Diabetes Care Models and the ANDS

BPDC 2018, Sydney

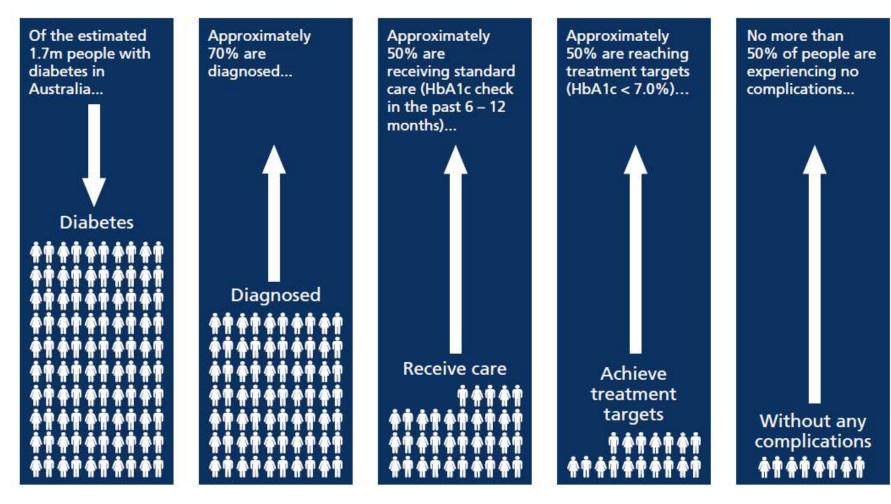
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- Is there an issue with management of diabetes in Australia?
- What does the National Diabetes Strategy recommend?
- Where could reconsideration around models of care address the goals of the NDS?
- What is happening internationally?
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- What is the NADC doing about it?

Rule of Halves

Australia's Diabetes Burden



www.sydney.edu.au/medicine/research/units/boden/recently-published.php 2018

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The five guiding principles of the National Diabetes Strategy are:

- Collaboration and cooperation to improve health outcomes
- 2. Coordination and integration of diabetes care across services, settings, technology and sectors
- 3. Facilitation of person-centred care and self-management throughout life
- 4. Reduction of health inequalities
- 5. Measurement of health behaviours and outcomes

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- These five principles underpin 7 goals:
 - 1. Prevent people developing type 2 diabetes
 - Promote awareness and earlier detection of type 1 and type 2 diabetes
 - 3. Reduce the occurrence of diabetes related complications and improve quality of life among people with diabetes
 - Reduce the impact of pre-existing and gestational diabetes in pregnancy
 - Reduce the impact of diabetes among Aboriginal and Torres Strait Islander peoples
 - Reduce the impact of diabetes among other priority groups
 - Strengthen prevention and care through research, evidence and data



 Goal 3: Reduce the occurrence of diabetes related complications and improve quality of life among people with diabetes

3.4	Continue to implement coordinated, multidisciplinary and streamlined care for people with diabetes, particularly for those with chronic and complex conditions.	Australian Government, states and territories	Short
3.5	Encourage and promote the use of shared care plans to enhance coordinated care within Primary Health Networks.	Australian Government, states and territories	Medium
3.6	Encourage and promote regional planning and patient health care pathways for diabetes management to integrate primary health care, acute care and specialist and allied health services.	Australian Government, states and territories	Medium
3.7	Strengthen and continue to develop partnerships between health professionals and major specialist diabetes centres.	States and territories	Short



 Goal 3: Reduce the occurrence of diabetes related complications and improve quality of life among people with diabetes

3.11	Build on current experience to implement
	agreed best-practice transition services from
	paediatric/adolescent to adult services to
	improve quality of life, including mental health.

States and territories

Medium

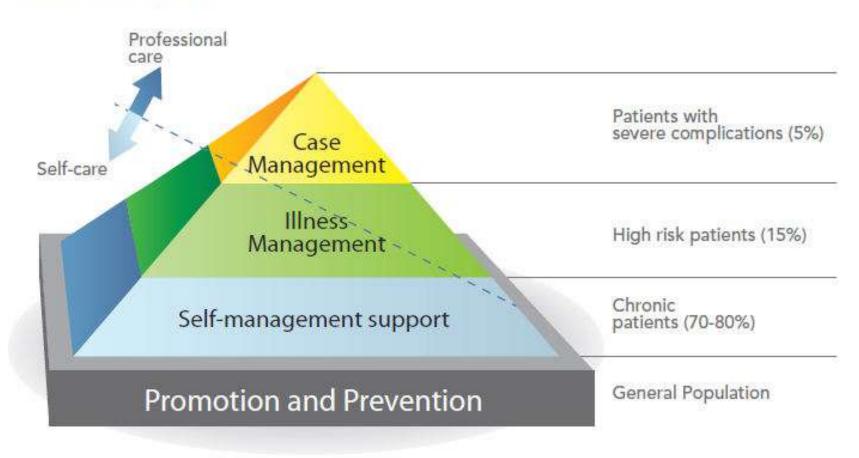
3.13 Ensure access to high-risk foot clinics based on need. States and territories

Long

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Integrate the care of a patient through their journey of chronic disease

Extended Kaiser Pyramid



Source: Kaiser Permanent. Adapted

UK: Improving Diabetes Care Through Integration

Generalist care

An individual's practice MDT will include their GP, practice nurse, and in many cases a community nurse and/or community podiatrist. Some may also include a sessional increased-access-to-psychological-therapies (IAPT) therapist.

Annual care planning cycle (Quality Standard (QS) 3).

In some areas service provision may be provided by a community based multidisciplinary team.

Figure 3: example service configuration

Community based multidisciplinary team (MDT) may provide:

- Patient education programmes (QS1)
- Pregnancy advice for women of childbearing age (QS7)
- Foot protection team (QS10)
- Clinical psychology support
- Additional support for those with Type 2 diabetes and poor glycaemic control.

Community multidisciplinary team (MDT) to include a Physician (Consultant Diabetologist, but may additionally include GPwER), Diabetes Specialist Nurse, Diabetes Specialist Dietician, Diabetes Specialist Podiatrist, Clinical Psychologist with a special expertise in diabetes.

Specialist care

Specialist care services will be multidisciplinary, with membership of the MDT varying according to the specialty service.

Specialist services will include:

- Transition service
- · Diabetic foot service
- Diabetic antenatal service
- T1DM service, including insulin pump service
- Diabetic inpatient service
- · Diabetic mental health service
- Diabetic kidney disease service
- Diagnostic service where there is doubt as to type of diabetes.

There should be clear referral

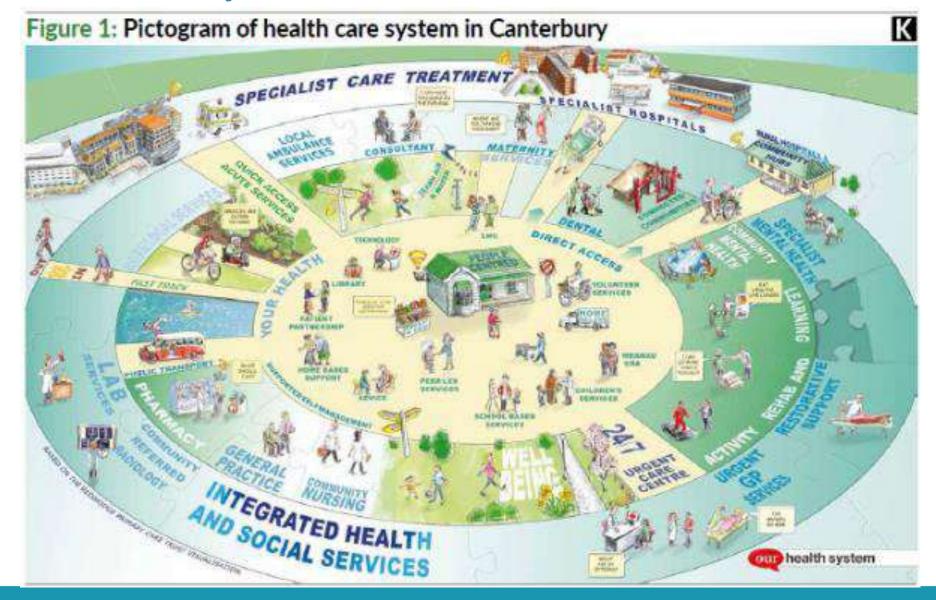
Super Six Model (Portsmouth, UK)

- Resources reallocated to community-based services
- 90% of Type 2 diabetes discharged back to primary care with local enhanced services, appropriate specialist support and education programmes
- Hospital kept the Super 6
 - Inpatient diabetes, antenatal, diabetic foot, nephropathy, insulin pumps and Type 1 diabetes
 - GP practice visits
 - Rapid support to GP with phone and email access
 - Virtual clinics with case based discussion
 - GP and practice nurse education
 - Regional Hubs local physician, interested GP, and practice nurse to see long term difficult Type 2
 - Hypo hotline local ambulance

Results

- At 5 years 25% decrease in DKA, 42% decrease hypoglycaemia presentations, 30% decrease HHS, 22% reduction in MI, 22% reduction in CVA and 39% reduction in amputation with an annual cost saving of 1.9 million pounds.
- Allowed to set up diabetes clinics at renal dialysis sites, increase number inpatients seen, improve wait time to be seen in the MDT foot clinic,

Whole of system - integrated care in Canterbury, NZ



Canterbury, NZ

- Overarching strategic vision to keep people well and healthy in their homes and communities where complex care is delivered in a timely and appropriate manner
- Integrated care across organisational boundaries, investment in the community-based services and strengthened primary care
 - HealthPathways -12% less on pathology testing, 18% less radiology testing and 1% less on pharmacy
 - Acute demand management system urgent care delivered in community from GPs supported by community nurses with specialist advice and access to rapid diagnostic tests
 - Electronic shared health record
 - Alliance contracting
 - Increase spend on community based services (9%)

Results

- Lower acute medical admission rates, lower readmission rates, shorter LOS, lower ED attendances,
- Hospitals increased capacity for elective work, fewer peaks in bed occupancy, increased elective surgery and fewer cancelled elective admissions and wait times.
- 18% less spent on emergency hospital care (ED attendances and acute medical admissions). Reverse growth.

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Diabetes Care Project

Group 1

Integrated information platform



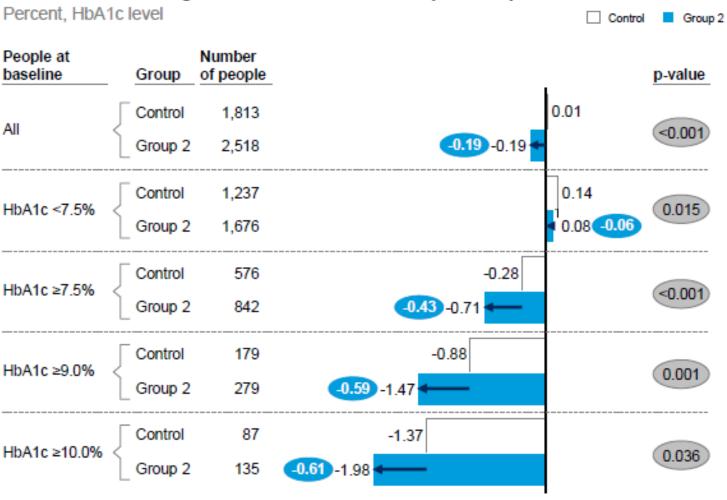
Continuous quality improvement processes





Diabetes Care Project: Outcomes

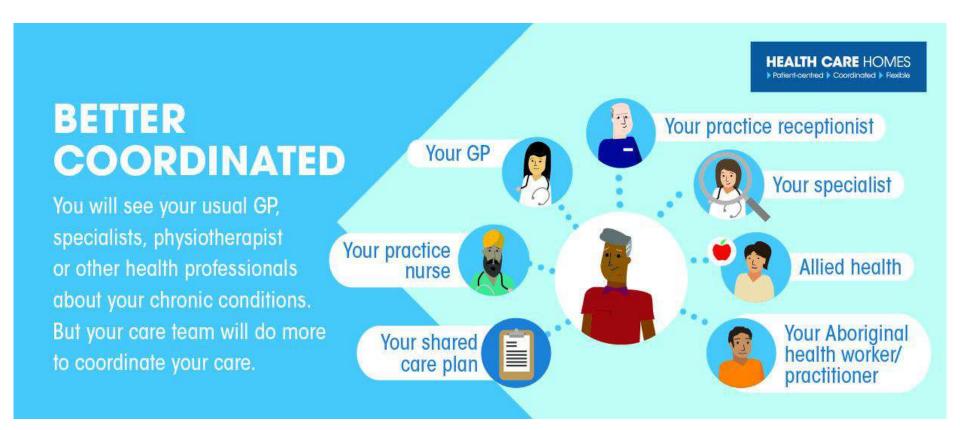
HbA1c mean change from baseline for Group 2 compared to Control



Diabetes Care Project: Outcomes

- Also improvements in:
 - systolic BP, lipids, waist circumference
 - incidence of depression and diabetes-related stress
 - Completion of clinical processes eg. annual cycles of care
- Cost
 - Additional \$203 per patient per year

Health Care Homes















Case-conference style consultations in GP practices with Specialist and Primary care teams: an efficient way to improve diabetes outcomes for our population

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Table 1. Comparison of existing diabetes Hunter Alliance model.	model of care to the new integrated
Current model	Alliance model
Consultations at hospitals	Consultations close to patients at their GP practices
Recommendations made to GPs, may not be implemented by GPs (various factors)	During case-conference, GP takes ownership of recommendations and implements it
Little upskilling for primary care team (letters only)	Intense upskilling including practice nurses, 'live demonstrations'
Limited information for specialists, consultations slowed down for data collections (across multiple labs)	Full comprehensive information available with GP data base, saves time
Requires multiple follow-ups and develops dependency on specialist teams 'I have been coming for years' More referrals to outpatients	No routine follow-up from specialists, all follow-ups at GP practice from primary care team, liaise with specialist if any concerns Less referrals to outpatients
Limited partnership value	Excellent partnership, integration and communication
Limited follow-on effects	Potential to improve entire practice cohort

ARTICLE



Clinical outcomes of an integrated primary–secondary model of care for individuals with complex type 2 diabetes: a non-inferiority randomised controlled trial

Anthony W. Russell ^{1,2} • Maria Donald ¹ • Samantha J. Borg ¹ • Jianzhen Zhang ¹ • Letitia H. Burridge ¹ • Robert S. Ware ³ • Nelufa Begum ¹ • H. David McIntyre ¹ • Claire L. Jackson ¹

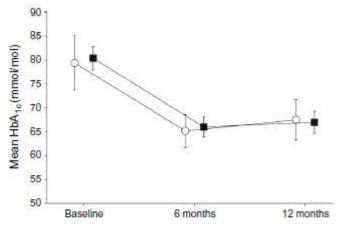
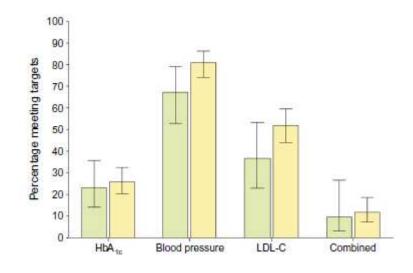


Fig. 3 Change in mean HbA_{1c} across time. Intention-to-treat sample with imputation. Error bars indicate 95% CIs. White circles, usual care; black squares, Beacon model



- Improved patient satisfaction
- 50% reduction in diabetes related potentially preventable hospitalisation*

Western Australia Models of Care for Diabetes

COMMUNITY AWARENESS & PREVENTION GENERAL POPULATION	PREVENTION & EARLY DIAGNOSIS IN HIGH RISK GROUPS AT RISK OF DIABETES UNDIAGNOSED DIABETES	OPTIMAL INITIAL & LONGTERM MANAGEMENT Newly diagnosed diabetes	EARLY DETECTION & OPTIMAL MANAGEMENT OF COMPLICATIONS ESTABLISHED COMPLICATIONS	PREVENTION & MANAGEMENT OF ACUTE EPISODES ACUTE EPISODES		SUPPORT SERVICE COORDINATION
Health Promotion • Awareness • Promotion of healthy environment & lifestyle (WAHPSF 2007 - 2011)	Awareness of risk How to reduce risk Importance of early diagnosis	Importance of weight loss, diet exercise Need for complications screening	Awareness of complications Need for early detection	Awareness of potential acute changes	•	WA guidelines Decision aids Local protocols Local resource directories Diabetes care groups
GP - Coordinated multidisci	plinary prevention & manage	ment]	
Awareness Promotion of healthy lifestyle	Patient information Risk assessment Community based risk reduction activities: diet exercise, weight loss	 Patient information Initial assessment Personal plan, targets for weight, exercise, BP, lipids, smoking cessation Self-management education & support Medication glucose control reduce CV risk regular complications screening specialist referral of 	 regular complications screening & monitoring intensified diabetes treatment behavioural change glucose lipids BP smoking Specialist referral 	 Patient information, action plan for acute problems Local management Protocols for GP care Specialist team advice Accessible general & specialist podiatry 	4	Care plans Commonwealth quality initiatives
Targeted programs for high	risk, vulnerable groups	complex, difficult cases	 Targeted complications screening & management 			
	 Targeted diabetes detection programs 	 Targeted services for high risk groups 	for high risk groups			
		<u> </u>	◆	<u> </u>	٦ .	
Specialist team services		 Type 1 care Assessment of complex cases, intensified treatment Complications screening Insulin stabilisation Paediatric service Pregnancy services Outreach services Service planning, coordination Research 	 Complications screening & monitoring Intensified diabetes treatment, cardiovascular risk reduction 	 Accessible advice Clinical review Inpatient diabetes management Management of advanced complications Outreach services 	+	Care plans Commonwealth quality initiatives ICT data sharing, communication & resources Local & statewide registers Recall systems Audit

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What is the NADC doing?



- Models of care workshop
 - Key stakeholders to discuss models of care
- Models of Care document
 - Creation of a working group
 - Produce a document with brief summary of evidence around models of care for management of diabetes
 - National demonstrators
 - Practical learning tips for implementation
 - Scope?