

NSW Health

# Integrating care for people with diabetes

A Statewide Initiative for Diabetes Management



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The NSW Ministry for Health acknowledges the traditional custodians of the lands across NSW. We acknowledge that we live and work on Aboriginal lands. We pay our respects to Elders past and present and to all Aboriginal people.

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# Executive summary

NSW Health and the NSW/ACT Primary Health Networks (PHNs) are committed to working with partners in a 'one health system' approach, to improve the health outcomes and experiences of care for people living with diabetes.\* The NSW Ministry of Health (the Ministry) and the Agency for Clinical Innovation (ACI) have identified an opportunity to build on the existing diabetes management activities of local health districts (LHDs) and specialty health networks (SHNs), PHNs including general practice, Aboriginal Controlled Community Health Services (ACCHSs), primary and community care organisations.

Using the existing work of districts/networks and their partners to address diabetes as a starting point, the aim of this collaboration is to develop a statewide initiative that supports a more coordinated approach for diabetes management to keep people well and out of hospital.

NSW Health is using a value based healthcare (VBHC) approach to develop and implement this statewide Initiative. This approach strives to improve outcomes that matter to patients, the experiences of receiving and providing care, and the efficiency and effectiveness of care. It focuses on placing the patient at the centre of care and measuring outcomes that matter to them.

The Initiative outlines **why** an integrated approach to diabetes management is required in NSW and highlights **what** should be in place to achieve the outcomes. Under a more coordinated approach, people living with diabetes should be able to access and receive care that is:

- appropriate to their needs and preferences, and supports them to achieve health outcomes that matter to them
- provided in a timely, planned, coordinated and integrated manner
- delivered by a team of health practitioners from general practice, primary, community, aged care and hospital settings.

The Initiative provides guidance to ensure that appropriate services and partnerships are in place across all settings to improve diabetes care. Shared priorities supported by statewide and local authorising environments will enable system-wide improvements where needed.

The statewide Initiative highlights six focus areas that all districts and their partners should consider addressing to improve diabetes care. The focus areas align with current programs of work, local circumstances, needs and capabilities. The Initiative will define and measure common outcomes that NSW Health and its partners will work towards.

## Focus areas

1. Partnerships with people living with diabetes
2. Capability building for health professionals in general practice, primary, community and aged care settings to promote best practice
3. Tailored strategies for priority communities
4. Agreed processes for identification of diabetes, referral pathways and escalation of care
5. Shared information and data
6. Identified governance and leadership with a focus on partnerships.

The Initiative is not designed around a particular type of diabetes. Each district/network and their partners in PHNs, ACCHSs, primary, community and aged care will have local data that will identify specific cohorts of people with diabetes who would benefit from integration of care. The outcomes focus and flexible approach enables local adaptation of implementation approaches while maintaining a common focus on achieving statewide outcomes.

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\* The terms 'people/person living with diabetes', 'patient' and 'consumer' are used interchangeably throughout to refer to all people with diabetes who use our health services, as well as their families and carers.

# Background

The **Statewide Initiative for Diabetes Management** (the Initiative) has been developed with consultation across patients, clinicians, researchers, districts and networks, PHNs, ACCHSs and non-Government Organisations (NGOs).

The identified services and practices build on extensive work that has been occurring across the health system and in consultation with various groups, including:

- recommendations from the NSW Diabetes Taskforce
- ACI Diabetes and Endocrine Network
- individual members of NSW Advanced Health Research and Translation Centres
- Diabetes Case for Change developed by the NSW Ministry of Health with key partners
- examples of integrated diabetes services that are currently available across NSW
- recent national and state diabetes reports and reviews.

In February 2020 a case for change analysis informed a statewide solution design workshop. Approximately 80 people attended, including representatives from districts and networks, PHNs, ACCHSs, research and NGOs. The following high-level outcomes for diabetes care in NSW were identified for the Initiative :

1. people with diabetes have improved health outcomes and quality of life
2. people with diabetes, carers and families have optimal experience of receiving care
3. clinicians have optimal experience of providing care
4. NSW health system is more efficient and effective in the provision of care for people with diabetes.

Workshop participants identified eleven priority focus areas. In researching the Initiative, these have been distilled to the six that are considered to address the issues identified in the case for change and have the most impact on achieving the outcomes.

# Designing the Initiative

The purpose of this Initiative is to highlight areas for all districts and their partners to focus on in order to contribute to improving outcomes for people with diabetes across the state. Building on existing local programs this approach enables local adaptation and implementation approaches while maintaining a common focus on achieving statewide outcomes.

The Initiative takes a statewide approach to encourage collaboration in the local health neighbourhood and to ensure working partnerships are in place. Solutions are held by a range of groups and we acknowledge that people are the experts in their own life. These partnerships should foster the development of shared priorities and the local authorising environment to enable improvements to the way that diabetes care is provided. The six focus areas identify a number of elements of care for local partnerships to consider.

Each of the six identified focus areas are detailed over the upcoming pages. Each focus area has at least one outcome statement and an outline of **what** services and practices should be in place to achieve the aims for the Initiative.

The Initiative is **not** designed around a particular cohort of people with diabetes. Local data will identify specific sub-cohorts of people with diabetes who would benefit from integration of their care, including:

- people with Type 1, Type 2, gestational diabetes or rarer forms of diabetes (mitochondrial disease or cystic fibrosis related)
- newly diagnosed
- high-risk patients and the elderly
- Aboriginal people
- people with disability
- people with serious and persistent mental health issues
- culturally and linguistically diverse groups
- people experiencing social disadvantage
- people in the prison system
- people with multiple comorbidities.

By addressing the focus areas, primary, community, aged care and hospital diabetes teams will be able to:

- achieve consistency in clinical care that allows for flexibility at the local level
- promote appropriate management of diabetes that improves outcomes for patients

- support the development of clinicians and integration of clinical services
- clarify roles and responsibilities for clinicians, patients, carers and families.

Providing the basis for consistent monitoring and measurement of outputs and outcomes across the state, a future monitoring and evaluation plan will:

- identify how these outcomes will be measured consistently across the system
- show the impact of care on outcomes.

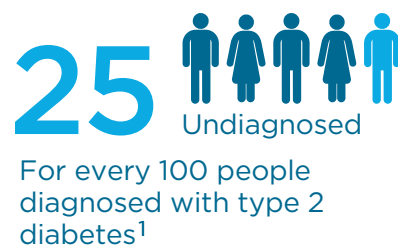
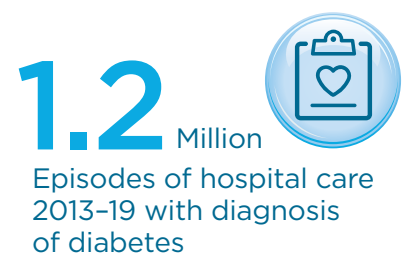
## A case for change: diabetes as a priority in NSW

### What does the evidence indicate?

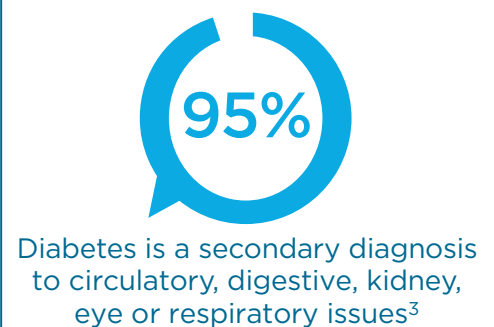
#### DIABETES IN NSW - SNAPSHOT



Aboriginal people are three times more likely to have diabetes than non-Indigenous Australians, and type 2 diabetes is a direct or indirect cause for 20% of Aboriginal people's deaths.



There is a higher prevalence of type 2 diabetes in lower socioeconomic than higher socioeconomic Australians<sup>2</sup>



### Why is the management of diabetes in the community a priority for NSW?

Key stakeholder groups developed a case for change for diabetes. The analysis shows:

- Diabetes is likely under-diagnosed across NSW, and earlier diagnosis/detection and treatment is crucial to keeping people with diabetes healthy and reducing the impact and likelihood of diabetes-related complications.
- Early identification of people with or at risk of developing diabetes can prevent or delay the onset of type 2 diabetes and prevent secondary complications.
- People with undiagnosed type 2 diabetes are unaware of their condition and are therefore not accessing the necessary care. They may already have complications of their diabetes that may lead to high blood pressure, vascular disease, stroke, eye disease, heart disease, nerve damage, foot problems, or kidney disease.
- The consumer experience of living with type 2 diabetes varies at different stages of the diabetes continuum.<sup>4</sup> There are many psychosocial and emotional aspects of being diagnosed with, and managing, diabetes.
- One common view across the different stages is that the General Practitioner (GP) is a key provider of care. They are important for identifying diabetes, expressing urgency and seriousness, acting as a source of information and as a coordinator of care.
  - Evidence suggests detecting and managing diabetes in the GP setting is associated with a lower risk of unplanned admissions to hospital.<sup>5</sup>
- Consumers have noted challenges in accessing timely and appropriate care, and clinicians recognise that silos exist between services and across care settings.

- For people with diabetes being treated in acute settings, the average length of a hospital admission across the period was 5.9 days per episode, and the average cost per episode was \$7,309 (excluding dialysis episodes).
- If business as usual care continues, costs to NSW Health for people with a diabetes diagnosis could total \$21.8 billion over the next decade. This equates to an average of 290,000 episodes of care and 180,000 bed days required each year, at an annual average cost of \$2.2 billion.
- The importance of coordination between and continuity of care across the primary care and hospital settings.

## Next steps

This Initiative is intended to enable districts and networks, through their diabetes services, and their consumer, primary, community and aged care partners to review the existing care arrangements for people with diabetes. The aim is to establish a more integrated approach to care across regions. By using this approach, partners will be able to ensure that:

- people with diabetes are at the centre of all considerations for the design of local approaches to implementing the statewide Initiative
- mechanisms are in place for local codesign between people with diabetes, LHDs/SHNs, primary, community and aged care services
- local partners have flexibility to design an implementation approach to suit their local population and resource base.
- the Monitoring and Evaluation Plan will provide guidance on what is to be measured, giving partners flexibility to determine how to achieve each measure.

Using a VBHC approach, a statewide monitoring and evaluation strategy will help guide the implementation of the Initiative. We will measure and communicate the impact the system is making against the common outcomes that NSW Health and its partners will work towards.




To support this Initiative the following documents will be developed in an iterative manner in consultation with clinicians, consumers and system partners:

1. *Statewide Initiative for Diabetes Management Implementation Plan* – to outline the tailored support available to help local health districts and their partners implement the Initiative.
  - a companion *Organisational Models document* – to provide decision-makers with ideas for **how** to organise care in different service delivery settings to align with the priority focus areas and produce the best possible outcomes, including early lessons from the Collaborative Commissioning projects
2. *Monitoring and Evaluation Plan* – to identify how the outcomes will be measured consistently across the system. This plan will facilitate local adaptation of implementation approaches while maintaining a common focus on achieving statewide outcomes.
3. *Economic Appraisal* – to assess the potential impact, costs and benefits of the initiative compared to business as usual processes.

The statewide Initiative is aligned with a range of existing local integrated services, statewide programs and system enablers. Many, but not all of these will be described in the Implementation Plan. Users of this Initiative are encouraged to leverage these enablers and design their local service delivery approaches to meet the components in the six focus areas accordingly.

# Focus areas for improving integrated diabetes care

The initiative defines and will measure common outcomes that NSW Health and its partners will work towards and identifies activities that can be scaled for local implementation.

| FOCUS  | OUTCOMES   |
|--|--|
|  <p><b>1</b> Partnerships with people living with diabetes</p>  | <p>People living with diabetes, their families and carers are empowered to participate in decision-making and ongoing care.</p>  |
|  <p><b>2</b> Capability building and support for health practitioners in hospital settings, primary care, community and aged care settings to promote best practice</p> | <p>General practice, primary, community and aged care services and professionals are supported to deliver best practice diabetes services through capability building activities.</p>  |
|  <p><b>3</b> Tailored strategies for priority communities</p>  | <p>Local approaches recognise and work with communities at high risk of diabetes and its complications to ensure:</p> <ul style="list-style-type: none"> <li>• strategies are co-designed and responsive to the needs and perspectives of those communities.</li> </ul>  |
|  <p><b>4</b> Agreed processes for identification of diabetes, referral pathways and escalation of care</p>  | <ul style="list-style-type: none"> <li>• Early identification of people living with diabetes to prevent development of diabetes or its complications</li> <li>• Agreed HealthPathways are:               <ul style="list-style-type: none"> <li>– established across care settings</li> <li>– supported by appropriate digital communication technologies</li> </ul> </li> <li>• Patients have access to specialist services to enable rapid assessment and treatment to manage their diabetes and complications.</li> </ul> |
|  <p><b>5</b> Shared information and data</p>  | <p>Clinical data is used to monitor the effectiveness of diabetes care and the intervention to ensure best practice care is being delivered.</p>   |
|  <p><b>6</b> Identified governance and leadership with a focus on partnerships</p>  | <p>Formalised agreements are in place between specialist, primary, community and aged care services to guide the development and support of:</p> <ul style="list-style-type: none"> <li>• lasting and collaborative relationships</li> <li>• governance arrangements between primary, community, aged care and hospital/specialist health services.</li> </ul>   |





## **FOCUS AREA 1**

### **Partnerships with people living with diabetes**

**OUTCOME: People living with diabetes, their families and carers are empowered to participate in decision-making and ongoing care.**

Healthcare providers ensure that diabetes care is configured around the principles of person-centered care.<sup>6</sup> Examples of this include:

- recognise the expertise that people bring to their health care
- people with diabetes are included in governance of the statewide Initiative
- people living with diabetes are not told what to do but are engaged in shared decision making that respects their personal goals, encourages them to work towards and achieve those goals, regardless of how simple they may seem to the care provider
- people living with diabetes, their carers and their families are empowered and enabled to understand and participate in decisions and actions about their care and treatment.

People living with diabetes have access to resources and information that will inform treatment and care management decisions.<sup>7</sup> This includes:

- all people with diabetes have an annual cycle of care/shared care plan
- all people with diabetes are registered with the National Diabetes Service Scheme (NDSS)
- all people with diabetes, their families and carers have access to group or individual evidence-based, structured diabetes education provided by diabetes educators and dietitians on diagnosis
- people living with diabetes, their families and carers are guided to use a range of tools and resources to provide relevant information on diabetes management such as:
  - shared decision support and self-management tools
  - peer support groups
  - lifestyle coaching
  - diabetes education.
- in every region, virtual and in-person support services are available to improve access for people with diabetes.

For people with co-morbidities, the focus of the healthcare team broadens to provide a framework for self-management support.<sup>7</sup> To support this:

- With permission from people with diabetes and other participants, successful experiences are shared across peer groups.

People with diabetes are asked for feedback on their experience of care, their achievement of outcomes and their assessment of enablement by the care process.<sup>8</sup> This will ensure:

- patient experience of receiving care is improved by the development and use of a range of support tools and services<sup>9</sup>
- patients routinely use Patient Reported Outcomes Measures (PROMs) and Patient Reported Experience Measures (PREMs).

Service providers across primary, community, aged care and hospital/specialist services adopt a 'one health system' approach that aligns policies and planning for the design and delivery of health care services, to provide an integrated care experience for people living with diabetes.<sup>10</sup>





## FOCUS AREA 2

### Capability building and support for health practitioners in hospital settings, primary care, community and aged care settings to promote best practice

**OUTCOME:** Specialist, general practice, primary, community and aged care services and professionals are supported to deliver best practice diabetes services through capability building activities.

NSW Health and partners work together to prioritise capability building in the clinical workforce to support people with diabetes in the community setting.<sup>11</sup> This includes:

- capability building activities are developed in accordance with best practice guidelines
- capability building activities are communicated to general practice, primary, community and aged care services by NSW Health diabetes specialist services<sup>12</sup>
- educational resources and programs should have input from people with diabetes, their carers and families, focused on enabling confidence to manage their own care
- capability training should focus on:
  - best practice pharmacological management<sup>12,17,18</sup>
  - lifestyle change and overcoming personal barriers to people with diabetes managing their own care
  - care for priority communities including Aboriginal people
  - person-centered team-based care
  - referral pathway uses and joint working across general practice/primary/secondary care
  - participation in diabetes audit and quality improvement
  - offering shared training and education programs
  - best practice training for all members of the multidisciplinary team, including dietitians, practice nurses, school nurses, diabetes educators and rural generalists.<sup>13, 15</sup>

All districts and networks should support clinicians to access education and development in the area of diabetes management.<sup>13</sup> This suggests that:

- broadening access to NSW Health *My Health Learning* online courses in diabetes management should be explored for clinical staff from local partners in the Statewide Initiative for permanent access.

Case conferencing is used for both clinical services and professional development for all healthcare professionals in the multidisciplinary team. In particular:

- General Practitioners (GPs) have telephone access to specialists to enhance patient care and support professional development.<sup>13,15</sup>

GPs, Endocrinologists and physicians with an interest in diabetes, current Credentialed Diabetes Educators, nurse practitioners and practice nurses should register themselves with the NDSS using their AHPRA registration number.<sup>14</sup> This will ensure that they can register people living with diabetes in their care.

Invest in the specialist workforce to enable leadership and planning of the specialist clinics, outreach services, case conferencing, rapid access care, telephone support, GP training and education highlighted in the Initiative.



## FOCUS AREA 3

### Tailored strategies for priority communities

**OUTCOME: Local approaches recognise and work with communities at high risk of diabetes and its complications to ensure:**

- strategies are co-designed and responsive to the needs and perspectives of those communities.

Local teams have identified people and communities at high risk of diabetes.<sup>12</sup> This means that:

- Priority groups should be engaged in the co-design of workshops for improved diagnosis of diabetes, prevention and diabetes management . This may include groups such as:
  - Aboriginal people
  - culturally and linguistically diverse people
  - people with mental health issues
  - people with disabilities
  - people in Residential Aged Care Facilities
  - children and young people
  - women who are pregnant or planning their pregnancy.
- Tailored strategies are co-designed with people and communities at high risk of diabetes
- Culturally appropriate health promotion and health literacy programs are designed and developed.<sup>16</sup> Examples include healthy food choice promotion, cooking classes, interventions with food stores to provide a range of foods suitable for people with diabetes.

Healthcare workers are trained to lead teams to provide culturally safe care for Aboriginal people.<sup>12</sup>

Services are accessible, appropriate and acceptable within a person's local community.<sup>13,14</sup> Strategies may include:

- flexible service delivery, including options for individual or group
- mobile outreach (diabetes screening) service for rural and remote communities<sup>15</sup>
- presence of a culturally appropriate workforce
- no out of pocket costs
- an online library of resources dedicated to diabetes self-care and management, including dietary advice (e.g. recipes).



## FOCUS AREA 4

### Agreed processes for identification of diabetes, referral pathways and escalation of care

#### OUTCOME – IDENTIFICATION: Early identification of people living with diabetes to prevent development of diabetes or its complications.

The general practice team should provide a ‘medical home’ that is responsible for the patient’s healthcare across their entire health journey, and this approach results in better health outcomes for patients and their families.<sup>17</sup>

Service providers across primary, community, aged care and hospital/specialist services adopt a ‘one health system’ approach (including the alignment of policies and planning) to the design and delivery of health care services that provides an integrated care experience for patients to support self-management. This means that care settings should be integrated from general practice, primary and community to specialist and hospital care.<sup>19</sup>

Local teams work together to establish agreed processes to identify people at risk or living with diabetes in the community in addition to inpatient presentation.<sup>21,24</sup> This includes:

- screening and testing processes are consistent and occur in primary, community and aged care to support early identification before inpatient presentation<sup>3</sup>
- the increased use of risk screening tools should be promoted, with a focus on groups at higher risk of developing diabetes<sup>20</sup>
- medication and pregnancy planning advice is available for women with diabetes requiring pre-pregnancy management to reduce maternal and foetal complications<sup>18</sup>
- all pregnant women are appropriately tested for hyperglycaemia in pregnancy<sup>16</sup>
- all women with gestational diabetes mellitus (GDM) should be screened for diabetes at 6-12 weeks post-partum (Oral Glucose Tolerance Test), then every three years (OGTT or HbA1c) or annually if they are planning a pregnancy<sup>18</sup>
- individuals should be screened for diabetes risk every three years from 40 years of age using AUSDRISK<sup>21</sup>
- risk assessment should begin from 18 years of age for Aboriginal people<sup>21</sup>
- all people with an AUSDRISK score of 12 or more should have a blood examination for fasting blood glucose (FBG) or HbA1c.<sup>21</sup>

All people with diabetes should participate with their general practice team to develop an annual cycle of care.<sup>20</sup> This includes:

- the intensity of treatment for people identified as having diabetes is appropriately risk stratified and included in an annual cycle of care designed around their goals
- the annual cycle of care identifies the multidisciplinary team that supports the person and their plan and supports Australian guideline recommendations for HbA1c testing<sup>19,22</sup>
- GPs monitor people for risk such as diabetes-related eye disease, pre- and post-pregnancy diabetes, high blood pressure, nerve damage, foot problems, heart disease, vascular disease, stroke, and kidney disease<sup>19,22</sup>
- on confirmation of a diagnosis and as part of their annual cycle of care, people should be registered with the NDSS.<sup>14</sup>

All people at high risk (AUSDRISK>12) or pre-diabetes receive advice and referral from their primary care provider, for lifestyle modification.<sup>13</sup>

Type 1 diabetes is recognised as a complex condition requiring a multidisciplinary team and best including a specialised diabetes clinician and modern technology (eg sensors).

In practice most children with diabetes are managed in specialist multidisciplinary clinics, including a specialised diabetes clinician and use of sensor technology, with primary health care involvement limited to two important areas:

- making the initial diagnosis of diabetes and referring to paediatric services without delay
- providing mental health support and facilitation of a mental health care plan.

For children who don’t reside in a metro area the GP is also responsible for implementing the clinical care plan written by the specialist team.

## OUTCOME - REFERRAL AND TREATMENT PATHWAYS: Agreed HealthPathways are:

- established across care settings
- supported by appropriate digital communication technologies.

HealthPathways are established to improve transitions of care across all settings for people living with diabetes, including pathways into diabetes specialist services and hospital settings.<sup>23</sup> It is important that:

- HealthPathways, referral criteria and Models of Care are clearly articulated and used between care settings, including general practice, community nursing, aged care and other hospital services<sup>24</sup>
- virtual resources and tools are available to clinicians to enable them to refer patients appropriately and within suitable timeframes.

Healthcare providers have readily available information on who, how, where and when to access appropriate healthcare services.

Referral and HealthPathways in NSW support the provision of specialist outreach services/clinics/telemedicine to rural and regional areas, and specific populations including Aboriginal people.<sup>12,25</sup> It is important that:

- local patients and consumers co-design local HealthPathways
- local HealthPathways can include options for specialist support for GPs.<sup>12</sup>

Care should be facilitated by a best-practice approach and may include telehealth or telemonitoring applications in a structured system of virtual care.<sup>26</sup> This includes:

- telehealth medication review is available in collaboration between pharmacy and GPs.

Local services are accessible to people with diabetes, their families and carers to support referral,<sup>13</sup> including:

- pre-diabetes and people newly diagnosed are offered psychological/grief and denial support<sup>13</sup>
- eye care options are implemented, with virtual services available in rural and remote regions<sup>19</sup>
- High Risk Foot Services are available in all districts and networks
- bariatric clinics are able to accept clinically appropriate referrals from outside their geographical zone.<sup>27</sup>

## OUTCOME - ESCALATION OF CARE: Patients have access to specialist services to enable rapid assessment and treatment to manage their diabetes and complications (such as glycaemic control, feet, eye or post pregnancy complications).

Health services ensure that patients can see the health professional best suited to their needs and receive responsive, person-centred care within a clinically appropriate timeframe.<sup>12</sup> This includes:

- specialist clinics and where appropriate, outreach services, are established to enable rapid assessment and treatment for designated patients and accelerated appointment scheduling for required treatment services
- virtual care options are used to coordinate and support a rapid stabilisation service from metropolitan centres to rural and remote communities.

For patients identified as requiring accelerated access to specialist treatment, access to clinical care should be available within 72 hours or next day.<sup>27</sup> NSW Health Policy Guidelines state:

- urgent (within 30 days), one-off diabetes specialist review for designated patients provides greater opportunities for patients to establish self-management care patterns
- if the patient's clinical condition has the potential to deteriorate quickly, with significant consequences for health and quality of life, or where time sensitive treatment may have a significant impact on patient outcomes, these patients should be seen within 30 days of receipt of referral<sup>27</sup>
- appointment scheduling in all specialist clinics should include virtual and face-to-face services.<sup>12</sup>

Regional and metropolitan hospitals can accept clinically appropriate out-of-area referrals where there is no suitable health service locally or when the patient's condition is complex and requires a higher level of service than is available locally.<sup>12,27,28</sup>



## FOCUS AREA 5

### Shared information and data

**OUTCOME: Clinical data is used to monitor effectiveness of diabetes care and the intervention to ensure best practice care is being delivered.**

With patient consent and considerations for privacy, clinical data is collected across care settings to provide information about health outcomes and the experience of receiving care from the perspective of people living with diabetes.<sup>28</sup> This includes:

- diabetes management data is captured electronically and shared across care settings<sup>23,29</sup>
- clinical data are used to monitor the effectiveness of the models of care to ensure best practice care is delivered
- relevant information and data are shared and/or linked at local, regional, state and commonwealth levels<sup>12</sup>
- aggregated and de-identified clinical systems data (e.g. LUMOS), PROMs and PREMs are used at the service level to:
  - understand factors that inform how services influence improved health outcomes
  - plan service delivery and capability development.<sup>8</sup>

NSW Health develops electronic systems that share care plans, referrals, discharge documentation, results and outcomes that link across community, primary, aged care and hospital care sectors.<sup>13</sup> This includes:

- the linking of data from Aboriginal Controlled Community Health Organisations with other primary and hospital data collections should be used to focus improvements for Aboriginal people.<sup>12</sup>

## LUMOS – SOME PRELIMINARY INSIGHTS FROM WESTERN SYDNEY

Lumos is a program being run throughout NSW that seeks to provide holistic health information about the patient journey. Lumos collects non-directly identifying patient information from general practice records for linkage to a range of other health system records.

It is built on a strong partnership between the Ministry of Health and the NSW Primary Health Network that originated, and is currently most extensive, in Western Sydney.

In Western Sydney, the records of 149,252 patients (of which 74% were adults) from 19 general practices were linked to emergency department presentations (ED) and hospital admissions over the five years from 2012-2017. Among the adults, people with diabetes were identified by examining HbA1c results, hospital discharge coding and primary care clinical records.

Around 20% of patients who had contact with a hospital during the five year period, and who had a diagnosis flag in their hospital record, were not flagged or being actively managed in the community, according to their primary care record.

When a patient's primary care record indicated that their diabetes had been recognised and managed by their general practice during 2012-2016, this nearly halved their risk of an unplanned hospital admission in 2017 (4.6% risk), compared to if their diabetes and its management was not flagged in their primary care record (8.2% risk).



## FOCUS AREA 6

### Identified governance and leadership with a focus on partnerships

**OUTCOME:** Formalised agreements are in place between specialist, primary, community and aged care services, and PHNs to guide the development and support of:

- lasting and collaborative relationships
- governance arrangements between general practice, primary, community, aged care and hospital/specialist health services

Local services have identified key partners across the region to participate in shared governance of the initiative.

Partnerships should be established between public and private sectors, including linkages with ACCHS, multicultural services, and services that provide support to specific population groups.<sup>13</sup> This includes:

- formalised shared governance is established and maintained between each district/network and their PHNs and other relevant care organisations and consumers to support implementation of the initiative<sup>26</sup>
- formalised partnership agreements between hospital, PHN, primary and community services are in place to support governance arrangements.<sup>13</sup>

Defined roles and responsibilities of the care team involved in diabetes management at both a local and regional level across care settings.<sup>24</sup> This includes:

- identified diabetes leadership is in place in each care setting to drive improvements in diabetes care
- health providers use a common language. They communicate regularly and accurately with each other<sup>13</sup>
- partners have processes in place that integrate care across existing services. This includes joining together programs – such as Integrated Care, Health Care Homes or Neighbourhoods and Co-commissioning – with an interdisciplinary and multidisciplinary healthcare provider workforce.

Local services establish a collaborative, integrated, multidisciplinary approach across care settings.<sup>11</sup> For example:

- explore local investments to enhance multidisciplinary teamwork in primary, community and aged care, including colocation of services, case conferencing, virtual care service models, and allied health and nursing service funding<sup>30</sup>
- collaborative commissioning can provide a governance structure that will:
  - enable locally developed integration across the continuum of care for people with diabetes
  - embed local accountability
  - join-up multidisciplinary health and social care services.<sup>26</sup>



# References

1. ABS 2013. Australian Health Survey: Biomedical results for chronic diseases, 2011-12. Canberra: ABS.
2. Australian Institute of Health and Welfare. Diabetes. 2016. [www.aihw.gov.au/diabetes](http://www.aihw.gov.au/diabetes) (accessed 14 April 2020).
3. NSW Health, Statewide Initiative for Diabetes Management – Case for Change, January 2020.
4. Diabetes NSW & ACT Consumer Research Data – understanding the behaviours of people living with diabetes (Dec 2018).
5. Lumos Progress Report - Year 1: December 2020. <https://www.health.nsw.gov.au/lumos> (accessed April 2021).
6. NSW Health Literacy Framework. 2019-2024, Sydney: Clinical Excellence Commission.
7. Australian Health Ministers' Advisory Council, 2017, National Strategic Framework for Chronic Conditions. Australian Government. Canberra.
8. NSW Health Patient Reported Measures Framework. <https://www.health.nsw.gov.au/Value/Pages/patient-reported-measures.aspx> (accessed 11 August 2020).
9. NSW Health Elevating the Human Experience: Our guide to action for patient, family, carer and caregiver experiences. <https://www.health.nsw.gov.au/patients/experience/Pages/elevating-the-human-experience.aspx> (accessed 20 August 2020).
10. NSW Health and NSW Primary Health Networks: Working together to deliver person-centred healthcare – JOINT STATEMENT (Australian Government, NSW PHNs, NSW Government) – In preparation 2020.
11. NSW Health Strategic Framework for Integrating Care. <https://www.health.nsw.gov.au/integratedcare/Pages/strategic-framework-for-integrating-care.aspx> (accessed 18 May 2020).
12. Western Sydney Diabetes: Western Sydney Diabetes Plan 2019.
13. NSW Health Statewide initiative for diabetes management - Solution design workshop report: April 2020.
14. National Diabetes Services Scheme Registration Guidelines. <https://www.ndss.com.au/health-professionals/resources/practice-nurses/> (accessed 20 August 2020).
15. Diabetes NSW & ACT Fact Sheet: <https://diabetesnsw.com.au/indigenous-groups-get-diabetes-three-times-more-often-and-20-years-earlier/> (accessed 14 April 2020).
16. Nankervis A, McIntyre HD, Moses R, Ross GP, Callaway L, Porter C, Jeffries W, Boorman C, De Vries B, McElduff A for the Australasian Diabetes in Pregnancy Society. ADIPS Consensus Guidelines for the Testing and Diagnosis of Hyperglycaemia in Pregnancy in Australia and New Zealand.
17. Zarora, R, et al. Challenges to Introducing Integrated Diabetes Care to an Inner-Regional Area in South Western Sydney, Australia. *International Journal of Integrated Care*, 2020;20(2): 6, 1-12.
18. Rudland VL, Price SAL, Hughes R, Barrett HL, Lagstrom J, Porter C, Britten FL, Glastras S, Fulcher I, Wein P, Simmons D, McIntyre HD, Callaway L. ADIPS 2020 guideline for pre-existing diabetes and pregnancy. *Aust N Z J Obstet Gynaecol*. 2020 Dec;60(6):E18-E52.
19. The Royal Australian College of General Practitioners. Management of type 2 diabetes: A handbook for general practice. East Melbourne, Vic: RACGP, 2020.
20. Maridulu Budyari Gumal, the Sydney Partnership for Health, Education, Research and Enterprise. NSW Integrated Diabetes Care (IDC) Workshop Group 10/12/18 – Draft Report 'Priority Framework for Integrated Diabetes Care in NSW'.
21. AUSDRISK; <https://www.health.nsw.gov.au/Value/lbvc/Pages/diabetic-foot.aspx> (accessed 9 June 2020).
22. Imai C, Li L, Hardie R-A, et al. Adherence to guideline-recommended HbA1c testing frequency and better outcomes in patients with type 2 diabetes: a 5-year retrospective cohort study in Australian General Practice. *BMJ Qual Saf* 2021; 0:1-9. Doi:10.1136/bmjqs-2020-012026
23. The National Association of Diabetes Centres and the Australian Diabetes Society - Type 2 Diabetes Model of Care Toolkit (2019).
24. Acharya, S et al, Hunter and New England Diabetes Alliance: innovative and integrated diabetes care delivery in general practice. *Australian Journal of Primary Health*, 2019, 25, 219-243 Practice & Innovation.
25. NSW Health Leading Better Value Care program. <https://www.health.nsw.gov.au/Value/lbvc/Pages/diabetic-foot.aspx> (accessed 11 August 2020).
26. NSW Health Collaborative Commissioning. <https://www.health.nsw.gov.au/Value/Pages/collaborative-commissioning.aspx> (accessed 11 August 2020).
27. NSW Health Outpatient Services Framework GL2019\_011. [https://www1.health.nsw.gov.au/pds/Pages/doc.aspx?dn=GL2019\\_011](https://www1.health.nsw.gov.au/pds/Pages/doc.aspx?dn=GL2019_011) (accessed 14 April 2020).
28. Productivity Commission, Shifting the Dial: 5 Year Productivity Review, Inquiry Report. <https://www.pc.gov.au/inquiries/completed/productivity-review/report> (accessed 13 May 2020).
29. NSW Health System Purchasing and Performance Safety & Quality Framework.
30. NSW Health: Collaborative commissioning for diabetes in Western NSW (2019).



