has evolved over past 30 years
- Initially focus on diabetes education
- Understanding of multi-factorial nature of diabetes has changed practice
- Role expanded to encompass proactive clinical management
  - non pharmacological
  - pharmacological
- Clinical leadership both locally & nationally



# Role development

- Standards of Care published 1996
- Formal credentialing process 1997 provided delineation of roles:
  - Diabetes nurse
  - Diabetes nurse educator
  - Diabetes nurse specialist
- National Diabetes Nursing Knowledge & Skills Framework 2009 – updated 2017
- Since 2000s:
  - Proliferation of community based roles
  - Clinical nurse specialists
  - Nurse practitioners



# Regulated scopes of practice in NZ by the Nursing Council of New Zealand (NCNZ)



# Educational requirements

## Clinical Nurse Specialist

- Determined by employer and/or specialty
- Relevant postgraduate diploma e.g. Postgraduate diploma in Nursing
- Working towards Master of Nursing degree

## Nurse Practitioner

- Regulatory requirement:
  - Master of Nursing (Clinical) with prescribing



# The Aotearoa College of Diabetes Nurses (ACDN)



- The ACDN is a specialty college of the New Zealand Nurses Organisation (NZNO)
- The ACDN is dedicated to:
  - the provision of excellent standards of care & education for people in New Zealand living with diabetes
  - supporting all nurses caring for people with diabetes across the age span in New Zealand
- Aim is to promote excellence in diabetes nursing in NZ through the development of clinical practice frameworks, policy, education & research





# Standards of diabetes nursing education in NZ



- Standard 1
  - Diabetes nursing education should be delivered & managed by appropriate staff
- Standard 2
  - Diabetes nursing education should be nationally consistent & aligned to appropriate standards of practice
- Standard 3
  - Diabetes nursing education should foster a multidisciplinary team approach



# Online diabetes education

The screenshot shows the HealthMentorOnline website interface. At the top, the browser address bar displays <http://www.healthmentoronline.com/>. The website logo is "HealthMentorOnline" with a small orange icon. A navigation menu includes "HOME", "PUTTING YOU IN THE PICTURE", "YOU - FAMILY - FRIENDS", "LOOKING AFTER YOURSELF", "WORKING WITH YOUR SUPPORT TEAM", and a "SEARCH" button. A "Healthcare Professionals Click Here" link is also present.

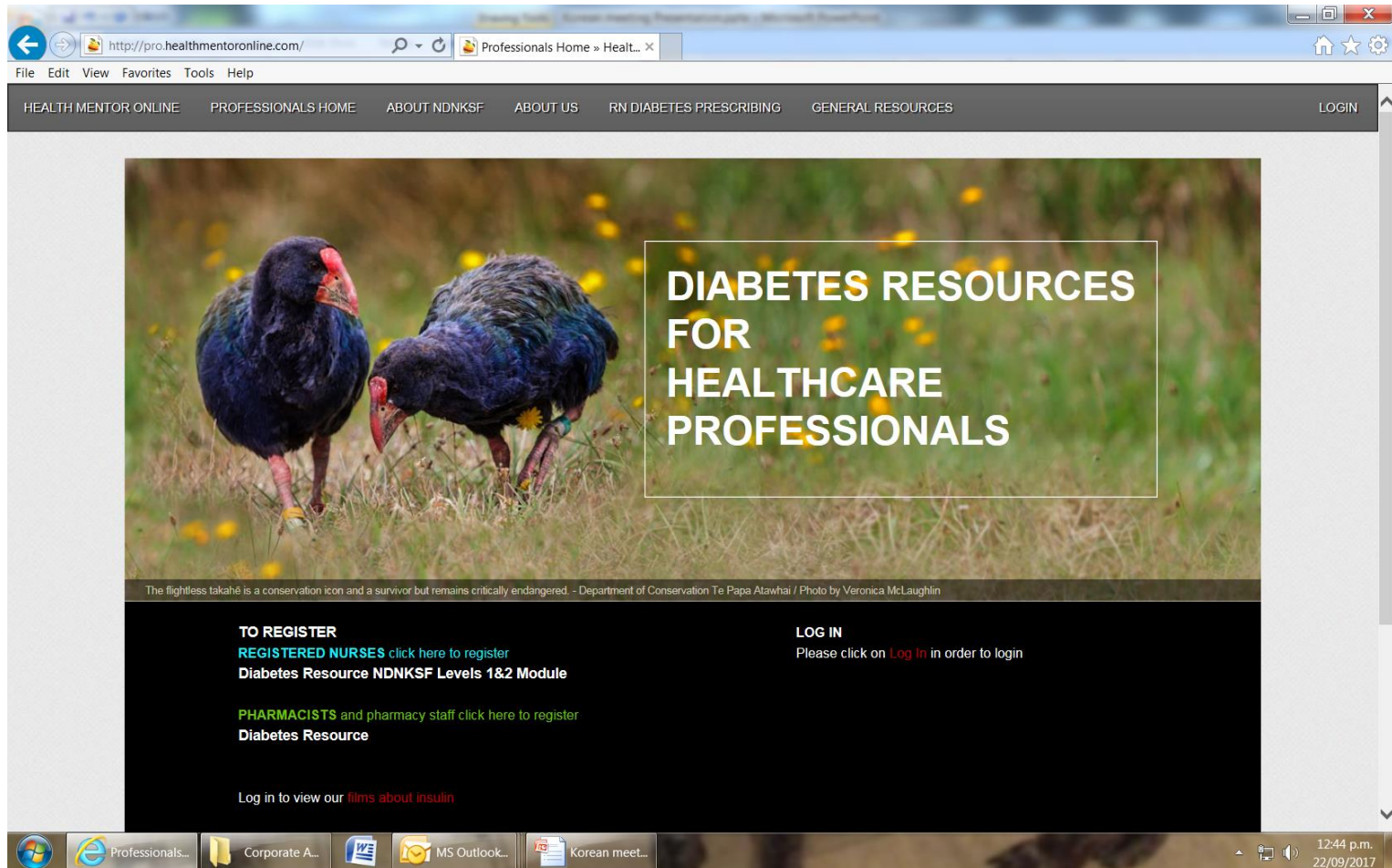
The main banner features a photograph of a young girl with orange flowers in her hair and a smiling man. The text on the banner reads: "PUTTING YOU IN THE PICTURE" followed by "About diabetes" and "Managing diabetes is all about getting knowledgeable about diabetes and how it affects our body".

Below the banner, the "Watch these films" section displays three video thumbnails: "HEALTHY EATING PATTERNS" (with a "Click to play" button), "MAKETU STORIES" (with a "Click to play" button), and "PREDIABETES INTERACTIVE VIDEO" (with a "Click to play" button). A "CONTACT US" form is visible on the right, containing fields for "Your Name", "Email", and "Feedback".

The Windows taskbar at the bottom shows the system clock as 12:43 p.m. on 22/09/2017, along with several open application windows.

[www.healthmentoronline.com](http://www.healthmentoronline.com)

# Online diabetes education



The screenshot shows a web browser window displaying the website <http://pro.healthmentoronline.com/>. The browser's address bar shows the URL and the page title "Professionals Home » Health...". The website's navigation menu includes "HEALTH MENTOR ONLINE", "PROFESSIONALS HOME", "ABOUT NDNKSF", "ABOUT US", "RN DIABETES PRESCRIBING", "GENERAL RESOURCES", and "LOGIN".

The main content area features a large image of two flightless takahē birds in a field of yellow flowers. Overlaid on the right side of the image is a white box containing the text "DIABETES RESOURCES FOR HEALTHCARE PROFESSIONALS". Below the image, a small caption reads: "The flightless takahē is a conservation icon and a survivor but remains critically endangered. - Department of Conservation Te Papa Atawhai / Photo by Veronica McLaughlin".

Below the image, there are two columns of text:

- TO REGISTER**  
**REGISTERED NURSES** [click here to register](#)  
**Diabetes Resource NDNKSF Levels 1&2 Module**
- PHARMACISTS** and pharmacy staff [click here to register](#)  
**Diabetes Resource**

At the bottom of the registration section, it says: "Log in to view our [films about insulin](#)".

On the right side, there is a **LOG IN** section with the text: "Please click on [Log In](#) in order to login".

The Windows taskbar at the bottom shows several open applications: "Professionals...", "Corporate A...", "IMS Outlook...", and "Korean meet...". The system tray on the right shows the time as 12:44 p.m. on 22/09/2017.

[www.healthmentoronline.com](http://www.healthmentoronline.com)

# NZ Tertiary based diabetes education for nurses

- Entering the specialty:
  - Post registration undergraduate
    - Certificate in diabetes care & management
      - Waikato Institute of Technology (WINTEC) & Manukau Institute of Technology (MIT)
- Developing advanced practice:
  - Postgraduate
    - Advanced diabetes nursing practice
      - WINTEC, Eastern Institute of Technology (EIT), University of Auckland
- All informed by the NZ National Diabetes Nursing Knowledge & Skills Framework

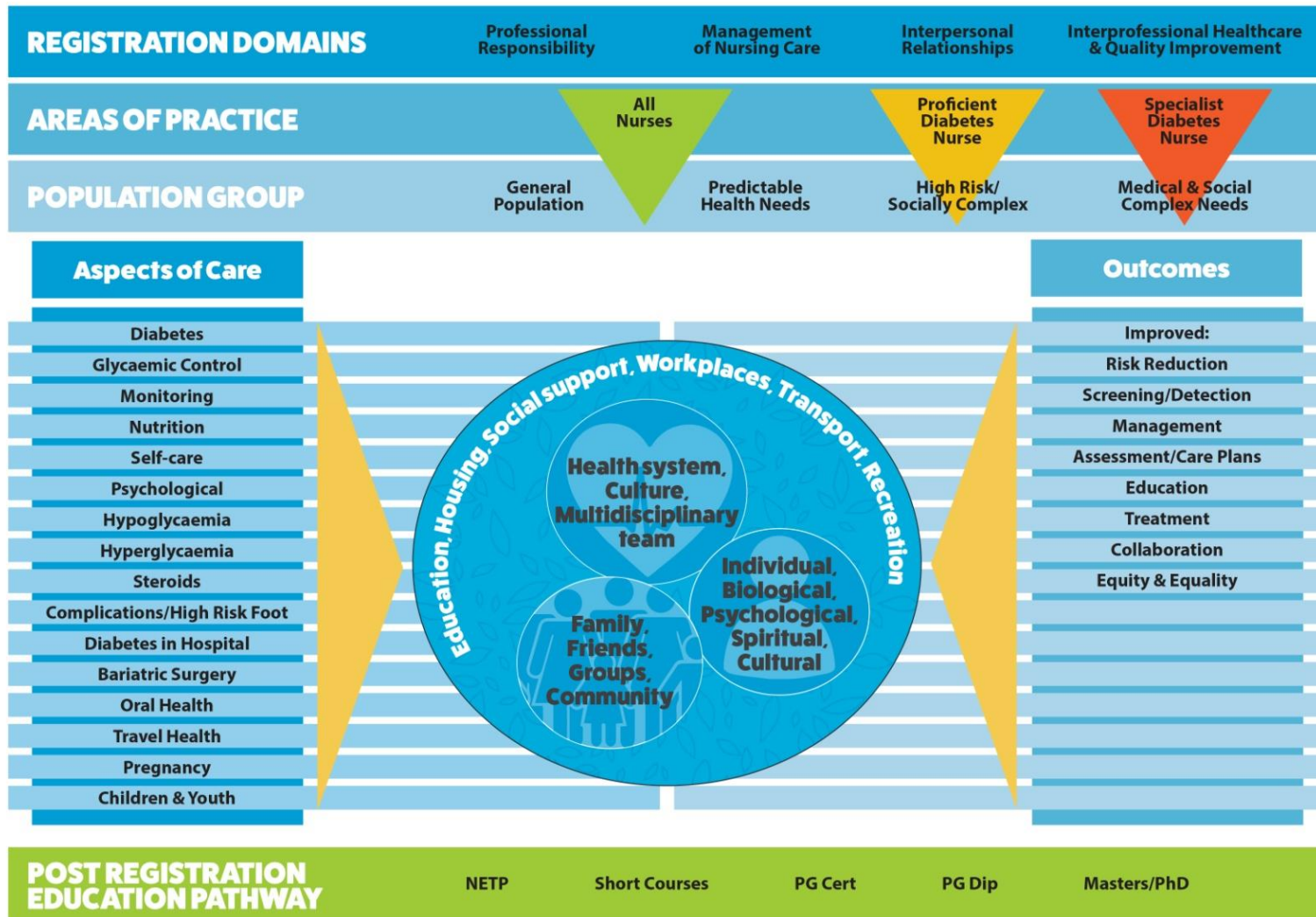




**National  
Diabetes  
Nursing  
Knowledge  
and Skills  
Framework**  
**2017**



# National Diabetes Nursing Knowledge & Skills Framework





Aotearoa College of  
Diabetes  
Nurses  
NZNO

# ACDN Accreditation

- The goal of the Accreditation Programme is to provide a framework by which nurses working within the area of diabetes can be recognised for having:
  - attained knowledge & skills, as defined by the NDNKSF (2009) within their area of practice
  - demonstrated continued maintenance & development of knowledge & skills through a systematic & regular review process





Aotearoa College of  
**Diabetes  
Nurses**  
NZNO

# ACDN Accreditation

- The accreditation process is open to registered nurses specialising in diabetes education, clinical management & research
- To apply for accreditation the nurse must be working in the field of diabetes
- Two levels:
  - Diabetes Specialty Nurse
  - Diabetes Nurse Specialist
- Initial Accreditation & then Maintenance Accreditation every three years





# Prescribing in diabetes care

- Prescribing of medicines has resided in domain of medical practitioners
- Diabetes nurse specialists titrated glycaemic agents under standing orders (delegated authority)
- Fraught with risks



# RN prescribing in diabetes care: Rationale

- Maximise contribution of future workforce
  - Nurses are largest diabetes health workforce in NZ
- Improve patient safety
- Reduce risk to medical practitioners
- Reduce risk to employers



# RN prescribing in diabetes care

- In 2011 a new regulation was formed under the NZ Medicines Act (1985)
- Enabled appropriately trained RNs practising as DNSs to prescribe a limited range of diabetes-related medicines under the supervision of an authorised prescriber



# Prescribing schedule

## Medicines:

- Sulphonylureas
- Metformin
- Insulins
- ACEi/ARB
- Thiazide diuretic
- CCBs
- Statins
- Aspirin
- Glucagon

## Products & devices:

- Blood glucose test strips
- Urine & blood ketone strips
- Blood glucose meters
- Pump consumables



# RN prescribing in diabetes care

- The New Zealand Society for the Study of Diabetes (NZSSD) tested safety & effectiveness of **12 DNS's** prescribing in four secondary care demonstration sites
- Findings from an external evaluation showed that DNS prescribing was safe, of high quality & appropriate
- In 2013 the NZSSD was again commissioned by Health Workforce NZ to lead a national managed roll out with a **further 15 DNSs** from primary & secondary/specialist care settings



# New Zealand Managed Roll Out of Diabetes Nurse Specialist Prescribing



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*On behalf of the New Zealand Society for the Study of Diabetes (NZSSD)*



# Methods

- The NZSSD sought expressions of interest from nurses & their employers to participate in the managed roll out
- Fifteen nurses from six sites with the required academic preparation undertook a prescribing practicum & were consequently authorised to prescribe by NCNZ
- Clinical data (weight, blood pressure, HbA1c, ACR, creatinine, eGFR & cholesterol) was collected over 6 months
- Data analysis was performed using SPSS v19
- Nurses, supervisors & patients were also surveyed



# Objectives

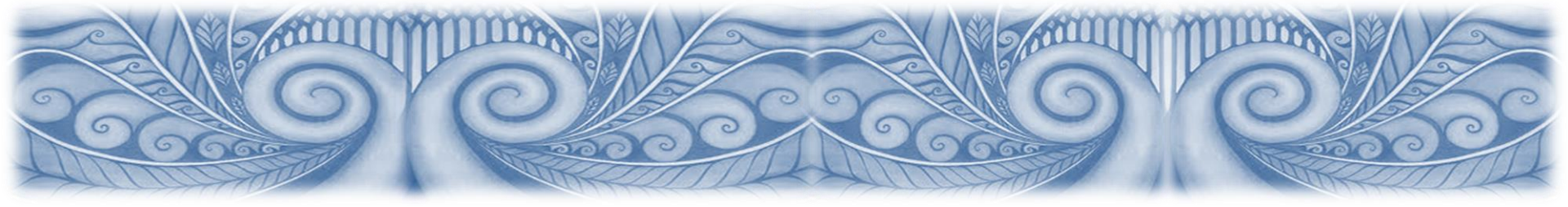
- Provide safety monitoring & outcome measurement
  - Quality improvement, safety & clinical improvement indicators
- Describe critical success factors, enablers & barriers to embedding the DNS prescribing role into practice as business as usual
- Identify recommendations about any changes required to enable the model to be implemented & extended





# Results - Demographics

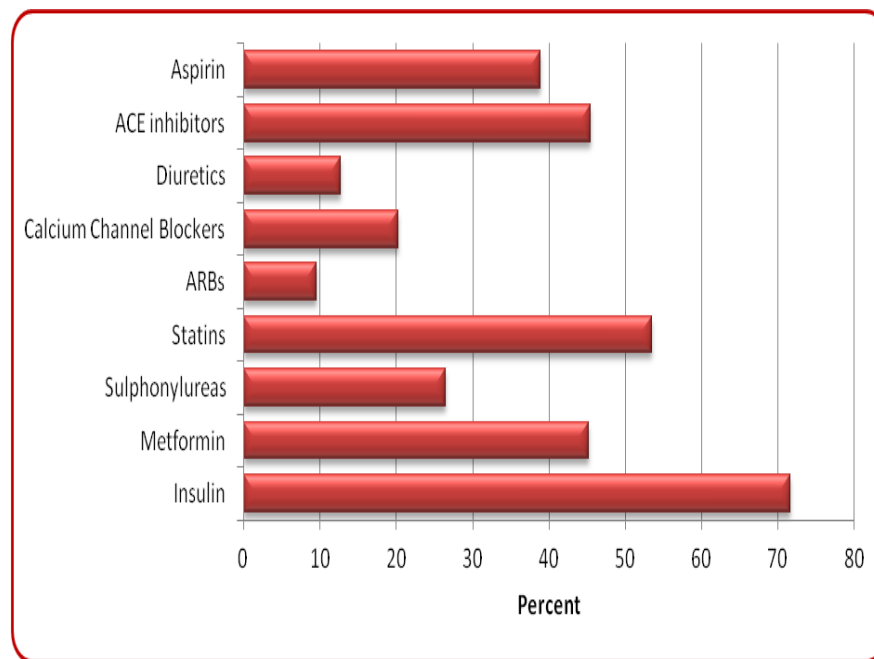
- 1392 patients received care involving prescribing by a DNS during the roll out, of these 52% were male
- Age range 3–93 yrs (*M*=50 yrs), NZE 50%, Maori 14%, Pacific Island 20%, Indian 9%, Chinese 2%, Other 5%
- Type 1 diabetes - 31%, Type 2 - 65%, Gestational diabetes 2% & Other - 2%
- Average duration of diabetes – 12 years (range 1-65 years)



# Results – Baseline health

## Number of patient co-morbidities by category

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



Percentage of patients prescribed specific types of drug at baseline

# Results – Clinical Outcome Data

Baseline and follow up clinical data for adults				
Measures	Baseline		Follow up	Target
	n	Mean	Mean	
Weight (kg)	241	92.4	92.6	
BP systolic (mmHg)	226	130.4	129.7	<130
BP diastolic (mmHg)	226	74.2	74.3	<80
HbA1c (mmol/mol)	425	78.7	70.2	50-55
eGFR/GFR* (ml/min)	328	65.4	67.3	>60
Total cholesterol (mmol/l)	281	4.5	4.3	< 4
HDL (mmol/l)	281	1.2	1.2	≥1
LDL (mmol/l)	249	2.3	2.2	<2
	n	Median (range)	Median (range)	
ACR (mg/mmol):				
- Male	119	3.8(0.9 - 456)	4.8(0.9 – 580.5)	<2.5
- Female	91	3.8(0.9 - 672)	3.2(0.9 – 775.2)	<3.5
Creatinine (µmol/l)	350	87.0 (39-1110)	87.5 (42-946)	77-119

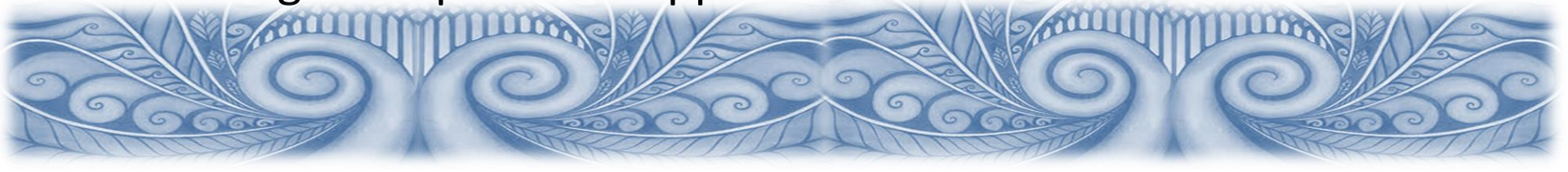
- Measures predominantly remained stable over the 6 month prescribing project period
- Exceptions were a slight improvement in total cholesterol & a larger improvement in HbA1c

\* 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

# Results – Case studies

- Despite what is traditionally seen as part of the medical role, nurses are approaching their prescribing practice as nurses
- All nurses feel like they now have more to offer in consultations with respect to:
  - patient assessment, patient education & medication review
  - sharing their knowledge with other nurses & primary care practitioners
- The nurses came up against very few barriers to prescribing, with nearly all GPs, pharmacists, medical specialists, nurse colleagues & patients supportive of the role extension



# Benefits to employers & advantages of diabetes nurse specialist prescribing

- Maximising the capability of the workforce & enabling DNSs to work to their potential within their scope of practice
- Enabling doctors & nurse practitioners to focus on the more medically complex patient, thus creating efficiencies in service delivery
- By having more clinicians able to provide diabetes related prescriptions, access points for patients for care & scripts is increased



# Benefits to employers & advantages of diabetes nurse specialist prescribing

- Improved team functioning, with quality activities such as case review, becoming routine
- The immediacy of the DNS being able to provide scripts as part of the consultation provides clinical benefits
- Education is able to be provided at the time of prescribing, thereby improving understanding of medications & potentially encouraging adherence



# Conclusions & Recommendations

- DNS prescribing is both safe & effective with clinical parameters remaining stable or improved
- DNS prescribing was shown to bring important benefits to the effectiveness & efficiency of specialist diabetes services, to be acceptable to patients, & supported by the wider health care team
- Adequate clinical & academic preparation for the prescribing role is essential
- Mentorship from prescribing peers was highly valued
- Communication to stakeholders reduced barriers



# Registered Nurse Prescribing in Primary Health & Specialty Teams



- Includes general practice, outpatient clinics, family planning, sexual health, public health, district & home care, & rural & remote areas
- The team setting is important so the nurse can consult a doctor or nurse practitioner when they need advice on diagnosis or treatment, if the patient's health concerns are more complex than they can manage
- The specific common & long-term conditions nurses can prescribe for include:
  - diabetes & related conditions, hypertension, respiratory diseases including asthma & COPD, anxiety, depression, heart failure, gout, palliative care, contraception, vaccines, common skin conditions & infections
- They prescribe from a restricted list of medicines





# Qualifications for RN prescribing

- A minimum of 3 years full-time practice in the area they intend to prescribe in
- The completion of a Council-approved postgraduate diploma in registered nurse prescribing for long term & common conditions or equivalent as assessed by the NCNZ
- A practicum with an authorised prescriber, which demonstrates knowledge to safely prescribe specified prescription medicines & knowledge of the regulatory framework for prescribing
- Satisfactory assessment of the competencies for nurse prescribers completed by an authorised prescriber



