Western Sydney Diabetes

Year-In-Review 2020

phn WESTERN SYDNEY
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NSW GOVERNMENT

PURPOSE OF THIS DOCUMENT

At the start of each year, Western Sydney Diabetes (WSD) develops an annual plan to coincide with the calendar year. This year, for the first time, we created a dynamic *e*Plan, designed to evolve and change as needed.

This approach suited in a year where the COVID-19 pandemic changed so many things. In February we ceased all face-to-face work with General Practice (GP), other providers, partners and patients. We revised the plan but were able to keep many of the elements, moving them to the 'virtual' world.

The Year-In-Review 2020 undertakes an audit to document our progress against the WSD Framework for Action and our plan. It reflects the achievements of the WSD leadership team, core team and partners.

View a video documentation of the 2020 Year-in-Review on our website **http://www.westernsydneydiabetes.com.au/resources**

CONTENTS

1/ FOREWORD

In 2020 we had to contend with three global threats simultaneously: environmental disasters with catastrophic bushfires and floods – the COVID-19 pandemic and – diabetes.

COVID-19 brought wide sweeping changes in the way we all live and work. During the contagious phase in lockdown we learned how to move our work to telehealth, develop cloud based digitals solutions, and run virtual forums and even the Masterclass 2020 Series.

Some of our many highlights in 2020 included:

- ✓ **Building WSD Virtual Care**
- ✓ **Conducting events, forums, meetings and Masterclass 2020 Series online**
- ✓ **Opening Mount Druitt Diabetes Clinic in the Community Health Centre**
- ✓ **Moving Diabetes Together App onto CareMonitor**
- ✓ **Participating and presenting in Diabetes and Integrated Care virtual meetings in the US, Croatia, Japan and Australia**
- ✓ **Delivering a large research output, including 14 academic presentations, 8 accepted peer-reviewed papers, and 39 presentations**
- ✓ **Continued support of Healthy Living Toongabbie to address community needs**
- ✓ **Promoting a Partnership Alliance to get NSW Government support to overcome barriers to planting trees on roads with speed limits above 50km/h.**

"After we are vaccinated the learning from 2020 will have changed our lifestyle and models of care forever. Preventing and better managing diabetes in western Sydney will be even more important. We will have to deal with the impost of debt the pandemic leaves behind as well as growing healthcare costs. Let us become even smarter in the way we tackle diabetes together."

– PROF GLEN MABERLY, Director, Western Sydney Diabetes WSLHD

"The year of 2020 has been a year everyone will remember and it has taught us the importance of collaboration and teamwork. This is especially relevant to the WSD team who have proven to be agile while dealing with a pandemic and still managing the ever-present burden of diabetes in our WSLHD community. The WSD team has remained focused to continue to rollout initiatives and provide support to the community with an aim to reduce the impact of diabetes on the healthcare system. With 2020 behind us, it is hoped that 2021 will give the WSD team a chance to further improve the prevention and management of diabetes in the community."

GRAEME LOY, Chief Executive, Western Sydney Local Health District

"As we mobilised to meet the crisis of 2020, the feeling was all too familiar to WSD Alliance members and founding partners who have been tackling the diabetes pandemic for many years. It was heartening to see professionals and organisations come together, working across sectors toward a common aim. The ability of WSD to pivot, design, deliver and scale solutions during the most challenging time in recent history was truly impressive and we need to continue to capitalise on this momentum as we plan for the future. The outcomes evidenced by the data presented in this report only strengthen our resolve to push forward with the reforms needed at scale to tackle diabetes together."

RAY MESSOM, CEO, Western Sydney Primary Health Network

"The metrics attached to the diabetes epidemic and the societal costs outlined in this report clearly demonstrates the enormity of the problem and the devastating burden it is having on our society. With its limited resources, Western Sydney Diabetes is tackling this complex issue in a comprehensive manner and has clearly shown the value of true cross sector partnerships. Whilst the nation has been forced to focus on the COVID-19 pandemic in recent times, diabetes has not gone away and indeed the issue has been exacerbated in some ways. It is now time to apply the learnings from WSD in a scaled and meaningful way. Diabetes is a multifactorial issue and our total community would benefit greatly if all could engage with these solutions."

STURT EASTWOOD, CEO, Diabetes NSW, ACT and QLD.

"Being a founding Alliance member for this critical movement is a great honour. It has been a privilege to witness the progress that we have jointly made over the years, and the continued strength of the alliance partnership as we break down silos and work alongside our communities. 2020 was an extraordinary year for all of us, and we have been delighted by the agility and innovation demonstrated by WSD in embracing virtual ways of working to not just maintain but accelerate its impact. We look forward to further successes in 2021."

EMILY PRIOR, Partner, PwC, Australia

"We always knew accessible and attractive public and open space was important to the health and wellbeing of our community, and the experience of the pandemic has left us in no doubt. The NSW Government will continue to invest in more public, green and open space, delivering on our Premier's Priorities to Green the City and create Greener Public Spaces and supporting more people to enjoy a healthy and active lifestyle."

ALEX O'MARA, Group Deputy Secretary Place Design and Public Spaces, NSW Department of Planning, Industry and Environment

2/ ABOUT OUR TEAM

- ✓ **Addition of NSW Department of Planning Industry and Environment to WSD Executive Management Team**
- ✓ **Additional staff including GP Visiting Medical Officers for the Mount Druitt Diabetes Clinic Community Health Centre**
- ✓ **Additional staff to help the concierge process for WSD Virtual Care**
- ✓ **Masterclass 2020 Series included Nepean Blue Mountains Local Health District and Nepean Blue Mountains Primary Health Network**

LEADERSHIP TEAM

WSD is led by the Western Sydney Local Health District (WSLHD), Western Sydney Primary Health Network (WSPHN), Diabetes NSW and ACT, PricewaterhouseCoopers (PwC), and NSW Department of Planning, Industry and Environment (DPIE).

Both the chief executive of WSLHD and chief executive officer of WSPHN co-chair an Executive Management Team (EMT). DPIE joined EMT in 2020. The EMT is supported by a secretariat led by the Director and the Program Manager of WSD, the Integrated and Community Health (ICH) facility at WSLHD and the Director Primary Care Transformation and Integration at WSPHN.

The EMT provides leadership, strategic direction and the structure to support the implementation of the WSD plan. EMT meetings for 2020 were scheduled quarterly and three of those were held successfully. Annual work plan and then the COVID-19 pivoted mid-year plans were endorsed.

CORE TEAMS

WSD WSLHD core team has become a Directorate of the ICH facility at WSLHD. In 2020, WSD grew its core team FTE profile to 15.8 by the addition of 1.2FTE for the establishment and support of virtual care clinics. It now includes four GP Visiting Medical Officers (VMOs) and a dietitian in the Thursday Diabetes Clinic at Mount Druitt Community Health Centre. A Transitional Nurse Practitioner (TNP) was hired to see patients during the week and manage the program. WSD WSLHD has a budget of approximately $2.4M annually.

WSD WSPHN core team includes the Director Primary Care Transformation and Integration, Primary Care Transformation Manager, Joint GP Specialist Case Conferencing Expansion Coordinator, PCMH Expansion Co-ordinator and the Practice Development Team, and the manager and staff of the Health Intelligence Unit.

ENGAGED PARTNERS

Other lead organisations in WSD assign staff to WSD work on a project-by-project basis. Several WSLHD departments also contributed significantly to WSD's goals in 2020.

WSD WSLHD collaborated and worked seamlessly with the Endocrine and Diabetes Departments at Westmead (WH), Auburn, Blacktown and Mount Druitt (BMDH) hospitals to share staff and work together in the hospitals, outpatient clinics and the community. A notable example of this is WSD's contribution to HbA_{1c} testing programs at BMDH and WH. The Joint GP Specialist Case Conferencing (JGPSCC) program from BMDH and WH was also supported by WSD. This strong collaboration was exemplified by the Masterclass 2020 Series that drew 40 faculty from WSLHD hospitals and other partners.

In addition, WSLHD's **Business Analytics Service** (BAS) assisted in developing the Dashboards and **Digital Health Solutions** (DHS) to advance the development and rollout of the Diabetes Together patient self-management app. Diabetes prevention work was integrated and supported by **Population Health**.

WSD's communications was supported by engagement of staff from WSLHD **Corporate Communications** and Communications specialists from lead and key partners including WSPHN, PwC, Diabetes NSW and ACT, Western Sydney Regional Organisation of Councils (WSROC) and Western Sydney Leadership Dialogue.

The **National Association of Diabetes Centres** (NADC) collaborated with WSD to offer an eLearning Diabetes course at a 95% discount rate for all healthcare providers in the district. It also partnered with WSD to develop the Patient Education Resource Library (PERL) and make WSD patient self-management multimedia available throughout Australia. NADC also helped host the Masterclass 2020 Series virtual platform.

The WSD Masterclass 2020 Series was co-hosted by WSLHD, WentWest (WSPHN), NADC, Nepean Blue Mountains Local Health District (NBMLHD), Nepean Blue Mountains Primary Health Network (NBMPHN), Australasian Society of Lifestyle Medicine, myINTERACT and the Blacktown Metabolic and Weight Loss Program.

Corporate sponsorship was provided by AstraZeneca, BD, Lilly, MSD, Novo Nordisk, Sanofi, Abbott, iNova, Boehringer Ingelheim and Lundbeck.

ENGAGED LEADERS ALLIANCE

In 2020, the WSD Leaders Alliance included participation from adjoining LHDs, DPIE, NSW Ministry of Health (MoH), Department of Premier and Cabinet (DPC), the Western Sydney Health Alliance, key leaders from councils and the Greater Sydney Commission.

The Alliance met formally twice to explore new ways to collaborate and progress work on beating diabetes in a larger area of western Sydney.

Healthy Living Toongabbie (HLT) which was formed last year, continued to be the most advanced, independent place-based mobilisation program supported by WSD and its partners such as AstraZeneca. It also officially became a corporation.

3/ 2020 PLAN: FRAMEWORK FOR ACTION

The **WSD Framework for Action** underpinned the WSD 2020 Action Plan and guided all work by the core team and Alliance partners in 2020.

The Framework comprised three major sections including Primary Prevention, Secondary Prevention and Management, and Enablers, with key indicators under each. The following section of this document outlines the key actions identified to progress these goals in 2020, with more indicators introduced to support our work moving forward in 2021.

PRIMARY PREVENTION

1. Engaging the Alliance
WSD continued to grow in 2020, embracing the strategy of a 'whole of community' approach to beating diabetes. This is regarded the only approach capable of enabling a consistent and effective way of addressing and solving the current epidemic.

2. Alliance Projects
WSD's primary prevention programs and initiatives aimed to reduce the development of type 2 diabetes in the community and limit the progression of people at 'high risk' or with pre-diabetes to a formal diagnosis of type 2 diabetes.

SECONDARY PREVENTION

3. Early Detection Diabetes
Secondary prevention initiatives focus on early detection and better management through the life cycle of diabetes and closing the gap between evidence-based guidelines and the real world management of diabetes.

4. Clinical Services – Building Capacity and Managing Diabetes
WSD recognises the prevention and management of the diabetes epidemic problem requires a collective approach, with one key strategy to build the capacity of healthcare professionals to better manage diabetes.

5. Connections with Hospital Services
Improved management of diabetes in-hospital involves rapid review of urgent patients to reduce or avoid hospital admissions, as well as, closing the gap between primary and tertiary care.

6. Education
WSD continuously works hard to build the capacity of all healthcare providers to better manage diabetes and as a result, reduce hospitalisation costs.

7. Patient Self-Management and Digital Integration
Patient-centred care and self-management of diabetes is core business for WSD. Digital enhancements strongly enable patients' connection with their providers.

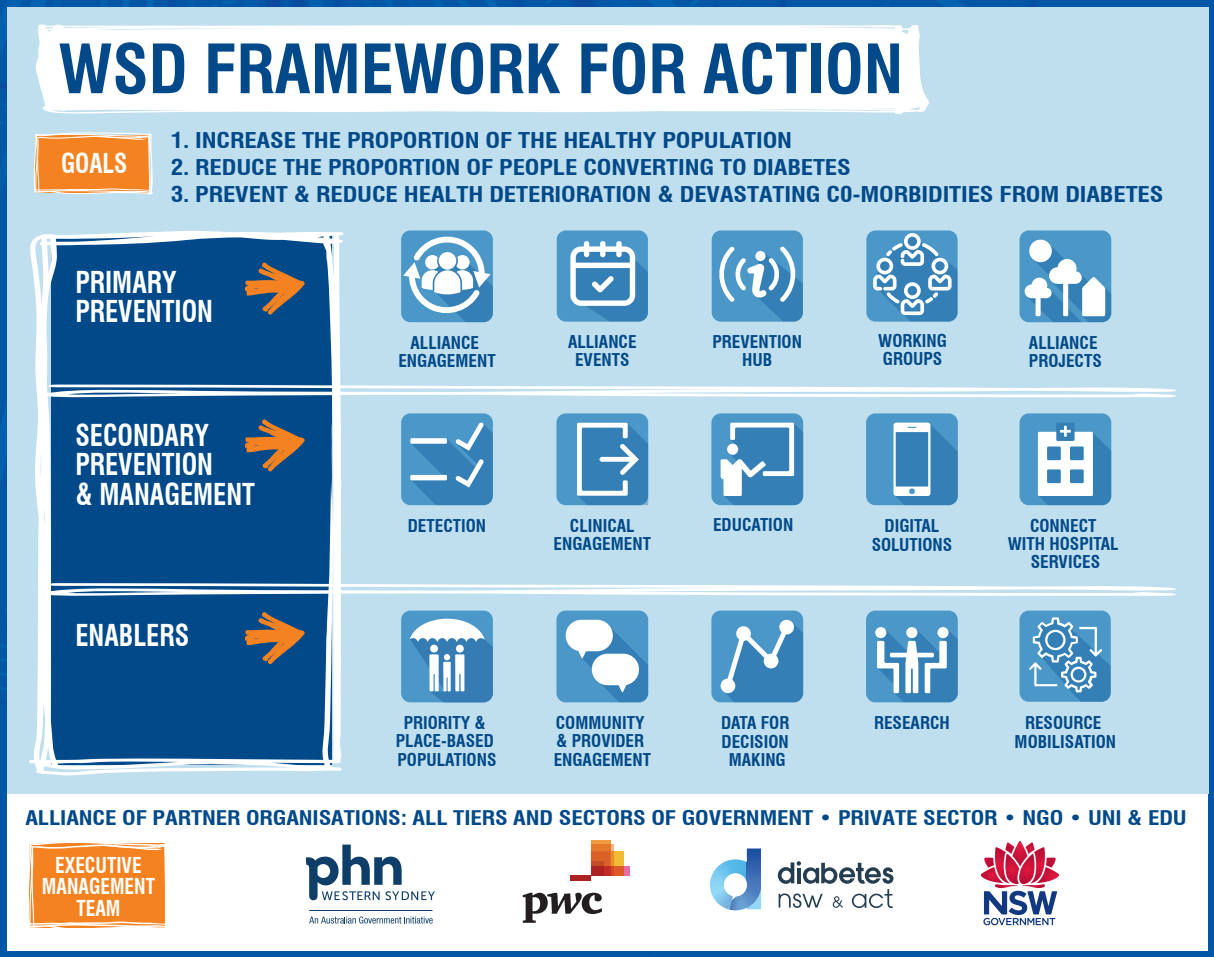
ENABLERS

8. Cultural and Place-based Mobilisation
Specific at-risk populations were targeted strongly in 2020 with the establishment of community-led initiatives conducted by advocates arising from within the health and community sectors.

9. Community and Provider Awareness and Engagement
Our community has low awareness and health literacy in relation to the consequences of diabetes, how best to prevent and manage the disease, and the impact it has on their lives. In 2020, WSD overhauled its Public Awareness and Communications Strategy to promote the move to a predominantly virtual delivery.

10. Data for Decision Making
Data underlies all WSD's work and is a key component of the broader strategic plan, supporting all areas of prevention and management. Despite COVID-19, the team worked hard at data for decision-making to meet and exceed the goals set for 2020.

11. Research and Publication
WSD has grown its research work each year, with the aim of growing this to be a sustainable research lab, with dedicated research staff funded through a variety of sources. Research, publications and forums were identified as enablers to assist with this goal in 2020.



4/ THE DIABETES EPIDEMIC IN A 2020 PANDEMIC

NEW DATA: WHAT WE LEARNT ABOUT THE DIABETES EPIDEMIC IN WESTERN SYDNEY

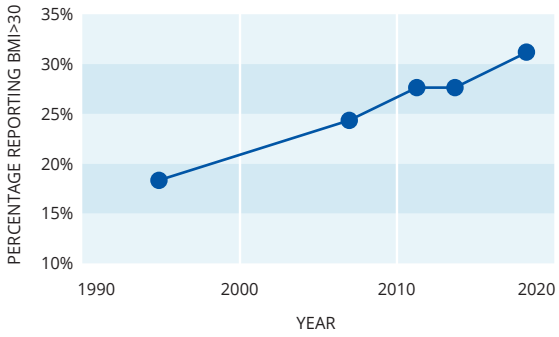
2020 was the year the COVID-19 pandemic met the growing diabetes epidemic. This section highlights the new things WSD learned, with insights from the team's research.

The diabetes epidemic is being driven by weight gain in the population

Weight gain is directly related to increased consumption of unhealthy foods and lack of physical activity. These are in the context of less healthy urban design, less active transport or less active leisure opportunities and social isolation.

The Australian Institute for Health and Welfare (AIHW) reports an average weight gain of 3.6kg in adults, causing obesity rates to nearly double from 18% in 1995 to 31% today[1].

Proportion of Australians obese (Bmi>30) by year



Diabetes rates in western Sydney are still increasing

We know that diabetes is Australia's largest disease burden, even though 80% of it is preventable. The actual prevalence of diabetes is not known because it is not measured directly.

Most people go to the Diabetes Australia Map from the National Diabetes Service Scheme (NDSS) to report the size of the problem[2]. This diabetes map reports the Blacktown Local Government Area with a 7% NDSS prevalence compared to the National NDSS prevalence of 5.9%. This is based on the percentage of people registered in the scheme and does not include people with diabetes who are not registered, let alone people who have diabetes and are not yet diagnosed.

WSD has been reporting the NDSS prevalence may be as much as a 50% underestimate of the real size of the problem. Here, WSD reports evidence to back this up. We have 1 million people living in the WSLHD catchment area.

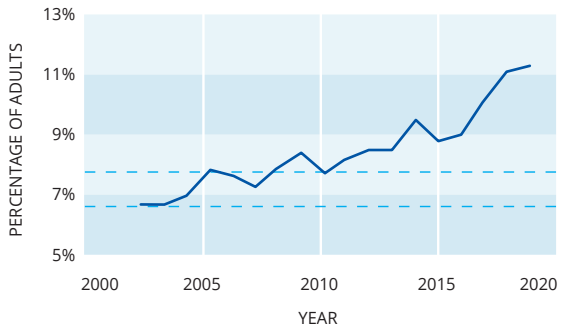
The table below shows our estimates of the diabetes burden.

Diabetes Classification	% of Adults	No. of People
Type 2 diabetes	12%	91,500
High risk of diabetes	38%	290,000
Low risk of diabetes	50%	380,000

While it's hard to know the exact number of people with diabetes in western Sydney, we have triangulated data from a range of sources including HbA_{1C} testing in hospital EDs and General Practices. These data sources include more than 500,000 patient records, and allow us to estimate the rate of diabetes as 12% with some confidence in western Sydney[3].

Earlier this year, the MoH released its *Diabetes Case for Change* report, which estimates that not only is diabetes at a record 12.3% prevalence across the state, but that this has been increasing each year since the early 2000's[4].

Proportion of adults with diabetes in NSW by year



This report not only shows increasing rates of diabetes, but that the people who have the disease are getting sicker over time. Only looking at the direct cost of people with diabetes to the hospital system, this represents an unsustainable burden with a cost of $22 billion over the next 10 years across NSW.

[1] *Overweight and Obesity*, 2020. Australian Institute for Health and Welfare **https://www.aihw.gov.au/reports/overweight-obesity/overweight-and-obesity-aninteractive-insight/contents/time-trends**

[2] *Australian Diabetes Map*, 2020. National Diabetes Services Scheme, Diabetes Australia. **https://www.ndss.com.au/about-the-ndss/diabetes-facts-and-figures/australian-diabetesmap/**

[3] Gideon Meyerowitz-Katz, Shanthini Seelan, Pankaj Gaur, Rona Francisco, Shahana Ferdousi, Thomas Astell-Burt, Xiaoqi Feng, Stephen Colagiuri, Glen Maberly, Tien-Ming Hng, 2019. *Detecting the hidden burden of pre-diabetes and diabetes in Western Sydney*, Diabetes research and clinical practice 151 (247-251).

[4] *Diabetes prevalence in adults, 2020.* Healthstats NSW, NSW Government **http://www.healthstats.nsw.gov.au/Indicator/dia_prev_age/dia_prev_age?&topic=Diabetes &topic1=topic_dia&code=dia[_]**

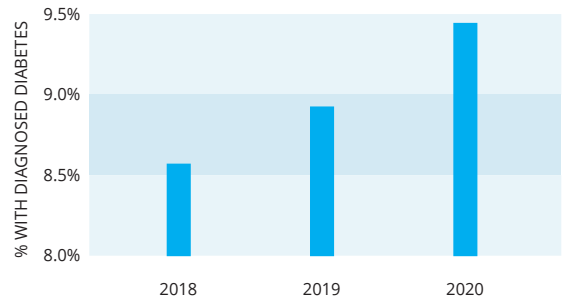
THE DIABETES EPIDEMIC IN A 2020 PANDEMIC (CONT'D)

Diabetes rates in General Practice in western Sydney

WSD has been promoting the earlier testing of patients at risk of diabetes in General Practice.

It is interesting to see in GP practices across WSLHD records of 720,000 patients showed a rate of diabetes in adults of 9.4% in 2020 compared to 8.9% in 2019 and 8.6% in 2018[5].

Diabetes rates in patients of GP clinics reporting to Wentwest (WSPHN)



This correlates with an increase in BMI across these patients in all age bands, which has driven the rate of obesity from 28% in 2018 to 32% today in GP practices in WSLHD[5].

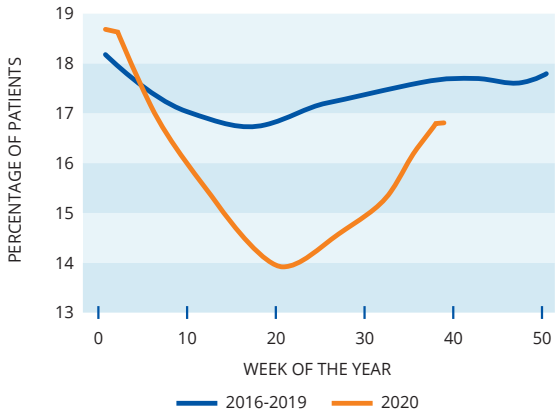
These changes are most likely attributable to both increased testing and increase in diabetes prevalence.

COST OF DIABETES

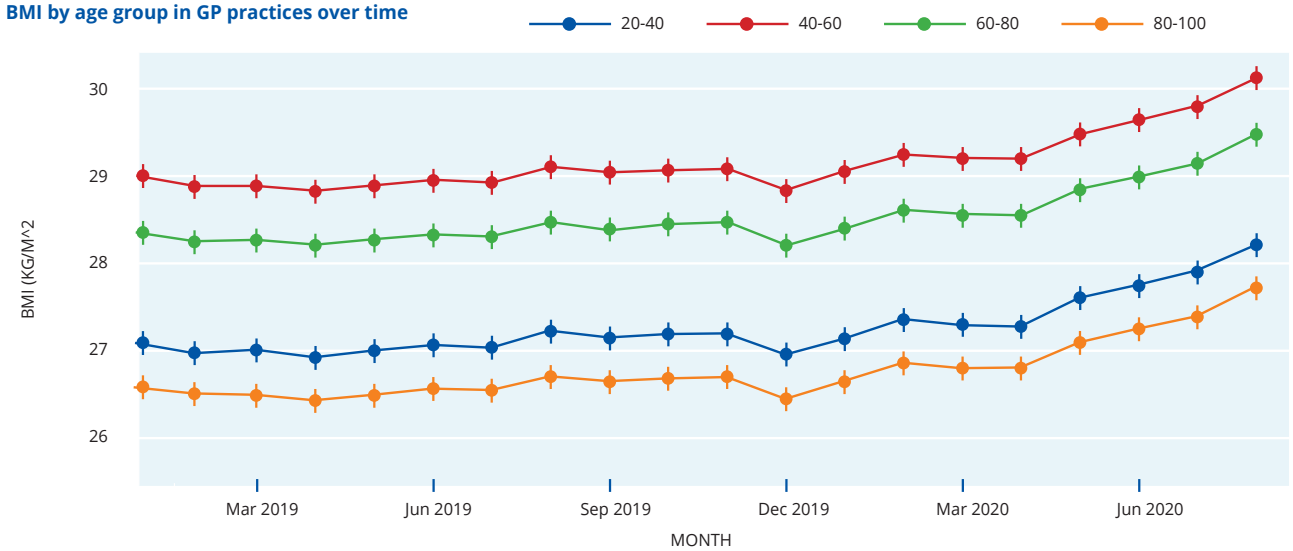
In 2018 we estimated that the direct and in-direct health and other cost of a person with type 2 diabetes was $16,124/yr. This translates to a total cost of $1.48 billion a year for 91,500 people with diabetes in our community.

The impact of the COVID-19 pandemic on diabetes patients attending Emergency Departments (ED)

Percentage of patients with tests consistent with diabetes tested in ED by week since 2016 n=130,000



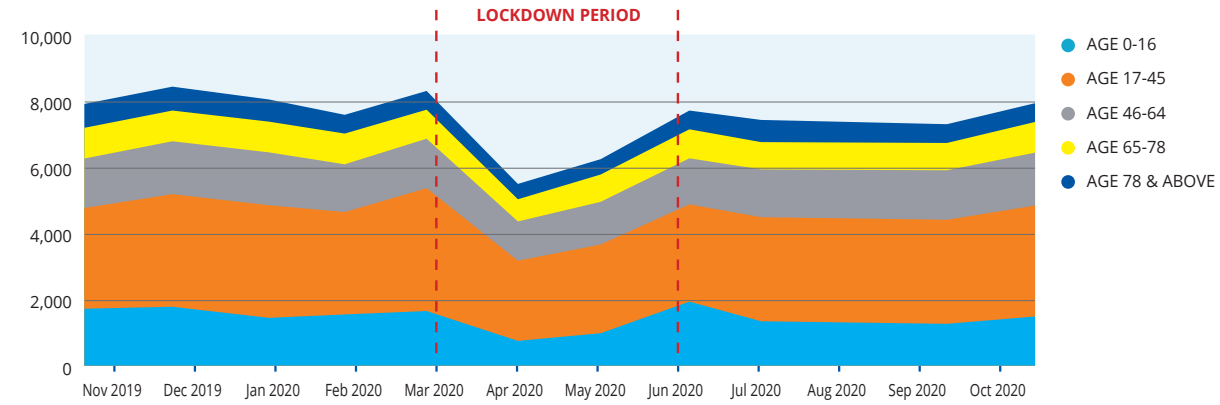
BMI by age group in GP practices over time



[5] Source: Wentwest (WSPHN) PATBI database

[6] Gideon Meyerowitz-Katz, Shahana Ferdousi, Ray Messom, Stephen Corbett, Glen Maberly, Tien-Ming Hng. 2020. *COVID-19 and diabetes: Are people with diabetes accessing care?* Presented at the Australasian Diabetes Congress 2020

Age distribution and number of people attending BMDH ED



Since 2016, adult patients attending EDs at both Blacktown and Mount Druitt hospitals having a blood test for any reason have also had HbA_{1C} measurement. This has shown a steady rate between 17-18% diabetes (HbA_{1C} >6.5%) increasing at about 0.5% each year[3].

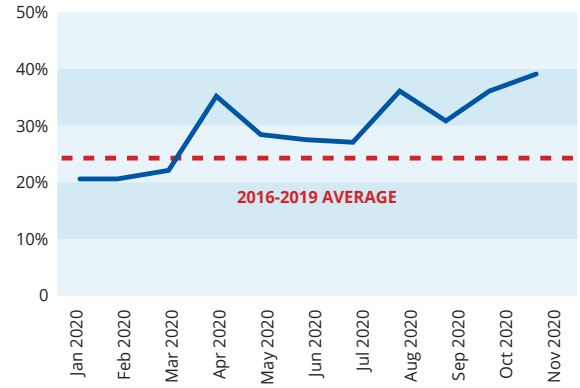
At the onset of the pandemic there was a sudden drop to 14% followed by an increase but has not yet returned to the pre-pandemic level.

This is most likely because people with diabetes avoided ED during this time and this change persists today.

While the change coincided with a reduction in the number of people attending ED, as shown in the age distribution graph, it has persisted despite numbers largely returning back to normal in BMDH ED[6] (see diagram above).

This trend of people with diabetes avoiding care or waiting until they are sicker is also shown in the severity of their disease. The percentage of people attending BMDH ED with HbA_{1C} above 9% is going up, despite the overall number of people with diabetes staying steadily lower. This indicates that those people with diabetes who do attend ED are sicker than they were in previous years.

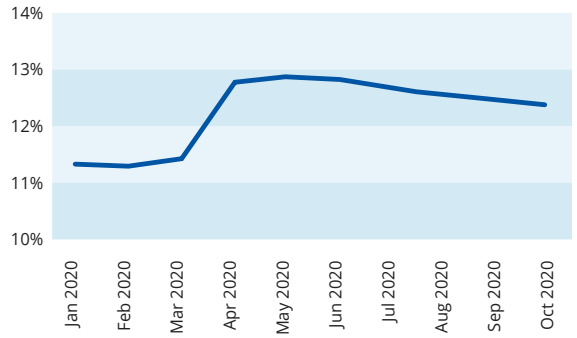
Percentage of patients with diabetes attending BMDH ED with HbA_{1c}>9% (severe diabetes)



Diabetes patients attending General Practices in 2020 had higher HbA_{1C}

A similar trend can be seen in General Practices, where despite the lower number of people with diabetes attending, increasing numbers of patients are presenting with poorly-controlled diabetes as the year progresses. This is based on the same data referenced above, 720,000 patient records from more than 200 practices across WSLHD. This data is compiled by WSPHN through regular reporting from GP practices[5].

Percentage of patients with diabetes attending GP clinics in WSLHD with HbA_{1c}>7% (poorly-controlled)

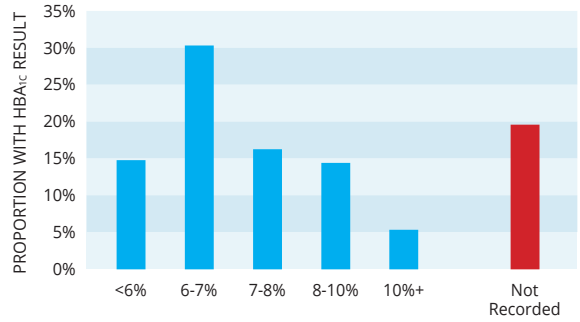


THE DIABETES EPIDEMIC IN A 2020 PANDEMIC (CONT'D)

Recording of HbA_{1c} in General Practice Clinical Systems

Lack of recording continues to be a problem in GP practices. Over 2020, 20% of people with diabetes did not have a HbA_{1c} test result recorded in the system based on the same dataset as above. It is recommended that people with diabetes have a HbA_{1c} test at least twice a year. Of the remainder, only 45% appear to be well-controlled, with HbA_{1c}<7%. This is an important metric as HbA_{1c}>7% puts people with diabetes at higher risk of complications.

HbA_{1c} levels in people with diabetes attending GP Practices in 2020



In 2020 the average cost of patients with diabetes in hospital is going up

The average cost of patients with and without diabetes based on the Nationally Weighted Activity Unit (NWAU) is shown in this table. This data is taken from the WSD population analytics dashboard.

Year	2019	2020
Without diabetes	$5,623	$5,802
With diabetes	$8,104	$9,864

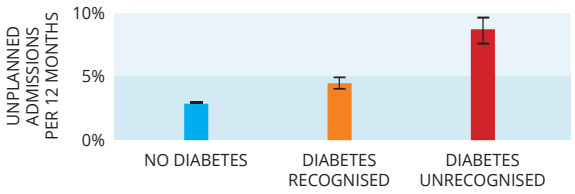
In 2020 despite people with diabetes avoiding ED, there are indications those patients admitted to hospital with diabetes are sicker and costing more. For example, the average cost (calculated using NWAU) of a hospital stay for someone with diabetes in WSLHD hospitals rose from $8,100 at the end of 2019 to $9,900 from April 2020 – an increase of about 20%.

The importance of GP engagement to reduce hospitalisation costs

People living with diabetes are often not correctly diagnosed with the disease, so in 2020 WSD attempted to quantify the impact of patients not having the disease recognised by their primary care provider.

Using a large linked dataset of 130,000 patients, and in partnership with the MoH, WSD found that people whose diabetes is not recognised by their GP have double the risk of unplanned hospitalisation compared to those who are correctly diagnosed and treated (as shown in the graph)[7].

Risk of unplanned admission when diabetes is recognised vs unrecognised by GP



Error bar represents 95% confidence interval of estimates

Measuring the impact of WSD Joint General Practice Specialist Case Conferencing (JGPSCC)

Between March 2014 and December 2019, the WSD Clinical team visited 120 practices and had case conferences with 350 GPs with 2600 patients.

The team published results of an early pilot study of 40 patients. Three months after one 30 minute case conference, their average HbA_{1c} dropped 0.8% and this was maintained up to three years later. We also documented enhanced diabetes management of all diabetes patients in these practices[8].

The Lumos program is a partnership of the MoH and NSW Primary Health Networks and is possible through the participation of General Practices across NSW. Record linkage was carried out by the Centre for Health Record Linkage[9].

The Medical Record Number of all patients seen in JGPSCC was shared with the MoH through the Integrated Care (IC) Program.

Recently they found 349 of these diabetes patients with a clinical encounter in the Lumos data (9) that had at last 12 months post IC enrolment. Of these, 288 (82%) had at least one HbA_{1c} result recorded in Lumos and 185 (53%) had HbA_{1c} results pre and post IC enrolment.

[7] Yalchin Oytam, Gideon Meyerowitz-Katz, Shahana Ferdousi , Ray Messom, Glen Maberly. 2020. *Can we mitigate the long-term health impacts of unrecognized diabetes? A retrospective cohort study using a large linked dataset in Sydney, Australia.* Submitted: Diabetes Care.

[8] Gideon Meyerowitz-Katz, Sian Bramwell, Rajini Jayaballa, Ramy Bishay, Ian Corless, Sumathy Ravi, Linda Soars, Xiaoqi Feng, Thomas Astell-Burt, Manimegalai Manoharan, Mark McLean, Glen Maberly, 2018. *Effectiveness of joint specialist case conferences for building general practice capacity to enhance diabetes care: A pilot study in Western Sydney.* Australia, Journal of Integrated Care.

[9] Source: Lumos Data Asset, NSW Ministry of Health System Information and Analytics Branch.

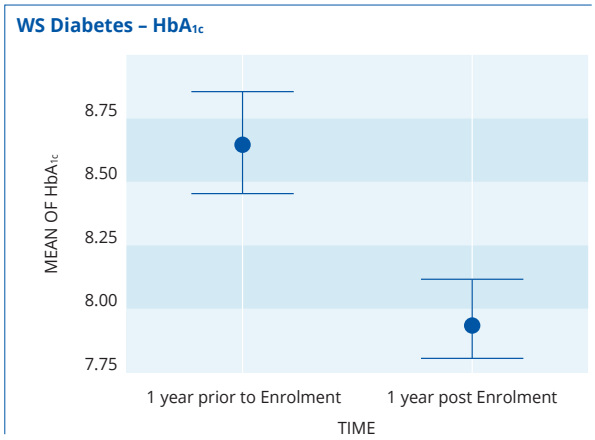
[10] Thomas Astell-Burt, Xiaoqi Feng, Gregory Kolt, Mark Mclean, Glen Maberly. 2014. *Understanding geographical inequities in diabetes: Multilevel evidence from 114,755 adults in Sydney, Australia.* Diabetes Research and Clinical Practice 106 (3).

[11] Mingjuan Zeng, Tien-Ming Hng, Glen Maberly, Gideon Meyerowitz-Katz. 2020. *The inverse relationship between diabetes and socioeconomic status in Western Sydney.* Submitted: BMJ Open.

[12] Aajuli Shukla et al. 2020. *Exploring the impact of country of birth on Type 2 Diabetes prevalence and diagnosis rates in Western Sydney.* Presented at the Australasian Diabetes Congress 2020.

The WSD team

This figure shows these results:



There was a significant mean reduction in HbA_{1C} by (95% CI) -0.71 (-0.98, -0.45).

To put this in context a 1% drop in HbA_{1C} is associated with 21% reduced risk of death, 14% reduced myocardial infarcts, 37% less microvascular complications and 43% amputations.

For a single case conference this is strong quality data affirming the effectiveness of this program.

Social and cultural determinants

The key drivers of diabetes are social determinants of ill-health including less educational opportunities, lower socioeconomic status, genetic and cultural tendencies bringing out diabetes with intergenerational reinforcements[10]. These are often manifested with increased psychological distress, mental illness and weight gain.

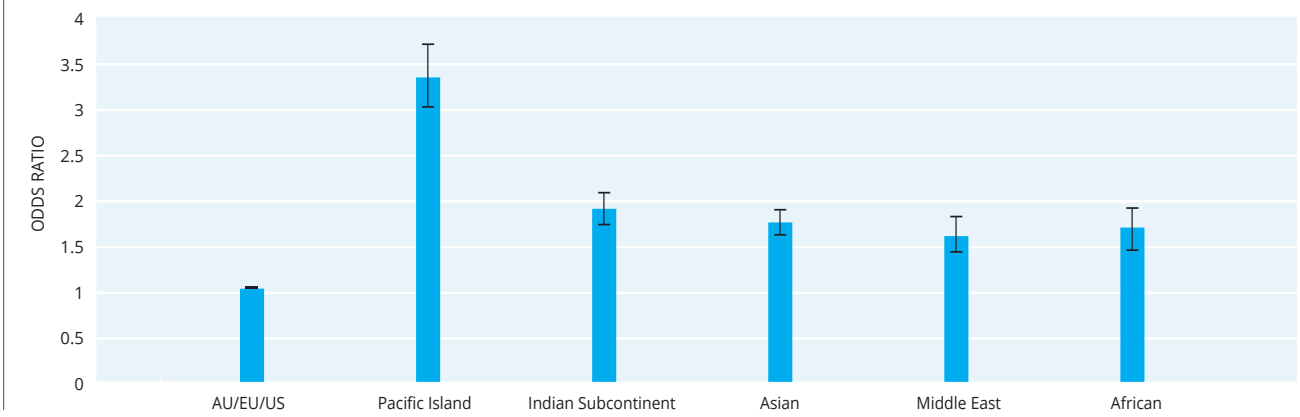
Using the large dataset accumulated through HbA_{1C} testing linked with hospital data in Cerner and discharge codes the team was keen to investigate these issues.

WSD did this work with the University of Sydney's (USYD) School of Public Health Graduate Students, who, as part of their capstone projects, presented their findings as e-Posters at the 2020 Australasian Diabetes Congress (ADC). WSD was able to document social and geographical inequities in the local population that have serious detrimental impacts on our population. These are summarised here:

- People who come from the lowest-income suburbs have nearly twice the risk of diabetes when compared to people from higher income suburbs, with nearly 25% of people from the lowest income areas having diabetes[11]. Moreover, this inequality compounds, as demonstrated that people born in countries other than Australia or Europe had up to 3.3 times the risk of diabetes.
- These individuals were also more likely to have their diabetes unrecognised in the hospital, with someone born in the Pacific Islands having 2.5 times the risk of having their diabetes missed compared to someone born in Australia[12].

THE DIABETES EPIDEMIC IN A 2020 PANDEMIC (CONT'D)

Risk of having type 2 diabetes based on country of birth



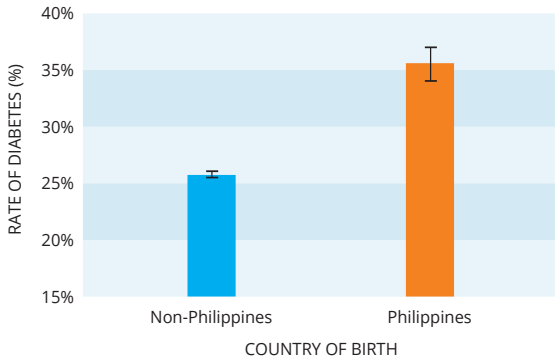
WSD also linked these risks of diabetes to negative outcomes. Research this year showed that someone born in the Pacific Islands is at a 5.6 times increased risk of diabetic chronic kidney disease compared to someone born in Australia or Europe, with those born in India (1.9 times), Asia (1.9 times), and Africa (2.2 times) at lower, but still significantly high, risks.

These issues are also geographically inequitable – WSD can show that people with diabetic chronic kidney disease are more likely to have come to WSLHD from a small number of very disadvantaged suburbs, showing the full extent of these problems.

WSD also looked in detail at a number of local communities in 2020. For work with the Filipino community, WSD found that people born in the Philippines are at a much higher risk of diabetes than people born in Australia or Europe, and this translates to a 50% increased risk of ischaemic heart disease in Filipino people.

WSD also found that Aboriginal people living in western Sydney are at an increased risk of both diabetes and gestational diabetes, with more than two times the risk of both of these diseases at every age compared to people who are not Aboriginal.

Rate of diabetes in people born in Philippines compared to all others in the Blacktown/Mount Druitt ED diabetes testing program n=130,000



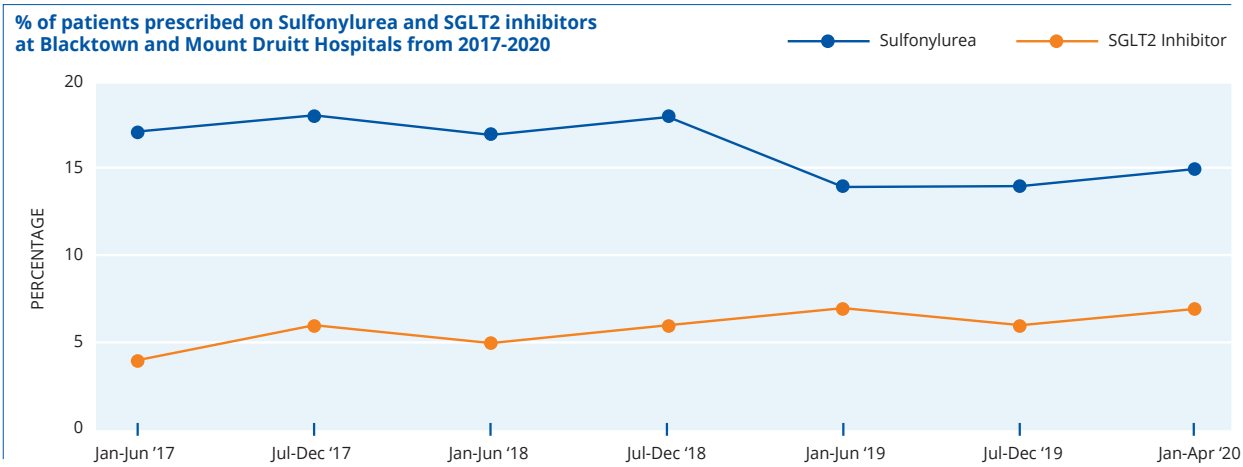
Prescribing diabetes medications in western Sydney

In all of WSD's capacity building programs over the past few years, and documented here, WSD has been educating GPs and hospital doctors on the best selection of medications in the management of diabetes.

Again in collaboration with USYD graduate students, WSD used hospital data bases to look at prescribing patterns in hospital for the last four years.

When patients are admitted to the hospital (22% of patients in hospital have diabetes) the diabetes medication they are taking is dispensed in hospital. If blood glucose monitoring indicates poor glycaemic control this may be modified by the admitting team occasionally in consultation with the endocrine hospital team[13].

[13] Varan Peranathan et al. 2020. *Evaluating the prescribing trends of oral hypoglycaemic agents at Blacktown/Mount Druitt Hospitals.* Presented at the Australasian Diabetes Congress 2020.



So while these hospital medications are not perfectly reflective of the community, they give WSD a snapshot of the medications that patients are on when they attend the hospital and over time WSD found that, while there were some encouraging changes, a large proportion of people attending the hospital were still on older, less useful, medications.

For example, the chart above shows that, despite the recent guidelines recommending SGLT-2, sulfonylureas that do not have cardio- and renal protective benefits and are prone to cause hypoglycaemia and weight gain, are still the overwhelming prescribed oral antidiabetic medication.

Education through the Masterclass 2020 Series gave this good exposure and WSD will continue to monitor over time and see how well these messages are getting through. The trend is in the right direction but more change is needed.

WSD also looked at people who presented to the ED with diabetes more than once since 2016. It was found that >50% of these people came to hospital due to heart disease, which indicates WSD has a long way to go to fully improve the situation for people with diabetes in the WSLHD.

WSD also documented the GLP-1 class of medication, which has similar beneficial properties as SGLT-2 and is now the preferred first-line injectable, is not being used as often as it could be.

What about the future?

The COVID-19 pandemic year has accelerated changes in society and health including the widespread adoption of digital solutions and more online engagement. The impact on the economy with a national and state debt burden ballooning out will have implications on the delivery of social and health services going forward.

Several years ago WSD, working with PwC, made the case for a larger investment in diabetes. At the time WSD developed an investment opportunity prospectus and showed an investment of $98.7 million over eight years would result in a net financial benefit of $138.8 million. WSD also developed a prospectus for Primary Prevention and showed an investment of $124.27 million over 14 years would provide a net financial benefit of $577.99 million.

The data presented here shows that the problem of diabetes is even larger than thought and it's growing. As a society we will need to make some hard choices about our future spending in health and the prevention and management of diabetes, as the leading burden of disease, will be part of these decisions.

GP VMOs Dr Aajuli Shukla and Dr Vivienne Sharma

5/ PRIMARY PREVENTION

- ✓ **Launched Healthy Living Options 2020 – a new online resource providing a range of healthy activities to be done at home**
- ✓ **Greening Western Sydney – a team approach to implementing the Premier's Priorities wins grant**
- ✓ **Working Groups – active groups pursue projects in the areas of physical activity, food and environment**
- ✓ **Engagement with 2020 Australian of the Year Dr James Muecke enables wide distribution of health messages**

THE ALLIANCE

The Alliance is a group of organisations arising from government, non-government and the private sector, that come together to improve the environment of western Sydney in terms of food accessibility, exercise and the urban build.

Engaging the Alliance

COVID-19's physical restrictions encouraged members to connect in a new way – online – which also enabled multiple attendees from the same organisation to attend.

This year the focus was on maintaining the existing Alliance network and providing support to members during a time when many organisations underwent considerable alteration to their internal structure, personnel and business operations. WSD successfully connected with new staff members to maintain the ongoing relationship with existing Alliance member organisations, as well as welcome a number of new member organisations.

Neighbouring LHDs remained with the Alliance along with the ongoing support of local councils; evidence the reach of the Alliance is continuing to increase in geography and influence.

Leaders' Alliance meeting: 'Moments of healthy living during COVID-19 isolation. Can we make them stick?' – Webinar, June 24, 2020

Brochure cover

This was the first Alliance meeting held virtually, with more than 100 organisations attending.

The focus was to acknowledge the changes that COVID-19 has elicited in the health behaviour of the community and to explore ways the positive changes in eating, cooking, exercise and travel could be maintained during – and post- pandemic. Key speakers included Dr Wendy O'Brien who joined the meeting from NZ to describe the results of an international research project which was measuring the changes in exercise behaviour and linking them with previous exercise patterns.

Alex Gyani, Head of Research, Behavioural Insights, discussed the theory and positive examples of how understanding behaviour can be used to obtain improved responses to members' messaging.

The meeting also included discussion groups led by members dedicated to food, physical activity, schools and greening. These groups aim to provide participants with the networking opportunities which are a trademark of the Alliance.

Feedback was provided by the Group Leaders, with one group, Physical Activity, setting up three working groups dedicated to: Nature Play; Health Professional Referral of Physical Activity; and Dancing.

Leaders Alliance meeting: 'Growing well, Eating well' – Webinar, November 4, 2020

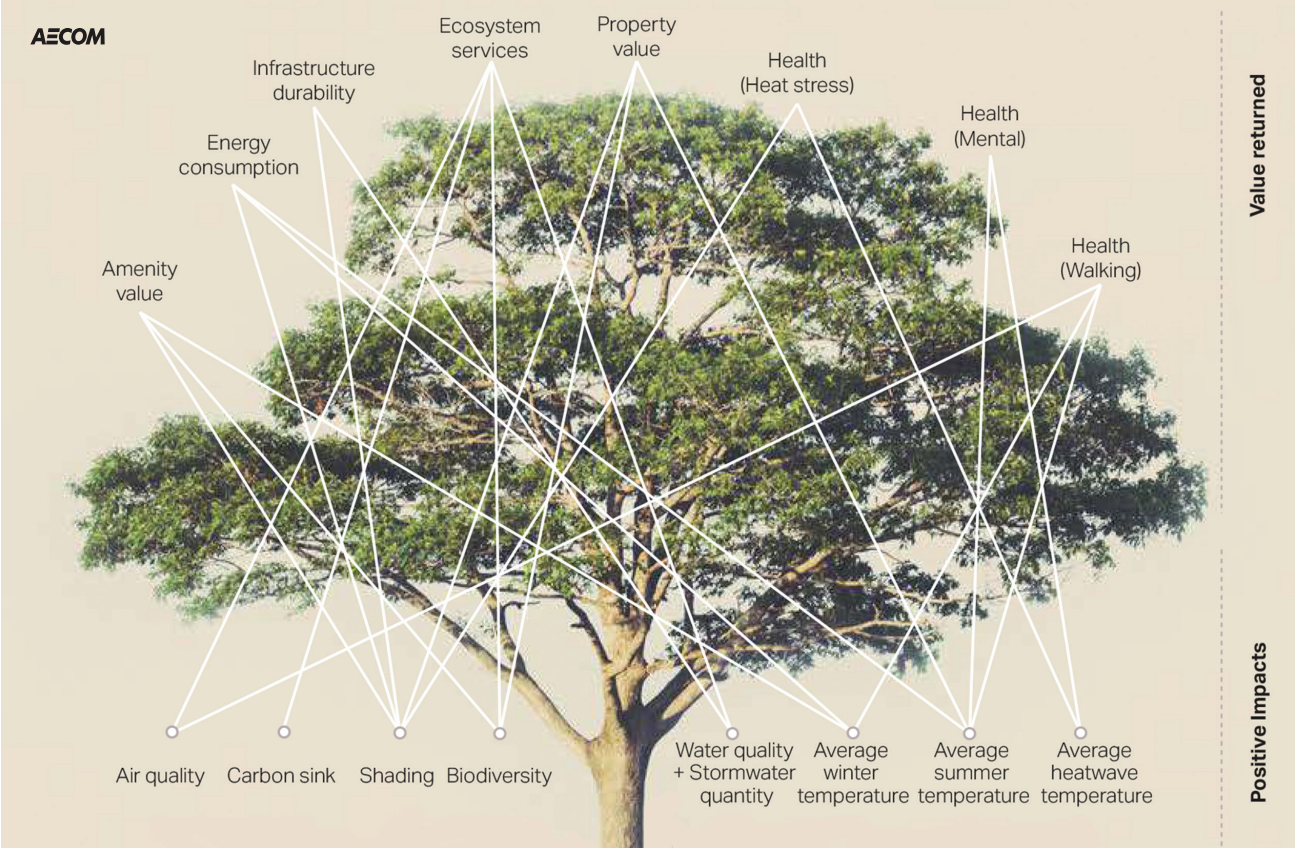
This event brought together experts in a number of food-related fields to describe and discuss what we can do now to enable food security into the future.

This related strongly with one of the key goals of the Alliance which is to ensure our residents have access to fresh food and the skills to create healthy meals.

The virtual meeting was facilitated by Ian Corless and attended by 94 registrants from 80 participant organisations.

A range of speakers – Dana Cordell (UTS), Serena Lee (consultant), Adam Loftus (Foodbank), Phil Pettitt (Royal Botanic Gardens), Grant Brinkworth (CSIRO), Michelle Celander (WW), and Elisha West (OzHarvest) discussed their work and ideas on how Alliance members could become engaged or partner with their programs.

Discussions are now underway amongst Alliance members who are exploring at least seven new collaborative opportunities in the growing and food preparation areas.



A graphic illustrating the benefits of trees in urban areas. Graphic (cropped) courtesy AECOM Cities and the Green Infrastructure: Brilliant Cities report

Western Sydney TAFE talk

Hosted by Anne Goonitilleke, Head of Skills Team, Health, Wellbeing and Community Services, TAFE, WSD presented a talk to 100 teachers from Western Sydney TAFE regarding diabetes and the work of WSD. Prof Glen Maberly and Janine Dawson informed the teachers of the diabetes epidemic in western Sydney, WSD's work in prevention through the WSD Alliance, and projects being undertaken in collaboration with partners. They were also provided with an update on telehealth and new ways of monitoring, managing and educating diabetes patients in hospital, through GPs, and in the community.

Blinded by Sugar Webinar – Health Professional Webinar – August 4

This was hosted for Alliance members and health professionals to hear from 2020 Australian of the Year, Dr James Muecke, regarding the impact diet has on our health.

Hosted by CE of Diabetes NSW, ACT and QLD, Sturt Eastwood, Dr Muecke's presentation focused on the inclusion of sugar in processed foods and drinks. As an ophthalmologist, he was concerned about the impact of diabetic retinopathy in his surgery and dedicated his year in office to increase awareness of the impact diet and diabetes has on health.

This webinar was very well-received, with up to 170 participants and WSD incorporated it into the Healthy Lifestyle session of the Masterclass 2020 Series.

Blinded by Sugar Webinar – Consumer Webinar – December 8

Due to the positive amount of feedback, an additional webinar was held for the community in December with support from both Parramatta and Blacktown councils and community groups.

MC'd by Janine Dawson, heavy community promotion resulted in the largest response received from any WSD consumer forum with more than 300 participants registered.

It was also the first event WSD hosted simultaneously on both Zoom and Facebook.

PRIMARY PREVENTION (CONT'D)

ALLIANCE PROJECTS

Through the Alliance, member organisations collaborate on specific projects aimed at improving the health and wellbeing of our residents. 2020 has seen significant progress in both the number and impact of these projects.

Greening

At the last Alliance meeting in 2019, new research presented by Thomas Astell-Burt and Xiaoqi Feng revealed the positive impact of canopy cover on the rate of diabetes, irrespective of socio-economic status.

Blacktown City Council (BCC) revealed its challenge was planting sufficient trees to achieve an impact on canopy cover. This is due to Austroads guidelines which restricts the planting of substantial shade trees along roads, due to the risk of a car hitting them.

A working group was established to address greening within western Sydney.

The group is comprised of WSD Alliance members including:

- BCC
- WSROC
- WSD Core team
- WSPHN
- DPIE
- WSLHD Population Health
- Western Sydney University (WSU)
- University of NSW (UNSW)
- University of Wollongong (UOW)'s Population Wellbeing and Environment Research Lab (Powerlab)

The first project focused on street trees with WSD commissioning research to detail the evidence supporting the health and environmental benefits of street trees.

The group believes if street trees are planted, the community will benefit by:

- Being fitter by walking more;
- Having improved mental health and being more socially connected;
- Positive environmental impacts on water, heat and wildlife; and
- Increased real estate values due to tree-lined streets.

An application for funding was submitted by BCC to the DPIE's Greening our City grant scheme. Partners included:

- WSROC
- WSD
- WSU
- Powerlab (UOW)
- UNSW

In December, BCC successfully secured a grant for $310,000 to quantify the risks of planting and not planting large shade trees along residential streets. The results will be used to provide councils with the confidence that tree planting along roads is both responsible and essential for the future health and wellbeing of the community.

Nature Play

Natureplay is a program run by the Centennial Gardens for children to embark in nature-based educational and exercise programs. The working party is made up of organisations interested in all elements of physical activity to work on the strategy for Nature Play in western Sydney. Preliminary work will identify opportunities to expand the program from the Sydney CBD to western Sydney.

Health Professional Exercise Referral

This group is made up of USYD, PHN, Population Health and Alliance members and is working on the mapping and referral pathways for health professionals to direct patients to local accredited providers of physical activity programs. Work is currently progressing on aligning the project with a peak body, extensive local mapping, enrolment of student interns to work on specific projects, and planning for a symposium in 2021.

Dancing

The dancing group, comprising members from the USYD, UNSW, local GPs, professional dancers, Multicultural Health, ICH and WSD, is working on ways to encourage dancing as an alternative form of physical activity through local intergenerational programs. COVID-19 limited the adoption of the concept in schools. Work is underway with TAFE to incorporate dance into specific student programs and providing dance classes for the teachers. BCC will provide free venues for two dance groups in 2021. This project will be evaluated with the hope of expanding to additional populations and venues. Parramatta Council showed interest regarding the Healthy Parramatta Van and other facilities and suppliers.

Dance was showcased as the activity for National Diabetes Week with groups from within the hospital and community sending in videos of themselves dancing, and combined into a video. The success of this program was repeated for RUOK Day with online dancing lessons for WSLHD staff.

The physical and mental health benefits of dancing were the topic of a session in the Masterclass 2020 Series with the aim of encouraging health professional referral for patients seeking an enjoyable form of physical activity.

Food Security

This working group was set up following the November 2020 meeting and aims to map and devise interventions relating to food security in western Sydney. The members include researchers from UTS, St John's University (US), USYD, WSLHD and the Right to Food Coalition.

This group is mapping food supply in western Sydney and working with the government regarding policies relating to determining which agencies should take the responsibility for food security in NSW.

Healthy Living Options 2020

Healthy Living Options is a booklet that provides alternative cheap or free healthy activities, classes and courses in the local area. The booklet was widely accepted by GPs, health professionals and community as a useful resource to encourage healthy living.

Due to COVID-19, many of the activities were no longer available so the challenge was to provide a list of activities that could be done safely by residents staying at home.

Healthy Living Options 2020 was developed as an online resource with new activities and substitute activities without the face-to-face contact, and were offered online or telephone-based. Activities included exercise classes, dancing lessons and at-home activities providing skills and knowledge to grow your own produce.

A range of online cooking classes were also included to respond to the increase in home cooking during isolation. To tackle some residents' limited food preparation skills, it included a section dedicated to Cooking for Non-Cooks where links were provided for instruction on preparing/ assembling healthy food.

Community walking group kicks off in 2020

A highlight for 2020 was the setup of the first community walking group, the Glenwood Walkers, in February with 10 people. This was a result of WSD promoting the Heart Foundation Walking and the benefits of walking to community groups. During the pandemic the Foundation continued to engage walkers as most groups were forced to change their routines. The Glenwood Walkers restarted in June.

North Rocks' Stratford Rd Medical Practice and Mount Druitt Medical Centre recently restarted their walking groups. This effort has been lead by the Practice Nurses and admin staff and engages with over 60 active walkers weekly.

Glenwood Walkers started in February. Front: Nethmi Ratnayake and (l-r) Iranga Wadumesthrige (Volunteer Walk Organiser), Aruni Ratnayake (WSD), Shane Wickramanayake, Anusha Singhabahu and Lilanthi Wickramanayake

PRIMARY PREVENTION (CONT'D)

Supporting schools during the pandemic

WSD continued to work with Blacktown schools involved in the Stephanie Alexander Kitchen Garden program.

The schools which continued their projects during COVID-19:

- Walters Road Public School: P&C hosted a talk for parents' involvement in the garden program and the school purchased new equipment, including a garden shed and green house;
- Blacktown West Public School: installed new vegetable gardens and implemented a nutrition unit for Years 1 and 2 students;
- Shalvey Public School: Increased its cooking program and installed more water tanks; and
- Lalor Park Public School: Continued its garden work.

Blacktown West Public School implemented a nutrition unit for Years 1 and 2 students to plant vegetables and herbs and installed new vegetable gardens for more classes to be involved in the garden program

Healthy Food and Drink in Health Facilities for Staff and Visitors Framework (A NSW Health policy)

In 2020, the Healthy Eating Active Living team at WSLHD's Centre for Population Health continued to change the food environment through the promotion of the 'NSW Healthy Food and Drink in Health Facilities for Staff and Visitors Framework' to make the healthy choice the easier choice for our community.

State audit results this year showed that WSLHD continued to perform above the state average with high levels of compliance from retail and vending providers that operate in our health facilities.

The Framework audits monitor compliance with 13 healthy key practices, covering product quality, availability, size, and promotion:

- WSLHD performed above the State average for 8/13 practices
- Achieved 100% compliance in 3/13 practices.
- Compliance improved from 2019 in 2 key practices.
- Two retailers were 100% compliant in all applicable practices.

The number of staff and visitors across WSLHD who actively support healthy food and drinks in our health facilities continued to grow in 2020. Almost 200 staff and consumer representative ambassadors are supporting healthy food and drinks in WSLHD health facilities. Of this group, 23 have received training in the Framework content and their role as ambassadors in its implementation.

This year, we partnered with BCC to trial the Framework for the first time outside of the hospital setting.

The council focused on increasing the availability of healthy food and drinks in their leisure centres and healthy improvements were made to four food and drink catering menus, as well as the kiosk menus across three leisure centres in the Blacktown LGA. The food and drinks offered in this setting have shown great improvements, with most menus now reaching full Framework compliance.

6/ SECONDARY PREVENTION & MANAGEMENT

Community Diabetes Nurse Educators and Consultants (l-r) Theresa Kang, Sharon McClelland and Sian Bramwell

- ✓ **Rapidly established 'WSD Virtual Care' with telehealth and cloud based digital solutions, replacing most face-to-face consultations during COVID-19**
- ✓ **WSD Virtual Care won the ICH Achievement in Integrated and Community Excellence (AICE) Awards 2020**
- ✓ **During the pandemic BMDH has seen 657 new patients, with 3867 occasions of service largely using WSD Virtual Care**
- ✓ **Secured a grant of $20,000 from WSLHD ICH Research Virtual Launchpad 20/21 for a randomised trial using Flash CGM to improve diabetes management in patients with diabetes in the post-discharge clinic**
- ✓ **Created 50 new patient self-management videos with fact sheets – culminating in 100 of these bundles available for patients and distributed across Australia**
- ✓ **Opened the Diabetes clinic at Mount Druitt Community Health Centre with four GP VMOs**
- ✓ **500 healthcare professionals participated in the Masterclass 2020 Series**
- ✓ **450 healthcare professionals in WSLHD participated in a diabetes eLearning course by NADC**
- ✓ **WSD is merging the Diabetes Together patient self-management app with CareMonitor GP digital linked management system**

EARLY DETECTION – DIABETES

At least a third of people with diabetes are undiagnosed. If people with pre-diabetes (HbA_{1C} 5.7-6.4%) lose 2 kg of weight, on average 30% fewer of them will progress to type 2 diabetes.

We have been testing patients attending Blacktown/Mount Druitt (BMDH) and Westmead Emergency Departments and are encouraging General Practice to test for diabetes early.

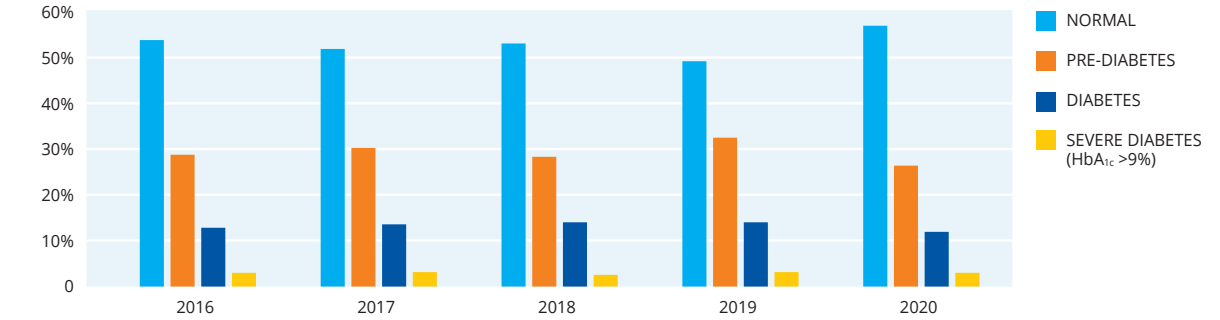
Diabetes Detection and Management Strategy (DDMS) at BMDH

Since the start of WSD's routine HbA_{1C} testing in BMDH EDs in June 2016, the team has tested 143,000 people. WSD has continued to see a rate of 30% consistent with pre-diabetes and 17% consistent with diabetes in these tests.

In response to WSD's pivot to telehealth, the temporary closure of face-to-face outpatients' clinics meant switching the DDMS support nurse's role to assisting and providing a telehealth concierge service via myVirtualCare. Because of this, the WSD team modified its existing procedure to contact patients with HbA_{1C}>6.5%, and only sent out notifications during COVID-19 to patients whose HbA_{1C} was >9%. The pandemic also put on hold WSD's plan to send out text messages to patients.

SECONDARY PREVENTION & MANAGEMENT (CONT'D)

Year on year HbA_{1c} distribution from Jun 2016 – Nov 2020 (n=142,503)



HbA_{1c} testing initiative at Westmead Hospital

The Routine HbA_{1c} Testing (Westmead) Initiative began in November 2017. As part of the routine clinical assessment, measurement of HbA_{1c} is automatically performed for all patients with a random blood glucose level of ≥10 mmol/L, who present to ED.

What has been achieved?

To date, **7,531** patients have been screened

Nov 2017-2018	Nov 2018-2019	Nov 2019-2020
2,453 patients	2,685 patients	2,393 patients

Between November 2019 to November 2020:

- **2,393** HbA_{1c} tests performed under the rule
- **629 (26%)** patients have HbA_{1c} of 9.0% and above
- **192 (8.0%)** patients did not have any previous documented history of diabetes and hence were deemed newly diagnosed with diabetes
- **316** patients were seen and consulted by the Clinical Nurse Consultant (CNC)

HbA_{1c} testing in General Practice

PEN Analytics Tool, Business Intelligence (PATBI) data shows that the proportion of patients in GP receiving HbA_{1c} tests in General Practice has risen substantially since WSD began our efforts in 2018 to improve this measure, going from 8% in 2018 to 9.7% at the end of 2020.

CLINICAL SERVICES – BUILDING CAPACITY AND MANAGING DIABETES

WSD estimates 91,500 people living in the WSLHD have diabetes with a further 30% of the population at high risk of developing the disease. About 20% of inpatients at BMDH have diabetes and this percentage is growing by about 0.5% each year.

The WSD core team cannot cater for even a small fraction of this burden, let alone turn around the diabetes epidemic in western Sydney. The prevention and management of a problem this size requires a collective approach.

There are **347 General Practices**, more than **1200 GPs** and **450 Practice Nurses** in western Sydney. One key strategy of WSD is to build the capacity of these healthcare professionals to better manage diabetes.

The following activities are part of the range of solutions to support this effort.

Pre-COVID-19: BMDH Joint GP Specialist Case Conferencing (JGPSCC)

Over the past seven years WSD and WSPHN worked in partnership to develop and deliver JGPSCC to primary care. This program has been one of the WSD's principal strategies to build the capacity of primary care to manage diabetes.

Year	New Practices Involved	Number of NEW GPs	Total JGPSCC Conducted	Total No. of Individual Consultations
2014	21	60	52	**268**
2015	17	53	68	**371**
2016	12	40	58	**302**
2017	13	46	100	**537**
2018	24	64	113	**583**
2019	8	44	89	**416**
2020 Jan-Mar	1	8	14	**60**

Year-on-year the program has expanded to include a clinical team at Westmead and additional clinical sessions. JGPSCC has demonstrated that participation delivers sustainable improvements in diabetes management both for the patient and within the practice.

Work on promoting JGPSCC continued through WSPHN and at all forums and the Masterclass 2020 Series. In addition, clinical staff often talk with GPs during consultations and hospital clinicians and administration staff call practices after diabetes patients have been identified during their hospital stay or clinic consultations. Clinical staff also visited several larger corporate group practices in the first few months of 2020 for lunch time symposiums. Getting a steady stream of patient referrals for case conferencing requires ongoing and persistent promotion to ensure this program grows in scale and impact.

Bernadette Sadsad, WSD Clinical Nurse Consultant, HbA1C Testing Initiative at Westmead Hospital and WSD Westmead endocrinologist Dr Cecilia Chi

From end of March 2020, all face-to-face JGPSCC was suspended due to COVID-19.

Westmead Hospital JGPSCC

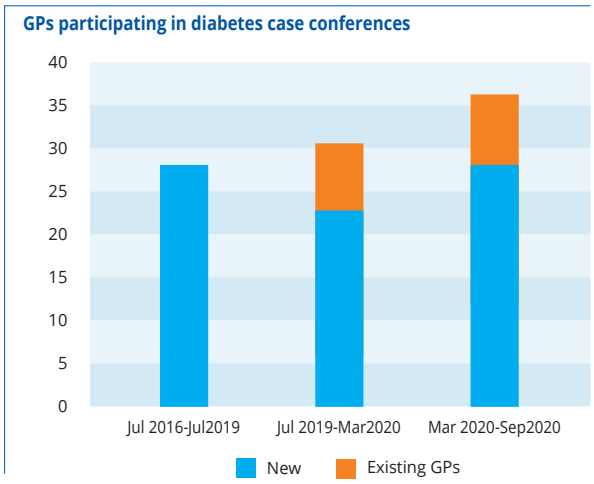
The JGPSCC model of care commenced in Westmead in July 2016. From July 2019, the service expanded to include an administrative officer and endocrinologist dedicated to JGPSCC.

In March 2020 the service transitioned to telehealth. During this time, WSD continued to offer this service to GPs in the LHD. More than 150 patients with elevated HbA1C were identified during their hospital presentation, and their GPs were invited to participate in JGPSCC. Up to 37 GPs expressed interest and 12 GPs have since had diabetes case conferences.

The numbers of GPs involved in JGPSCC have steadily increased:

- From March 2020 to September 2020, 28 new GPs and 9 existing GPs were involved in JGPSCC conducted via telehealth.

To foster open communication and improve work processes, fortnightly meetings were held between the Blacktown and Westmead WSD teams, along with monthly meetings between WSPHN and the WSD team.

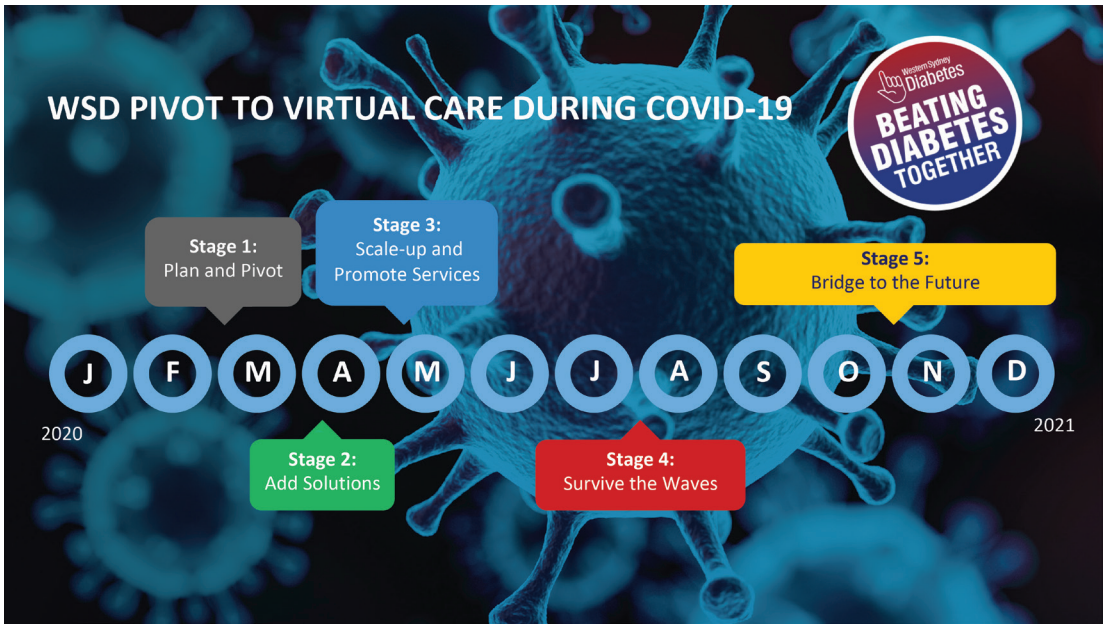


Establishment of WSD Virtual Care

Combining Complex Diabetes Clinics and JGPSCC

The diabetes clinics are among the largest of Blacktown Hospital's outpatient clinics. During COVID-19, because face-to-face consultations ceased and in order to keep patients and staff safe, WSD rapidly established 'WSD Virtual Care' with telehealth and cloud-based digital solutions.

SECONDARY PREVENTION & MANAGEMENT (CONT'D)



These virtual clinics were opened five days a week, from 9am to 5pm, and actively promoted to GPs across WSLHD.

The launch of WSD Virtual Care involved five stages:

STAGE 1 – PLAN AND PIVOT

As WSD was one of the early adopters of the MoH myVirtualCare platform, the team used this to convert all its clinics to be virtual.

Due to social distancing guidelines, face-to-face JGPSCC was suspended. However, the team pivoted to telehealth with the aim of not only building capacity, but to support GPs to manage their patients during COVID-19. As a result, WSD started to include GPs into the virtual consultations on the first visits.

WSD also learned the importance of additional administrative support for telehealth to work smoothly, and added an administration concierge service to coordinate appointments and onboard GPs and patients onto the service.

Pivoting to telehealth has enabled WSD to deliver care more extensively – opening up the consulting sessions daily allowed WSD to connect and support GPs that had not previously engaged with WSD. Notable benefits to patients included being involved in JGPSCC without having to leave home; not having to take time off work; shift workers; patients with mobility/access difficulties; and the elimination of risk from contracting COVID-19.

Prior to COVID-19, JGPSCC consultations were 30 minutes.

STAGE 2 – ADD SOLUTIONS

The clinical team extended some of the services utilising the latest technologies including:

- **Health2Sync** – An app to record home blood glucose levels (BGLs) by patients. This allows patients to share their data virtually, for WSD to easily view it during and between consultations to stabilise patients' blood glucose and adjust insulin doses;
- **Flash CGM** – Allows glucose readings to be visualised over a two week period, thus identifying glucose excursions such as hypoglycaemia, or hyperglycaemia. This program has also exposed GPs to the latest technologies for diabetes management. WSD established a small network of partner pharmacists who help apply the sensors on patients instead of them going to the hospital;
- **Healthy Living Options** – An updated HLO booklet developed by the WSD prevention team, which included activities that can be done in isolation, was used by staff as a tool during consultations when addressing physical activity;
- **Educational bundles** – WSD clinical team, in collaboration with the health literacy team at USYD, and GoShare Health, developed nearly **100** short educational videos addressing aspects of diabetes self-management. Supported by information fact sheets specifically selected following a thorough review of the literature, they were called 'Educational Bundles';

- **GoShare Health Platform** – Educational bundles were disseminated via the GoShare Health platform. During COVID-19, these bundles became much sought-after to support people with diabetes across Australia. Through an agreement with the National Australian Diabetes Centres (NADC), they were made available nationally in the NADC Patient Education Resource Library (PERL) for free for the first year, supported by ACI. There were 160 licenses provided to services this way, accruing 1727 resources sent out by providers to patients.

The WSD team presented and promoted this work at several webinars including NADC, ACI, Western Sydney Integrated Care and the wider diabetes care team at BMDH; and

- **Working on building and integrating CareMonitor** – A digital platform that connects clinicians to patients.

450 video and fact sheet patient Education Bundles were sent to patients' phones or email between March and December by the WSD team

STAGE 3 – SCALE-UP AND PROMOTE THE SERVICE

WSD developed collateral about the WSD Virtual Care service and actively promoted it to GPs which had previously engaged with WSD as well as new practices.

In May WSD held a live webcast *COVID-19 and Diabetes* to 210 registered healthcare professionals who reviewed the pandemic at that stage as well as its real and potential impact on people with diabetes. WSD Virtual Care was also strongly promoted.

STAGE 4 – SURVIVE THE WAVES

In order to survive the unpredictable waves of COVID-19, the WSD team prepared to deliver the service remotely, including from home.

STAGE 5 – BRIDGE TO THE FUTURE

During a mid-year workshop the team planned how the service would operate after the pandemic was contained and face-to-face clinics resumed. The aim was to continue a hybrid approach with telehealth and face-to-face consultations, keeping the state's quadruple aim principles of improving patient experience and outcomes, improving provider experience and lowering the cost of care.

Two goals include strengthening WSD's link with primary care and a 'one-stop-shop' with a multidisciplinary team, including a dietician, psychologist, pharmacist, exercise physiologist, and Aboriginal health liaison officer.

WSD recommenced a hybrid approach to JGPSCC, compliant with social distancing recommendations: the GP practices book a two hour session in which one WSD team member attends JGPSCC in person and the rest of the team joins via the telehealth platform.

The WSPHN Practice Development Team returned to face-to-face visits with General Practice where appropriate and continues to proactively promote the JGPSCC in western Sydney.

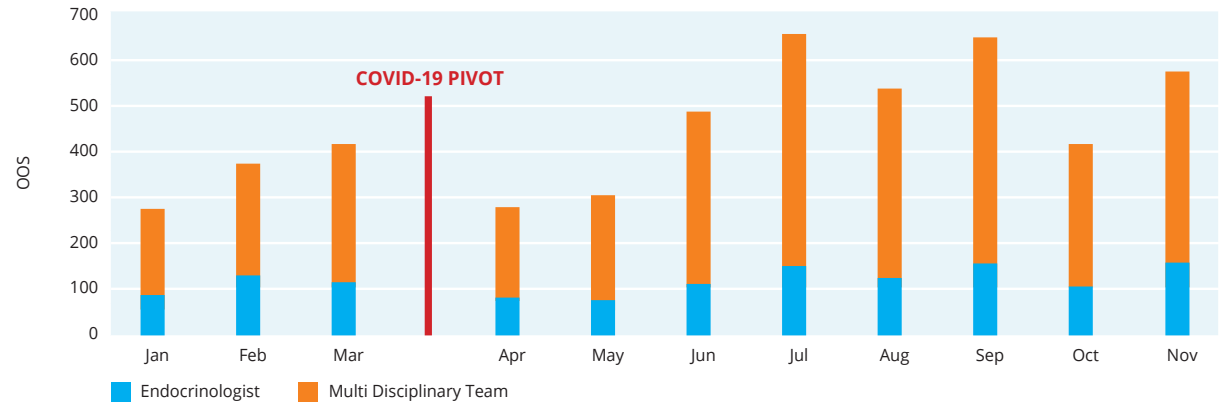
What has been achieved in WSD Virtual Care?

WSD Virtual Care at BMDH has seen **657** new patients, with **3,867** occasions of service (OOS) given largely via telehealth (video and/or audio consults) in this time. This equates to **130** NWAU, generating **$606,000** in funding for the service.

Video links were largely successful (>80%). Patients who use the myVirtualCare platform reported high levels of satisfaction with >89% of patients happy to use the service again and reporting it easy to use.

From Jan to Nov 2020, WSD at BMDH provided **4,925** OOS (virtual care and face-to-face consults), which compares impressively well with the 3,941 OOS in the same time period in 2019.

Total OOS from WSD team in 2020 pre/post pandemic



SECONDARY PREVENTION & MANAGEMENT (CONT'D)

Cancellations and Did-Not-Attends remained steady, with 12% of patients missing appointments (p=0.24).

Overall WSD stood-up virtual care as cutting-edge, easy to use, comprehensive and innovative and believe added digital solutions enhance its impact. WSD's goals for virtual care also aligns with the state's quadruple aims.

WSD will do an in-depth evaluation, including a randomised controlled trial (RCT) of the service over two years and looking at three models of care: face-to-face, virtual, and hybrid. We discuss this further in the research section.

ICH General Manager Jasmin Ellis presents WSD's Dr Rajini Jayaballa with the ICH AICE Award

Enhance triaging/pre-clinic work-up

WSD has continued to redesign the clinic flow with all new referrals having a pre-clinic workup and are discussed on a weekly basis within a multi-disciplinary team. This allows planning of management as well as the upskilling of junior staff.

Partnership with Integrated Care Program

WSD partnered with the Integrated Care Program (ICP) to involve 14 care facilitators and three health coaches in WSD Virtual Care. In October a Care Facilitator joined the pre-clinic work-up meetings involving more than 60 patients, resulting in referrals to several ICP support programs including Health Coaching, Care Navigation and Care Coordination with care facilitators. The Care Facilitators engaged General Practices and supported the patients' care plan developed by the WSD team.

Collaboration with Community Pharmacy

WSD recognises the key role community pharmacists play in supporting patients with their diabetes management.

One activity the clinical management team had planned for 2020 was to re-activate the Pharmacy Working Group – which consisted of pharmacists drawn from several areas including community pharmacists, hospital pharmacy, the Pharmaceutical Society of Australia (PSA), Pharmacy Guild of Australia (PGA), Diabetes NSW and ACT, and the General Practice Pharmacy (GPP) team at WSPHN.

The working group aimed to meet four times this year, with the objective of exploring how current services could be enhanced, improving communication between the group and promote local events, educational sessions and fora.

Pharmacist Monica Boules, Toongabbie Discount Drug Store

To this end the WSD fora was attended by several members of the group, and Tim Perry, the Lead GPP at WSPHN, presented at the Masterclass 2020 Series on Medication Adherence.

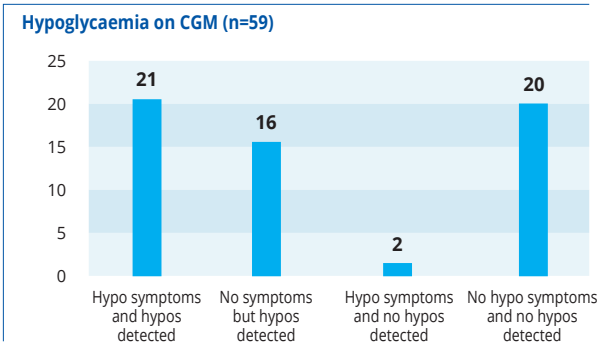
One of the major successes of 2020 has been the collaboration between Mr Perry, Abbott Diabetes Care, WSD clinical team, and five selected community pharmacists. They include:

- Nancy To-Morris: Pharmacist and Diabetes Educator, Chester and Jakes Pharmacy, Blacktown;
- Monica Boules: Pharmacist, Toongabbie Discount Drug Store;
- Tony Saba: Pharmacist and Credentialed Diabetes Educator, TerryWhite Chemist, Plumpton;
- Eng Chhay: Pharmacist, Chemist King Discount Pharmacy, Greystanes; and
- Badria Moustafa: Pharmacist and Diabetes Educator, Cincotta Discount Chemist, Blacktown.

This program has enabled the WSD clinical team to continue to use Flash CGM during COVID-19 and more than 200 patients were referred to these pharmacists.

All the pharmacists involved reported high levels of satisfaction in joining a multi-disciplinary approach.

This program was presented as an abstract at the Australasian Diabetes Congress (ADC) in November.



The Mount Druitt diabetes clinic team. (l-r) Endocrinologist Dr Rajini Jayaballa and Community Diabetes Transition to Nurse Practitioner, Anandhi Murugesan with the four GP VMOs Dr Cathy Ngo, Dr Chitra Sivaramamoorthy, Dr Vivienne Sharma and Dr Aajuli Shukla, and dietitian, Victoria Silvestro

The interesting finding from this audit was the sheer percentage of patients experiencing unrecognised hypoglycaemia, which was not known prior to use of Flash CGM.

New Joint Specialist General Practice Community Diabetes Clinic (JSGP-CDC) at Mount Druitt Community Health Centre

Despite COVID-19, WSD opened the new weekly community diabetes clinic in the Mount Druitt Community Health Centre. The clinic utilises a novel model of care to managing type 2 diabetes, coordinated by TNP.

The tertiary diabetes clinic is led by endocrinologists supporting four GP VMOs who then connect with referring GPs to manage the patients. This provides better management of diabetes for the patients as well as upskilling GPs through an integrated approach with a multi-disciplinary team.

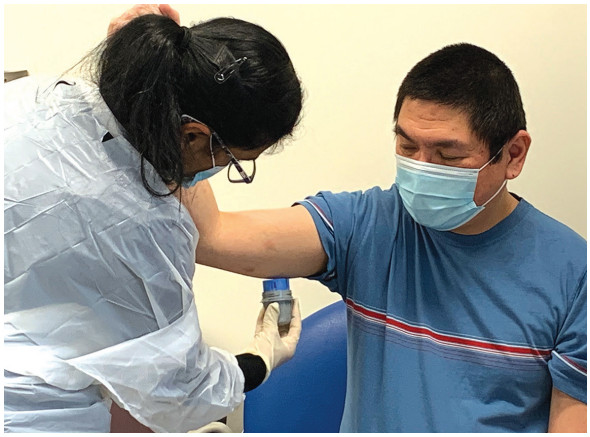
The Mount Druitt community health centre was renovated to accommodate four consultation rooms, including one bariatric examination room. Since May, the service has been seeing patients both face-to-face and via telehealth.

The service is guided by quadruple aims, focusing on patient-centred care. WSD rotates new GPs every six months and the clinic will serve the needs of the community, including Aboriginal and other cultures.

The new service was opened virtually in August by Graeme Loy, WSLHD Chief Executive, alongside Ray Messom, CE WSPHN WentWest; Adam Cruickshank, Director Clinical Operations Integrated and Community Health; and Dr Tien-Ming Hng, Head of Endocrine and Diabetes BMDH.

Community leaders were also represented by Matt Pearce, Minister Seventh Day Adventist Church Mount Druitt, and local GP leaders Dr Hani Bittar and Dr Kean-Seng Lim.

Prior to each clinic, the TNP prepares a pre-clinic work up involving a comprehensive assessment including eye screening, 60 second foot check and Flash CGM where appropriate.

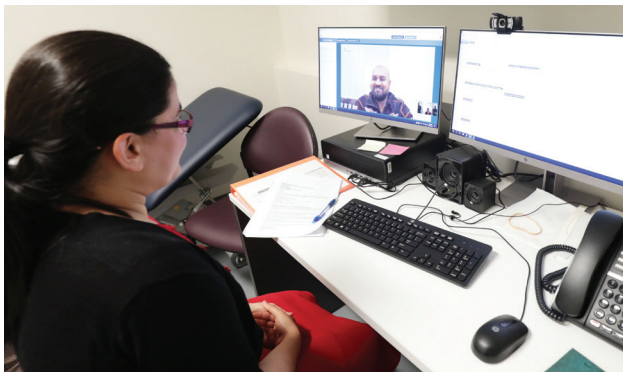


Transition to Nurse Practitioner Ana Murugesan doing Flash CGM insertion on a patient at the community diabetes clinic in the Mount Druitt Community Health Centre

Each clinic begins with a multi-disciplinary team case conference which includes the GP VMOs, endocrinologists, dietitian, a community nurse and the TNP. The focus of the case conference is to provide opportunities for the GP VMOs to learn about complex diabetes management through case discussion.

SECONDARY PREVENTION & MANAGEMENT (CONT'D)

Community nurses working in the health centre attend the Thursday clinic as part of capacity building the community nursing team. The aim is to upskill the nursing team about diabetes management and facilitate early detection and timely referral of poorly controlled diabetes patients in the community.



GP VMO Dr Aajuli Shukla chats with patient Mohammed Arif over telehealth

Between May and November, this service has reviewed:

- **180** new patients
- **160** follow-up patients

Nutrition and medication management are key to optimising the diabetic outcomes of the clients. WSD hired a dietitian to join the team. In November, group sessions began due to an increasing number of patients requiring dietary education. The group session is aimed at providing basic dietary advice in an interactive and engaging environment and is currently limited to 4-6 participants. Individual appointments are also available for patients who require a personalised dietary review. In total, we conducted 213 dietitian OOS during 2020.

Evaluation of the service delivery is ongoing, however all feedback from the GP VMOs has been positive.

"My knowledge of diabetes and the myriad of treatment pathways has vastly improved, skills I can take back to my own practice to help my patients and colleagues alike."
- Dr Vivienne Sharma

"I now have more confidence and a better understanding of the use of CGM, adjusting insulin levels, which medication combination is better and what can be combined. I found case discussion the most informative."
- Dr Chitra Sivaramamoorthy

The High Risk Foot Service

The High Risk Foot Service (HRFS) Clinic at Blacktown Hospital has continued to expand over the last few years. COVID-19 resulted in modifications to the service.

- As the podiatry service is unable to provide a virtual service, it was moved from Blacktown to Mount Druitt Hospital clinics to reduce traffic in outpatients' area and reduce the exposure to high risk population of patients;
- The Diabetes HRFS clinics were moved to virtual care but have incorporated having the GPs present for new consultations where possible, as well as working closely with the podiatry team. All the digital solutions discussed in WSD Virtual Care section were also incorporated here;
- Multidisciplinary reviews were simplified using our unified HRFS referral form from general practice. Communication between the disciplines was enhanced with the use of Microsoft Teams for secured messaging and prompt referrals;
- A data collection database has been introduced to be able to do more research/audits within HRFS;
- Blacktown HRFS was one of the early adopters of PREMs (Patient-Reported Experience Measures) and PROMs (Patient-Reported Outcome Measures) in the WSLHD. PREMs, using the My Experience Matters Platform, was launched in April. Until December, **268 PREMs** were completed with an overwhelmingly positive overall patient satisfaction score of 98%. PROMs was launched in September with 36 completed to date, with plans to expand after the implementation of the new HOPE (Health Outcomes and Patient Experience) platform designed by ACI and partners;

Feedback from patients (sourced from PREMs):

"Cannot find a fault. Amazing team and service."

"The patient care and overall friendliness matched with professional demeanour."

"At all my appointments I've had great communication and been shown respect, and everyone has been very friendly."

- **A health professional educational video** was created to promote the use of the **60-second foot check** and encourage community podiatry reviews to prevent diabetic foot complications;
- A significant achievement for the service this year was receiving funding for two permanent positions: **Aboriginal Podiatrist and Aboriginal Health Practitioner**. Both positions will be recruited in early 2021;
- Under the Director of Allied Health WSLHD, Jacqueline Dominish, Blacktown and Westmead HRFS are working together to achieve a consistent service at a district level;

- Multiple discussions were held to work towards building a Department of Podiatry, and redesign the governance structure of HRFS. Together with the A/Director of Allied Health at BMDH, Bobbi Henao Urrego, a brief has been drafted, and is awaiting submission;
- MDT meetings continued every six weeks to align WSD's MDT care (vascular surgery, ID, endocrinology, podiatry and wound nursing); and
- Continued to work with Leading Better Value Care to improve standards of care.

Post-discharge Diabetes Clinic

The Post-Discharge Diabetes Clinic (PDC) is a weekly clinic that reviews patients who have been recently discharged after being acutely unwell and admitted at BMDH for various reasons, but required the hospital diabetes team to manage their glycaemia. This clinic also moved to a virtual service. However, GPs of those patients have been actively sought to be part of the virtual consultations, as it is a way of bridging the gap and improving communication between primary and tertiary care, especially after recent hospitalisation. In 2020, this service saw **292** new patients and **104** reviews. This service reduces unplanned readmissions.

This service successfully secured a grant of $20,000 from WSLHD ICH Research Virtual Launchpad 20/21 for a randomised trial using Flash CGM: to improve diabetes management in patients with diabetes in the post-discharge clinic. We aim to start the trial in 2021 once ethics approval is done.

Mental Health Engagement

It is well documented that people with severe mental health illness die up to 16 years earlier than the general population due to cardiovascular complications. It is pleasing that during 2020, the collaboration between WSD and Mental Health Services strengthened and evolved despite the challenges encountered as a result of COVID-19. These include:

- Establishing a Psychiatry and Diabetes working group;
- Delivery of two sessions to the Psychiatry Registrars during orientation week on the Monthly Specialist Diabetes and Mental Health Joint Case Conferences (JSDMHCC);
- Successful rotation of Psychiatry Registrar to JSDMHCC with 9 Psychiatry Advanced Trainees participating in the sessions;
- Commencement of MBS billing for Multidisciplinary Team JSDMHCC;
- Greater involvement of dietitian and Case Management Support team via telehealth;
- Involvement of GPs with their patients where possible in JSDMHCC; and
- Use of Flash CGM.

In total 11 JSDMHCC sessions were conducted – 33 individual consultations with 27 patients. This is a 10% increase from the 2019 activity. Notably:

- Most patients were fairly young with only one patient being over 60 years; and
- 37% of referrals had very poor diabetes control with an HbA_{1C} above 9%.

Mental Health staff improved their diabetes management knowledge with 19 enrolling or completing the National Diabetes Care Course.

Diabetes and Mental Health Forum

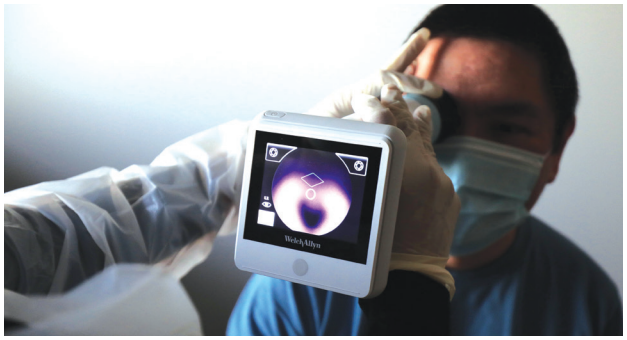
During 2020 WSD managed to maintain and develop capacity building activities for the mental health team, and support workers involved in the delivery of care.

A Diabetes and Mental Health 2020 forum chaired by Prof Vlasios Brakoulias, General Manager of Mental Health Services WSLHD, was held via zoom on July 28. Presentations included *Disordered Eating in Schizophrenia* by Prof Anoop Sankaranarayanan and *Understanding and Managing Stress and Anxiety during the COVID Pandemic*, by Dr Jane Pineda.

There were 96 attendees, from local and regional units, including psychiatrists, psychologists, social workers and dietitians working in hospitals, primary care and community. More than 85% of those who completed the evaluation reported the session was *somewhat useful or very useful*, with main learnings being: *"the importance of management of physical health in mental illness"*.

Community Eye Care (C-Eye-C)

WSD continued to work with the Westmead Ophthalmology team, led by Professor Andrew White and community optometrist Joe Nazarian, to promote community eye screening through their secondary referral centres in Blacktown via the C-EYE-C referral pathway. The goal is to improve waiting time and to prioritise diabetic retinopathy and glaucoma.



A patient's eye is examined using a retinal camera

SECONDARY PREVENTION & MANAGEMENT (CONT'D)

Outpatient Eye Screening

WSD's vision remains to introduce routine eye screening at all diabetes clinics, based on the positive results of the DR SPOC (Diabetic Retinopathy Screening in an outreach model) project at Blacktown and Westmead diabetes clinics in 2019. The study recruited 273 patients, of which 34% were from our clinics.

Results showed that 39.6% had some degree of diabetic retinopathy and 15.8% had vision-threatening retinopathy, of which 62.8% were undiagnosed. The results showed that the prevalence of any diabetic retinopathy, especially vision threatening retinopathy, is higher in our hospital clinics compared to the National Eye Health Survey. It is also confirmed that outreach screening enhances diabetic retinopathy detection at tertiary point-of-care settings.

Retinal cameras are ready to be utilised at the Mount Druitt and Blacktown diabetes clinics as well as at the Aboriginal Hub at Mount Druitt once more face-to-face consultations resume. We are also developing a referral pathway from the point of screening to utilising the C-EYE-C program to facilitate prompt ophthalmology reviews for urgent cases.

Support Two Towns at a Time/Outreach Service Provision

Rural NSW does not have the same level of specialist support easily accessible to General Practice and the community. At a NSW Agency for Clinical Innovation (ACI) sponsored NSW Diabetes Community engagement planning workshop, a GP from Mudgee invited WSD to a JGPSCC session and this project was born.

The WSD team was particularly interested to explore how to tie rural NSW into the General Practice capacity building part of WSD without overwhelming it.

WSD partnered with ACI to develop this two-year project and gained pharmaceutical industry sponsorship for elements that were outside WSLHD support.

Under this project, Goulburn was selected as the first town and ACI identified potential other towns, but COVID-19 diverted progress. However the following was achieved:

- WSD Clinical team visited Goulburn twice and with the help of Southern NSW Local Health District and Murrumbidgee Primary Health Network, gave a demonstration of JGPSCC;
- ACI assisted WSD in setting up myVirtualCare, the NSW eHealth telehealth platform, in development phase and undertook our first telehealth case conference before the COVID-19 pandemic struck;
- Heather Pratt, former Manager of the Blacktown Hospital Diabetes Service now living in Goulburn, was hired to coordinate and facilitate the program;
- Several GPs, Practice Nurses and Allied Health attended the WSD's Masterclass 2020 Series; and
- With ACI playing a leading role, WSD developed an evaluation framework and plan for this project which has now been expanded to be a key element of the evaluation plan for all telehealth.

This was a good foundation to start this work. The Masterclass 2020 Series provided wider engagement in NSW and to other states, demonstrating the power of the virtual world to go beyond geographic boundaries.

CONNECTIONS WITH HOSPITAL SERVICES

Improved management of diabetes in-hospital involves rapid review of urgent patients to reduce or avoid hospital admissions, as well as, closing the gap between primary and tertiary care.

In-Hospital Care – BMDH

A fully-integrated diabetes service includes enhancing in-patient management of diabetes and better linking that to the management in the community. The MoH and the ACI worked with LHDs to roll out a 'Leading Better Value Care' initiative related to in-hospital management of diabetes. WSLHD has been exemplar in this program.

Preparing for the first wave of the COVID-19 pandemic involved detailed planning for how the hospital would be run when the number of COVID-19 patients would start to overwhelm the hospital capacity. Fortunately this did not occur. The social distancing requirements and need for personal protective equipment meant that all but essential outpatient activity ceased and was converted to mostly telephone services.

Rapid Access Clinic – Westmead Hospital

The rapid access diabetes clinic at WH facilitates the review of patients with diabetes within 72 hours. This aims to reduce hospital admission and facilitate earlier review than the general hospital diabetes clinic. This clinic is serviced by five endocrinologists (one from WSD), diabetes educators and a dietician.

HealthPathways

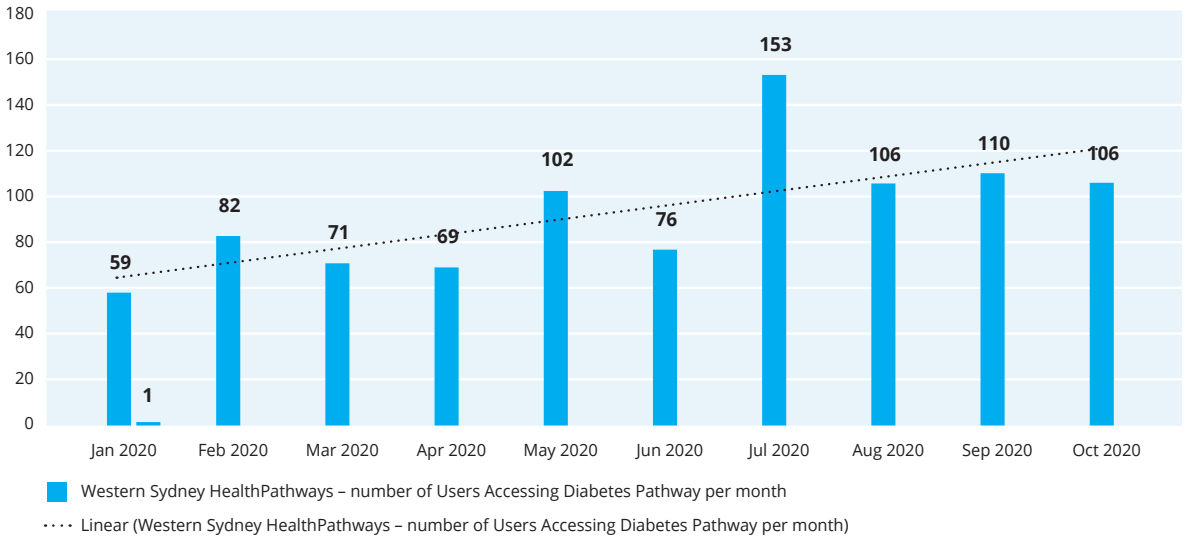
Diabetes HealthPathways remains a reliable online tool for GPs and other clinicians to obtain evidence-based information at the point of care.

During 2020 there were:

- **3,906** page views by **934** individual users

The number of users accessing Diabetes Pathways each month shows an upward trend, as indicated by the next graph.

Western Sydney HealthPathways
Number of Users Accessing Diabetes Pathways (each month Jan-Oct 2020)



From the 35 Diabetes Pathways the three most often accessed by page views were:

- Screening and diagnosis of diabetes
- Chronic kidney disease screening and diabetes
- Non-urgent diabetes assessment

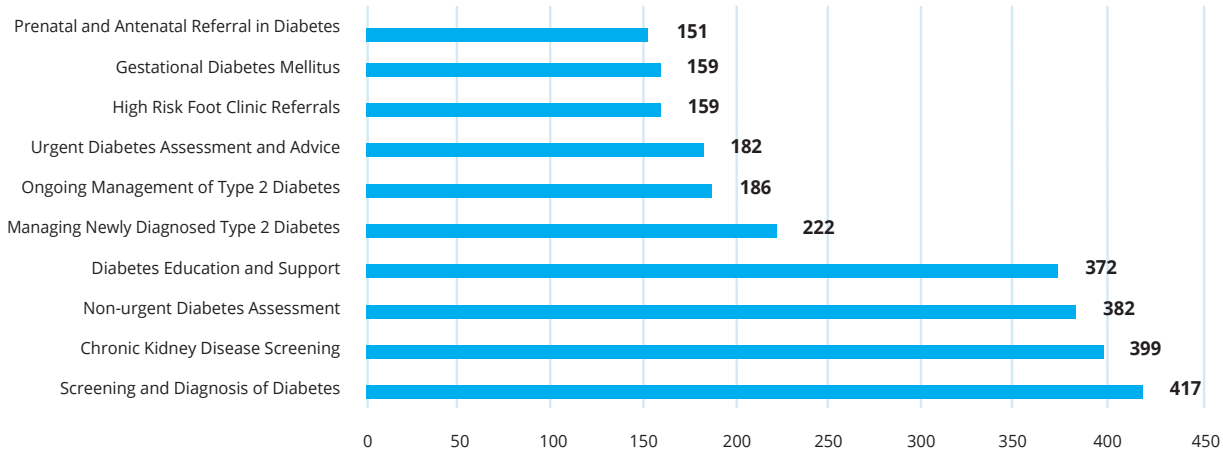
The remaining seven most accessed by page views are shown in the graph below.

Dental Collaboration

Two dentists were allocated to work with WSD in the early weeks of COVID-19. During their time they integrated with the WSD clinical team and developed some helpful tools:

- Presentation on diabetes and oral health in Masterclass 2020 Series;
- A video on how to perform an oral exam for non-dental health professionals;

Western Sydney HealthPathways
Top 10 Diabetes Pathways – by PageViews (Jan-Oct 2020)



SECONDARY PREVENTION & MANAGEMENT (CONT'D)

- Development of a simplified oral health pathway on HealthPathways, under review
- A series of patient education pamphlets and videos on;
  - Diabetes and Periodontal disease
  - Cleaning between teeth with dental floss and interdental brush
  - Toothbrushing using an electric toothbrush; and
- A research survey on 'Oral health in non-dental settings', is still ongoing.

GP Support Line 1300 972 915

The Active GP Support Line was established in the ICH Demonstrator project in June 2015 and provided GPs with easy access to the on-call advanced trainees or consultants. WSD continued to promote and maintain the Diabetes, Respiratory and Cardiology Support Line for GPs as a valuable resource to help facilitate the management of diabetes in the community, reduce hospital admissions and escalate clinical management where necessary. It also represented an opportunity to discuss and promote WSD's JGPSCC program. The service was promoted at the Masterclass 2020 Series.

EDUCATION

Diabetes has become the largest burden of disease and western Sydney is a hotspot. With a 12% prevalence of diabetes in the adult population and 22% of patients in hospital with diabetes, diabetes management needs to be the healthcare providers' core work. WSD is working hard to build the capacity of all healthcare providers to better manage diabetes.

Promoting adoption of evidence-based Medication Usage

WSD's goal was to bridge the gap between the latest evidence for medications that achieve optimum glycaemic control and the actual medications patients are prescribed. WSD achieved this by:

- Holding multiple sessions during the Masterclass 2020 Series to outline the clinical benefits of the newer medications;
- Presenting recommendations during JGPSCC and diabetes fora and events;
- ICH care facilitators attending JGPSCC as well as pre-clinic case discussions which highlights medication choices;
- Offering eLearning activities through online education channels and the myINTERACT app, which houses the Masterclass 2020 Series presentations;
- In-hospital capacity-building based on Hospital Dashboards;
- Starting an educational event with the cardiology department; and
- Offering three education sessions to 50 Community Nurses who were also invited to register for the National Diabetes Care Course and Masterclass 2020 Series.

Masterclass 2020 Series

Program

The inaugural WSD Masterclass in 2019 was a resounding success with 300 community healthcare providers (including 160 GPs) attending a full day education program delivered at the Park Royal Hotel.

Due to COVID-19 restrictions, the Masterclass was re-invented for 2020 as a 10 week series. From August to November, the WSD's Masterclass 2020 Series featured 15 hours of educational content over 10 consecutive Monday evenings, involving more than 40 faculty. The series was recorded and remains accessible on the myINTERACT app site by registering: **https://rego.interact.technology/wsd/**

Themes covered included:

- Saving Hearts and Kidneys
- Best Practice in 2020
- Mental Wellness and diabetes
- Pregnancy and diabetes
- Healthy lifestyles
- Diabetes complications
- Diabetes dilemmas
- Injectable therapies in diabetes
- Obesity management
- Using technology in diabetes care

Attendees

A total **776** health care professionals registered for the series including GPs, pharmacists, diabetes educators, practice nurses, endocrinologists, dietitians and podiatrists. The virtual platform also allowed for attendance from outside the WSLHD, with registered participants logging in from as far as Queensland and Western Australia.

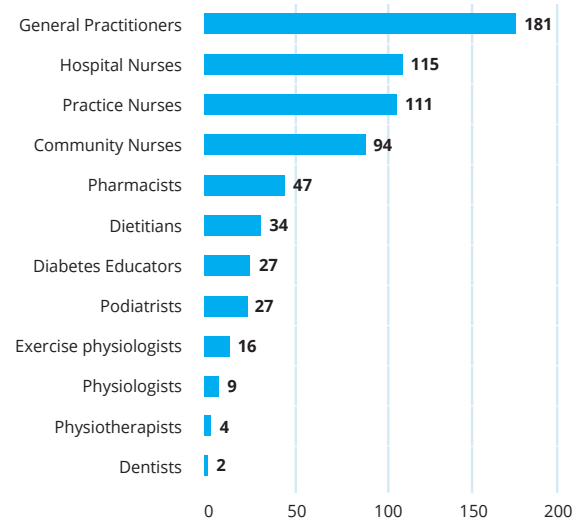
Of those, **500** attended a live events or logged in to view the platform over the 10 weeks.

The average online attendance was **160** participants each live night.

There were **3,978** views on the platform outside the sessions, with **8,173** minutes watched.

In total, 500 people either attended a live session or logged in between sessions. Of these, the majority of 276 (55%) came from WSLHD, 202 came from within NSW but outside WSLHD, and 22 came from other states in Australia.

Masterclass 2020 Series registrants by profession



This same pattern repeated for our target groups, with 65% of GPs and 59% of practice nurses coming from WSLHD.

Each night more than **70%** of the audience were either GPs or hospital, community or practice nurses.

The next graph shows the attendance numbers by week and profession for the live sessions of the Masterclass. There was a decline from the first session which had over 200 attendees to the average number of 160, with the biggest group every week being GPs followed by practice nurses.

GPs who attended the webinar series were eligible to claim RACGP Category 2 CPD points for their ongoing professional development.

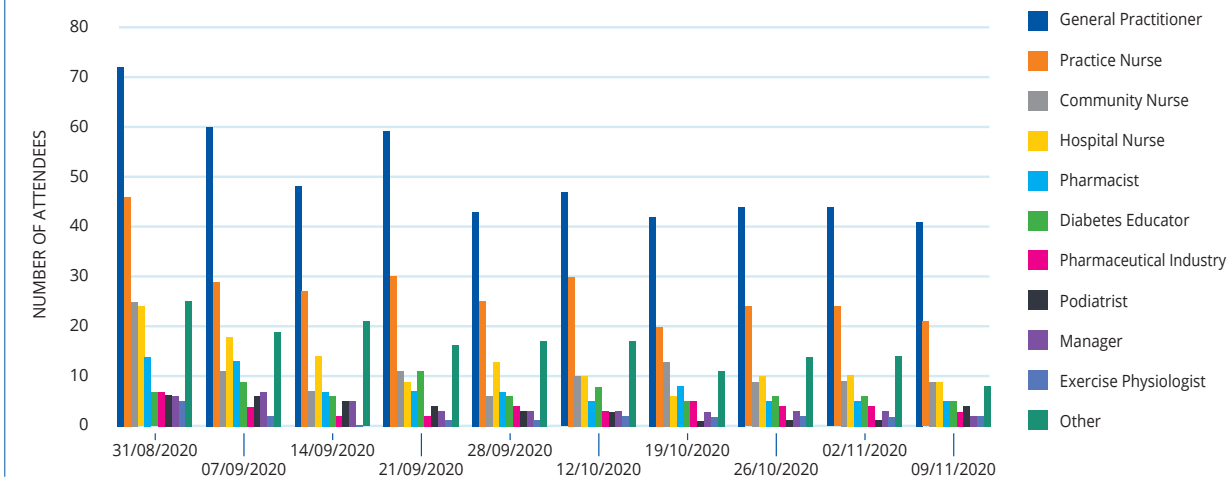
Recordings of webinar materials are still available on the WSD Masterclass portal on myINTERACT.

Dr Vivienne Sharma watches the Masterclass Series 2020 from the comfort of her own home

The Masterclass Series 2020 was delivered online via the WebinarJam platform

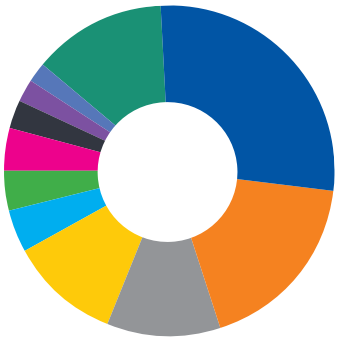
WSD's Sian Bramwell and GP Dr Michelle Crockett present one of the Masterclass sessions

Attendance by week and profession



SECONDARY PREVENTION & MANAGEMENT (CONT'D)

Accesses between sessions on the myINTERACT app by profession



- General Practitioner **28%**
- Practice Nurse **18%**
- Hospital Nurse **11%**
- Community Nurse **11%**
- Pharmacist **4%**
- eEducation & Engagement Manager **4%**
- Diabetes Educator **4%**
- Program Manager **3%**
- Exercise Physiologist **2%**
- Administration **2%**
- Other **13%**

The pie chart above shows which providers were accessing the Masterclass materials outside of the scheduled sessions. These accesses came predominantly from GPs and nurses, although a wide variety of other disciplines were represented in the between-session logins including physiotherapists, pharmacists, exercise physiologists, and others. The materials will be available on the app until the next Masterclass Series 2021.

Partners

This Masterclass was delivered by 10 partner organisations. For the first time, WSD invited the Nepean-Blue Mountains LHD and the PHN, Wentworth Healthcare, to come on board as partners, in addition to myINTERACT, the owners of the app housing the presentations. Each partner delivered a 5 minute presentation on their organisation each week of the series.

Industry Sponsors

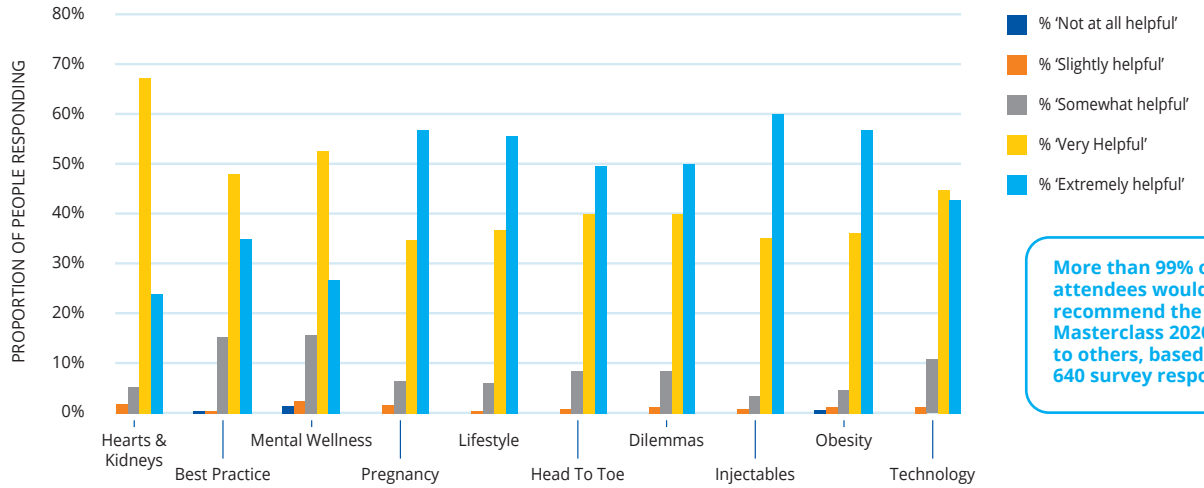
This year the sponsorship from pharmaceutical companies was capped to 10 industry sponsors. There was a huge amount of support from these sponsors through providing funds and in-kind support for promoting the event through their networks and to the General Practices.

Sponsors held a virtual display space on the myINTERACT app however did not influence the Masterclass program or the presentations.

All sponsors were recognised at every session highlighting those companies which had relevant virtual resources.

All pharma sponsors provided positive feedback and indicated they would return next year.

Survey responses for Masterclass 2020 Series by event (n=724 responses)



More than 99% of attendees would recommend the Masterclass 2020 Series to others, based on 640 survey responses

Feedback

Surveys filled out by attendees after the Masterclass revealed that all of the sessions were very favourably received (see above diagram).

"I love this style of learning and the time of the sessions makes it an accessible series"

"Wonderfully informative series, I'm grateful for recorded material so I can go through them repetitively."

"Enjoyed the evening and so grateful that we (in the rural areas) are able to access these quality educational sessions."

- Sourced from Masterclass feedback

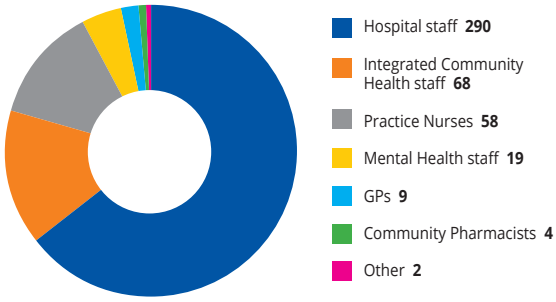
National Association Diabetes Centres (NADC) E-Training Course

A two year agreement between the WSLHD and NADC enabled General Practice and Integrated and Community Health (ICH) staff across western Sydney to enrol in the three month online National Diabetes Care Course (NDCC) at a heavily discounted rate. WSD collaborated with NADC to include 75 patient and educational videos to enhance the appeal and impact of the course. The initial goal for 100 participants from the western Sydney directorate to complete the course in 2020 was surpassed as shown in the following details.

During January-November 2020:

- 450 healthcare professionals had participated in the NDDC
- 268 participants had completed the 10 module course
- 182 other participants to progress through the course

National Diabetes Care Course registrants by profession type



Integrated and Community Health (ICH) E-Learning Education Sessions

The aim of delivering short e-learning sessions was to increase accessibility and maximise participant enrolment for busy Community Nurses across the WSLHD. The topic choice was driven by the participants as they required education on the newest diabetes injectable medications.

Three education sessions were offered to 50 community nurses and these staff were also invited to register for the National Diabetes Care Course and the Masterclass 2020 Series.

"Thank you so much for allowing me to be a part of this education. Not only is it enhancing my previous knowledge, I am picking up 'pearls' along the way that will enable me to serve my patients better."

"The course was very informative, great slides, audio was great too... so much resources that can be used in everyday practice. I have even downloaded some of the resources and kept them in my work's desktop."

SECONDARY PREVENTION & MANAGEMENT (CONT'D)

PATIENT SELF-MANAGEMENT AND DIGITAL INTEGRATION

Patient-centred care and self-management of diabetes is core business for WSD. Digital enhancements strongly enable patients' connection with their providers.

Creation of additional educational bundles and collaboration with NADC

With WSD Virtual Care, online educational resources became even more essential to the management of patients from a distance. Along with the existing 73 educational videos and bundles WSD created with GoShare health and our Sydney Health Literacy hub partners, WSD produced 27 more videos, taking it to a total of 100 videos and bundles.

Moreover, given the need for reputable and trusted educational resources was widespread, we partnered with ACI, NADC and GoShare health, to provide these bundles to health providers nationwide, at no cost to NSW LHDs for one year through ACI sponsorship.

More than 1,720 resources from NADC's PERL were sent out by providers to patients.

Rollout of Diabetes Together App linked with CareMonitor and eMR

In 2020, we progressed the WSD 'Diabetes Together' app.

Bernadette Sadsad, WSD Clinical Nurse Consultant, HbA_{1c} Testing Initiative at Westmead Hospital talks to a patient

This involved:

- Further exploration by the eDiabetes working group on a merger with the CareMonitor platform. This followed the development of a BioMed Tech Horizons application with WSLHD, WSPHN, PwC and CareMonitor. The collaboration was finalised and a MoU was done;
- Multiple workshops were carried out to form the merger, and work is ongoing;
- WSD is starting a trial concept phase for the WSD 'Diabetes Together' app with the recruitment of patients from the Complex Type 2 Diabetes Clinics (CT2DC); and
- WSD will continue to test and evaluate the app as it is modified and designed.

Integration of Western Sydney health information systems

COVID-19 accelerated the adoption of digital health solutions by the public. WSD responded by rapidly building WSD Virtual care. As CareMonitor has been selected as the main digital integrating platform for co-commissioning, it was a logical path to bring the two developments together.

Along with Digital Health Services (DHS) and WSPHN, vital collaborative work was started for the integration of CareMonitor with Cerner EMR.

Two large workshops were held to capture:

- The core vision;
- The business/system process flow with WSD;
- The needs;
- Gaps assessment;
- Technical solution options; and
- Roadmap options.

This work is ongoing pending stakeholder validations.

Health Care Homes

WSPHN has 17 practices and more than 1300 patients enrolled in the Health Care Homes initiative. During 2020, WSPHN provided dedicated support to all Health Care Homes practices and developed a Community of Practice which meets quarterly to discuss the clinical outcomes, successes and challenges of being involved in the trial. WSPHN is providing all HCH practices with CareMonitor for use as an electronic shared care planning tool. WSPHN has also commenced a comprehensive review process with all the practices in preparation for the end of the trial period in June 30, 2021.

7/ ENABLERS

CULTURE AND PLACE-BASED MOBILISATION

With rates of type 2 diabetes increasing within specific at-risk populations in the western Sydney area, the Aboriginal and Torres Strait Islander, Indian and Filipino communities were prioritised as an area of focus.

- ✓ **The HLT community organisation registered as HLT Inc. with the Australian Charities and Not-for-Profit Commission in July 2020, with office bearers formally appointed**
- ✓ **Established a Filipino Leaders' Group, following extensive community engagement and a Leaders' Forum**
- ✓ **Co-hosted the first virtual Indian community forum with more than 80 attendees**
- ✓ **Enhanced our collaboration and coordination with the Aboriginal and Torres Strait Islander stakeholders and community**

Healthy Living Toongabbie

Healthy Living Toongabbie (HLT) was formed two years ago by a group of passionate Toongabbie health practitioners, business people and residents concerned at the high number of residents in their community with Type 2 diabetes and pre-diabetes.

In 2020 WSD continued to support the HLT team in planning and hosting diabetes related events.

The HLT Community Organisation was registered as HLT Inc. with ACNC as a not-for-profit organisation in July 2020. The first Annual General Meeting of HLT was held on December 9 with office bearers and committee members formally appointed.

Public awareness campaigns and fundraisers

On Australia Day, a walkathon was held in partnership with the Australian Tamil Chamber of Commerce (ATCC). More than 100 members from the local community walked 4.5km from Toongabbie Park to Civic Park, Pendle Hill. During the walkathon, the group took advantage of the opportunity to promote diabetes awareness, the benefits of walking, and a healthy lifestyle. The ATCC raised $1500 for HLT group initiatives.

HLT group ran one shopping centre campaign in Toongabbie in February, with COVID-19 preventing more campaigns (pictured above right).

A video promoting the group was showcased as part of the Masterclass 2020 Series and will be used as a tool to encourage other community groups to take up the same initiative.

In September, the **HLT Community Forum** was converted to a virtual event and was delivered as a live webcast on HLT's Facebook page.

The topic *What is diabetes and is there a cure?* catered to the large multicultural population in western Sydney with a high proportion of people with a South East Asian or Indian background.

Speakers were endocrinologist Dr Rajini Jayaballa and Professor Vicki Flood who presented an interactive live cooking demonstration.

The Facebook Live video received **1,500** views.

Tamil speaking videos

A GP/member of HLT expressed concern about the higher risk of Indian sub-continent women in Toongabbie developing gestational diabetes. She suggested an in-language video as an important resource for Tamil women of child-bearing age.

Three videos will be produced with a focus on:

- Gestational diabetes;
- The importance of a healthy diet; and
- Improving regular physical activity and exercise.

Working with the Indian community

In August, 80 people participated in the *Let's Start a Conversation about Diabetes* webinar, in partnership with the Indian Club and opened by both The Hills Shire Mayor and the wife of the Consul-General of India.

Dr Jayaballa discussed diabetes, pre-diabetes and gestational diabetes and Professor Flood gave a live cooking demonstration.

WSD and The India Club's Let's Start a Conversation about Diabetes webinar

ENABLERS (CONT'D)

Western Sydney Filipino Leaders' Forum

The Filipino Leaders Forum was held over Zoom

Concern of the increasing numbers of people with diabetes in the Filipino community in western Sydney prompted WSD to launch a discussion with health practitioners and community leaders. WSD Clinical Nurse Consultant Bernadette Sadsad chaired a meeting in October which attracted more than 70 leaders to hear panel members discuss solutions through diet adjustment, education, improving physical activity and health messages through the western Sydney churches. A working party was set up to establish key activities for 2021.

Supporting the Aboriginal and Torres Strait Islander community

NAIDOC Week celebrations begin at Aboriginal Health Hub in Mount Druitt where the Mount Druitt Aboriginal dance group 'Garabara' performed

In 2019, WSLHD Chief Executive Graeme Loy, asked the WSD Executive Management Team, "How are we supporting the needs of Aboriginal people to prevent and manage diabetes?"

In response, the Diabetes and Aboriginal Health steering committee was established, comprising directors in Integrated and Community Health and other key partners.

District Director, Aboriginal Health Strategy, Braiden Abala and WSD Director Prof Glen Maberly, co-Chair a quarterly meeting where it was identified that more culturally appropriate services were needed for women with gestational diabetes.

Key partners include:

- **Greater Western Aboriginal Health Service (GWAHS)**: Jelis Fatima, Clinic Team Leader and Deborah Payne, Registered Nurse;
- **Aboriginal Health Hub**: Belinda Cashman, Manager Aboriginal Health Services;
- **WSPHN**: Rita McKenzie, Aboriginal Cultural Liaison Coordinator; Sue-Ellen Nagi, Stakeholder Engagement and Development Manager;
- **Kildare Road Medical Centre**: Louise Moore, Team leader- Aboriginal Health; Sonya Cameron, Credentialed Diabetes Educator; Peter Rushton, Chief Executive Officer;
- **Western Sydney Integrated Team Care program**: Terrieanne Whitting, Manager;
- **Diabetes NSW and ACT**: Monica Smith, Aboriginal and Torres Strait Islander Project Officer;
- **Nazarian Optometrists**: Joe Nazarian;
- **Department of Diabetes and Endocrinology, Blacktown and Mount Druitt Hospital**: Dr Tien-Ming Hng, Head, Diabetes & Endocrinology, BMDH Clinical Advisor Integrated Care; Dr Anna Duke, Staff Specialist Endocrinologist;
- **Population Health, ICH Facility**: A/Prof Stephen Corbett, Director Centre for Population Health;
- **Priority Population Services and Chronic and Complex Services from Clinical Operations, ICH Facility**: Adam Cruickshank, Director, Clinical Operations; Jo Fuller, Program Lead, Priority Populations;
- **Integration, Partnerships & Enablers, ICH Facility**: Lynette Mieni, Aboriginal Health Practitioner, 48 Hour Follow Up, Integrated Chronic Care Program;
- **WSLHD Allied Health**: Prof Vicki Flood, Professor of Allied Health and;
- **WSD**: Dr Rajini Jayaballa, Staff Specialist in Diabetes & Endocrinology, Sumathy Ravi, Program Manager; Janine Dawson, Diabetes Prevention Program Manager; Ana Murugesan, Community Diabetes TNP, Mount Druitt community health diabetes clinic; Sharon McClelland, Community Diabetes Nurse Consultant; Gideon Meyerowitz-Katz, Research, Monitoring and Surveillance Coordinator; Heloise Tolar, eEngagement and Education Manager; Beverly Bugarin, Administration Officer; and Aruni Ratnayake, Diabetes Prevention Officer.

Highlights for 2020

The COVID-19 pandemic diverted attention during the contagious phase and some gatherings had to be postponed. Below is a summary of projects co-ordinated by the steering committee:

Project/People	Achievements
COMMUNITY ENGAGEMENT Belinda Cashman Rita McKenzie Louise Moore Sonya Cameron Terrieanne Whitting Jelis Fatima Deborah Payne Monica Smith Aruni Ratnayake	Members were involved in one or more of these projects: • Formed a partnership with the Heart Foundation with the donation of a fully equipped trailer for Koori Cooking Program; • Training conducted by Heart Foundation staff for Koori Cooking and Cook Off programs for Aboriginal Health Hub staff & WSD Diabetes Prevention Officer; • The Close the Gap Day event 'One Big Diabetes Day' was cancelled due to COVID-19; • NAIDOC event at the Aboriginal Health Hub with limited attendees; • A diabetes information session for 15 health professionals and community members of GWAHS in February
ENHANCING GESTATIONAL DIABETES MELLITUS (GDM) SERVICES Prof Mark Mclean Dr Tien-Ming Hng Dr Anna Duke Braiden Abala Jo Fuller Belinda Cashman	Continued discussions of enhancing GDM services and pathways for Aboriginal women after it was identified there was a need for increased support for pregnant Aboriginal women.
EYE SCREENING Dr Tien-Ming Hng Dr Rajini Jayaballa Jo Fuller Belinda Cashman Ana Murugesan Joe Nazarian	Following discussions on improving eye services for the Aboriginal and Torres Strait Islander people, cameras purchased and ongoing discussions of process to analyse images and referral pathways.
HEALTHY DEADLY FEET AND HIGH RISK FOOT SERVICE Braiden Abala Dr Rajini Jayaballa Jo Fuller Belinda Cashman	While diabetes-related foot disease service continues, looking to recruit Aboriginal staff positions. Podiatrist and Aboriginal Health Practitioner positions were advertised.

Enhancing diabetes services by WSD

- Mount Druitt Community Health Diabetes clinic opened in May with those with chronic and complex type 2 diabetes patients referred by both GWAHS and health centre staff; and
- The WSD telehealth service had referrals from GWAHS and Kildare Road Medical Centre.

Additional Projects

WSLHD and USYD Industry and Community – Cultural Competence and Health was a project that continued through the pandemic with regular online meetings with USYD students and staff and District Director Aboriginal Health Strategy, Aboriginal Health Manager and the WSD Diabetes Prevention Officer. Projects discussed were:

1. Closing the gap in Aboriginal diabetes in the WSLHD;
2. Raising awareness and taking action: implicit biases impacting the healthcare journey of Aboriginal and Torres Strait Islanders;
3. Improving immunisation outcomes for Aboriginal and Torres Strait Islanders in WSLHD; and
4. Gestational diabetes prevention for pregnant Aboriginal women.

ENABLERS (CONT'D)

COMMUNITY AND PROVIDER AWARENESS & ENGAGEMENT

Diabetes will remain a costly chronic disease and the biggest burden on our society and health care system unless the general public and GPs across western Sydney understands the size and impact of the problem.

- ✓ **Successfully promoted WSD initiatives using event collateral and a variety of communication channels to raise public awareness of diabetes**
- ✓ **Initiated and embraced video production to deliver high impact educational content to both consumers and health professionals**
- ✓ **Updated the website and launched social media platforms, Facebook, LinkedIn and Twitter**
- ✓ **Promoted and jointly facilitated WSD's key educational project of the year, Masterclass 2020 Series**

The arrival of COVID-19 brought an additional challenge to the WSD team – that those with diabetes, who are at higher risk of COVID-19 complication and death if infected, were staying away from hospitals.

This illustrated that people will avoid hospitals and general practice if they are worried about the complications. Without COVID-19 we need them to understand how important it is to keep good diabetes control to avoid the very serious complications.

It highlighted to WSD the importance of raising public awareness and engagement for patients to remain informed on how they can continue to access these services and new options available, in particular virtual care, within the context of the pandemic.

As a result, WSD's Public Awareness and Communications Strategy was overhauled to meet the new challenge of communicating clearly during a pandemic.

In July an eEngagement and Education Manager joined the team and WSD turned its focus on patients telling the stories about how they are managing and overcoming the problem.

In 2020, a total of 19 articles and 10 posts were generated including the following:

- 2 media stories
- 14 social media posts
- 8 The Pulse articles
- 9 WSD website articles.

Creating Public Awareness

This year the team focused on supporting the pre and or post-event promotion of both community-wide and place-based cultural events to raise awareness of diabetes in specific ethnic communities. These included:

World Diabetes Day – November 14

WSD used World Diabetes Day on November 14, to launch the WSD Facebook page. In line with the theme The Nurse and Diabetes, an article celebrating the excellent work of WSD diabetes and endocrine nurses was published on the website and in The Pulse, and posted on both WSD's and WSLHD's social media pages.

Healthy Living Toongabbie (HLT)

HLT is a community group who came together to tackle the high rate of diabetes and pre-diabetes in their community as it continues to grow in size and impact. On behalf of HLT, WSD heavily promoted:

- **HLT Community Forum**: Wrote article for The Pulse (September 7), WSLHD and HLT's social media pages and the WSD website. The Facebook Live event remains on both WSD's and HLT's Facebook pages and website as educational tools.
- **Video**: A video promoting the work of HLT was produced for the Masterclass 2020 Series as a resource to encourage other community groups to take up the same initiative. This is on the HLT Facebook page and the WSD website's resources section.
- **Tamil speaking videos**: Collaborating on scripts and the production of an educational resource for Tamil women of child-bearing age.

Forums

Coordinated collateral and generated articles to promote health professional and community focused forums, including:

- **COVID-19 and Diabetes Forum (May 5)**;
- **Diabetes and Mental Health Forum 2020 (July 28)**;
- **The India Club (August 17):** Article in The Pulse featuring interviews with Dr Rajini Jayaballa, Professor Vicki Flood and president of the India Club. The webinar recording is on the WSD website and Facebook page for long term accessibility;
- **Healthy Living Toongabbie Community Forum (September 10)**: Article in The Pulse (September 7), on WSLHD social media and WSD website. The Facebook Live event is on both WSD's and HLT's Facebook pages and WSD website.

- **Western Sydney Filipino Community Leaders' Forum (October 13)**: Coordinated the design of a flyer and wrote an article for The Pulse (September 28) featuring interviews with WSD's Dr Cecilia Chi and Bernadette Sadsad, and Professor Vicki Flood. Both heavily promoted across WSLHD and WSD social media platforms.
- **Blinded by Sugar Webinar – by Australian of the Year Dr James Muecke (August 10 and December 8)**: The consumer-facing webinar on December 8 was heavily promoted across WSD's Facebook and Twitter pages, WSLHD channels such as The Pulse, Regular Dose and Yammer, as well as partners' newsletters and social media channels, and local media. This was achieved via an article featuring an interview with Dr Muecke, multiple posts and shared videos from his Facebook page.

Media

ABC Journalist Kathleen Ferguson interviews Ana Murugesan for the opening of the diabetes clinic at Mount Druitt

BOOST IN DIABETES BATTLE

MOUNT DRUITT

KATE LOCKLEY

MOHAMMED Arif of Seven Hills was rushed to Blacktown Hospital after multiple strokes that were the wake-up call he needed to take his Type 2 diabetes more seriously.

In March, Mr Arif was referred to the new diabetes clinic at Mount Druitt Community Health Centre by his GP and on August 6, was taken off insulin and is the first patient to be discharged back to his local GP.

The new clinic, officially opened on August 27, will manage people living with complex Type 2 diabetes in Mount Druitt and Blacktown.

This clinic is also there to enhance the skills of local GPs to manage their patients and cut hospital waiting lists.

The clinic, which has been operational since May, was three years in the making — a continual collaborative effort from Blacktown Hospital and the Western Sydney Diabetes (WSD) team, which was set up in response to the growing threat of diabetes in western Sydney.

WSD director Glen Maberly said in the past four years, diabetes screening in practices across the Western Sydney Local Health District found 29 per cent of patients with diabetes and 41 per cent with pre-diabetes.

"Mount Druitt is central to our Western Sydney diabetes hotspot," Professor Maberly said. "The community health centre is a location to help us support the needs of the community, including Aboriginal people and people from many cultures and backgrounds, important groups with a high prevalence of diabetes."

The services provided by the clinic include diabetes self-management skills, dietary advice, eye screening, foot checks, and blood glucose monitoring technology to identify trends, such as unrecognised hypoglycaemia (low blood glucose).

"The aim of this clinic is to build the capacity of our GPs, to improve their diabetes management skills that can be applied to other patients they see," Professor Maberly said.

Mr Arif is doing well, has quit smoking, lost 8kg and credits it to the clinic. "Having that weekly call, that weekly support," he said. "I just didn't want to disappoint them."

Dr Aajuli Shukla talks to diabetes patient Mohammed Arif on telehealth. Picture: WSLHD

Daily Telegraph article of the opening of the Mount Druitt Clinic

Opening of the Mount Druitt Community Health Centre Diabetes Clinic

A huge event for not only WSD but the community, the official opening of the Mount Druitt Community Health Centre Diabetes Clinic was heavily promoted with support from the NSW MoH and WSLHD Corporate Communications teams.

Held over a Zoom meeting due to COVID-19 restrictions, WSD collaborated with the WSLHD Corporate Communications' multi-media team to produce a video in lieu of a virtual tour to highlight the clinic's goals and its four GP VMOs. It remains prominently on the website's carousel in a story promoting being a GP VMO at the clinic.

Pre-event, the video featured in the press release and was sent to national media.

The story was pitched exclusively to ABC Sydney and then opened to all media.

Television

- **ABC 7pm News (August 27) and Channel 9 News (August 29)**: Featured interviews with Prof Glen Maberly, Dr Rajini Jayaballa, and Seven Hills man Mohammed Arif, the first person successfully discharged from the clinic back to his local GP.

Radio

- **ABC Sydney (August 28)**: 30 sec segment explaining how the clinic is tackling the diabetes epidemic.

Print

- **Daily Telegraph/Blacktown Advocate**: Online: September 11
- **Daily Telegraph: Print:** September 8
- **Western News:** September 19
- WSLHD The Pulse: August 28
- WSLHD's Facebook
- WSD website.

Blinded by Sugar Webinar – by Australian of the Year Dr James Muecke, December 8:

Articles appeared online and in print in:

- The Pulse;
- Blacktown Advocate/Daily Telegraph;
- Hills to Hawkesbury News; and
- Hawkesbury Post.

ENABLERS (CONT'D)

Articles showcasing the work of WSD appeared in the following trade publications:

- Diabetic Living – Jan/Feb – *Stopping the weight* by Dr Ramy Bishay
- The Medical Republic, October 9 – *Health Apps: What are they good for?* by Gideon Meyerowitz-Katz. Article by WSD also in The Pulse (November 5).

Social media

- As part of its social media strategy, WSD launched its Facebook page in November. There has been a concerted effort to post once a day, by both sharing from both partners' Facebook pages in addition to original posts by WSD.
- The existing WSD twitter account was reactivated in December in addition to the creation of a dedicated WSD LinkedIn site to reach a healthcare professional audience
- This page complements content via existing WSLHD channels including The Pulse, Regular Dose, WSLHD social media channels and the WSD website.

Website

2020 saw the start of a reinvigoration of the WSD website to update content and broaden the audience to include the public as well as the existing audience of healthcare professionals and WSD Alliance members.

The website will continue to evolve with more consistent updates in 2021 while a priority will be on the Alliance Hub, which allows members to share news, information, advice and resources and collaborate on initiatives and projects.

Supporting the Alliance

Events

WSD events were promoted via a collaboration of WSD and communication specialists across their stakeholder newsletters and social media channels.

WSD communications team supported the pre and/or post-event promotion of several Alliance collaborative initiatives to raise awareness of diabetes in local communities by generating flyers and articles to promote these events:

These included:

- **Blinded by Sugar Webinar – by Australian of the Year Dr James Muecke (August 10)**;
- **Alliance meetings:**
  - *Moments of healthy living during COVID-19 isolation. Can we make them stick?* – Webinar, (June 24); and
  - *Growing well, Eating well* webinar (November 4).

WSD Community Diabetes Nurse Educators and Consultants Sian Bramwell, Sharon McClelland and Theresa Kang

Working with Communication Specialists in lead organisations:

The eEngagement and Education Manager worked alongside and continued to be supported by the communications specialist teams within the WSLHD and WSD's partners, WSPHN, PwC, Diabetes Australia, Diabetes NSW & ACT and WSROC, who helped enhance WSD's message and coverage.

There was collaboration on World Diabetes Day when WSD also launched its Facebook page.

Supporting Clinical Engagement & Education

Presentations by team

This year WSD exceeded previous goals in terms of academic submissions, with eight papers published in peer-reviewed journals, and a further five in preparation for submission or currently under review. (The full list of papers can be found on pages 42-44).

In 2020 WSD also:

- Designed 13 abstract posters for the ADC;
- Delivered 14 academic presentations;
- Delivered 39 other presentations.

Videos

COVID-19 pushed the team to engage new skills and produce educational and informative videos online.

We engaged the services of the WSLHD multi-media team as well as video production company, Bower Films, and Healthily, to help us produce:

- **Mount Druitt Community Health Centre's diabetes clinic opening**;
- **Healthy Living Toongabbie** video;
- Developed 100 short 1-2 minute educational videos called Educational Bundles addressing aspects of diabetes management. These were delivered via a combination of demonstrations, animations and a clinician speaking to camera;
- **Masterclass 2020 Series speaker presentations**
- **ADC presentation**: Prof Glen Maberly and the WSD core team presenting their work for the year (15 mins duration);
- **DOMTRU presentation**: Extended presentation of Prof Glen Maberly and the WSD core team's work for the year (30 mins); and
- This became the WSD's online **Year in Review** document and put on the WSD website.

Collateral for staff and healthcare providers

Pre- or post-event coverage generated through flyers and articles:

- **Masterclass 2020 Series (August 31-Nov 9)**:
  1. Pre-event: The program and flyer was heavily promoted in the Regular Dose, WSD website, WSLHD and WSD Yammer and Facebook pages in addition to being shared across event partners' communication platforms;
  2. Co-ordinated with the myINTERACT app team for resources to be uploaded on the platform, namely speaker's biographies and photos; feedback forms; email alerts and reminders; and speaker presentations;
  3. Helped facilitate the video presentations with Bower Film crew and NADC team;
  4. Helped facilitate the course certificates to attendees; and
  5. Was a conduit between WSD, NADC and myINTERACT on data collection and evaluation.
- **Telehealth**: Collaborated with the clinical team to produce two flyers for consumers and GPs on using telehealth and its concierge service via myVirtualCare. One was completed in March, and the second flyer was updated in December.
- **2020 Year in Review**: Collaborated with WSD staff and partners to put together this annual document which is a record of WSD's achievements in 2020. In addition, turned it into an engaging 30 minute video.

ENABLERS (CONT'D)

DATA FOR DECISION MAKING

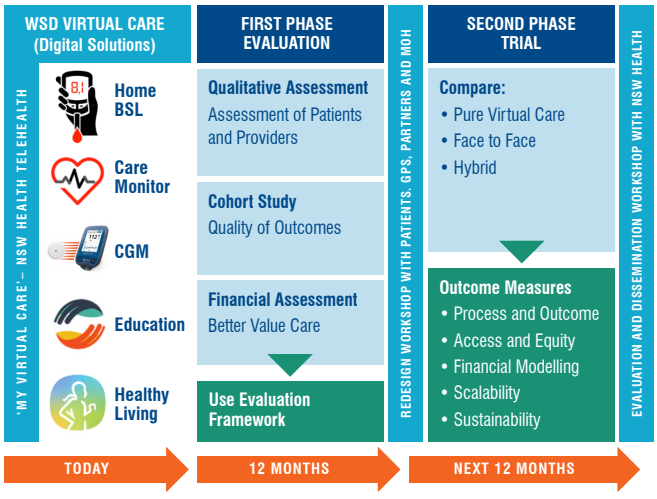
Data underlies all WSD does and is a key component of the broader strategic plan, supporting WSD's work across all areas of prevention and management. COVID-19 changed a large proportion of WSD's work, but despite this disruption the team worked hard at data for decision-making to meet and exceed the goals set for 2020.

- ✓ **Improved estimates of diabetes across WSLHD**
- ✓ **Collaboration with MoH producing two academic papers, using LUMOS and other linked data**
- ✓ **Conducting randomised clinical trials to test treatments for diabetes**
- ✓ **Improved reporting measures and captured WSD's activity more effectively**
- ✓ **Recruited 10 higher degree students from USYD, WSU, and UoW to work with WSD**
- ✓ **Examined the impact this year had on people with diabetes, including virtual care**
- ✓ **Successfully applied for grant funding from WSLHD, NHMRC, and NSW Government**
- ✓ **Large research output, including 14 academic presentations, 11 submitted peer-reviewed studies, and 39 other presentations**

Evaluate Pivot to Virtual Care for COVID-19

Given the changes that COVID-19 has brought upon the service, it is important these impacts are recognised and evaluated.

WSD's work on virtual care uses an adaptive project framework, and includes a wide range of partners. In particular, WSD is collaborating with the Agency for Clinical Innovation, the USYD, PwC, and WSPHN for this project (see diagram below).



Some of the evaluation work has already begun through the capturing of our pivot methodology and the process measures already in place. The evaluation is aimed at addressing the quadruple aim. The methodology for this evaluation is fully outlined in our pivot protocol, but uses an adaptive mixed-methods design including:

1. Rapid qualitative review of patient and provider experiences during distance medicine pivot, with collaboration from USYD and the Agency for Clinical Innovation.
2. Big Data analysis using linked datasets and a propensity-matched model, to compare basic clinical outcomes in a rapid fashion and provide an evidential review.
3. A pragmatic randomised study, looking at previously used methodologies and the hybrid model proposed to examine cost-efficacy and the benefits of distance medicine during this time.

In 2020 WSD unsuccessfully applied for grant funding from NSW Health to pursue this work, but WSD has already identified several alternate funding streams and begun the qualitative work. WSD will continue with this project as evaluating the impact of the pivot is central to work moving forward.

WSD's work on virtual care also includes an ongoing collaboration with USYD which has so far resulted in several reports and an academic publication in the Journal of Medical Internet Research. This study demonstrated that >60% of people who used virtual care thought it was as good as or better than care as usual.

Characteristics of telehealth user experience (n=596) Variable		Summary Value n (%)
Number of telehealth appointments	1	270 (45.3%)
	2	157 (26.3%)
	3 or more	169 (28.4%)
Mode of telehealth delivery	Telephone	427 (71.6%)
	Videoconference	84 (14.1%)
	Both	85 (14.3%)
Telehealth visit compared to traditional in-person medical visit	Better	49 (8.2%)
	Just as good	320 (53.7%)
	Worse	205 (34.4%)
	Unsure	22 (3.7%)

Linking Data to Decision Making

In 2020, WSD improved data gathering with relation to clinical activity, to better capture the work it does. After the pivot to virtual care, WSD restructured its data and reporting systems to improve the capture of occasions of service, activity, and the other good work of the clinical team. Despite the challenging nature of the year, WSD improved this data capture to now better reflect the team's work, which is shown in the graph to the right.

Trends, demographics and country of birth

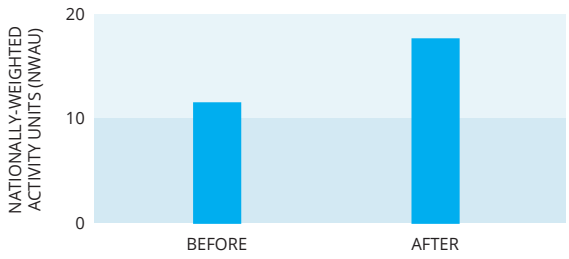
2,339 Diabetes (count discharges) 1	**19.5%** Diabetes (%) 2	**7.5%** Diabetes (HbA_{1c} %) 3
9.6 (2.1x non-Diab) Diabetes Length of Stay (days) 4	**2.2 (1.7x non-Diab)** Diabetes NWAU 5	**31.9* (1.1x non-Diab)** Diabetes Body Mass Index 6

In 2020, WSD ensured all data collections – from the 'Diabetes Together' app, linked data and big data – support WSD aims and goals and help to guide decisions about diabetes across the WSLHD.

WSD has continued to incorporate its dashboards and reporting measures into everyday business, including the Inpatient Diabetes Dashboard and others which are regularly used by the team to guide decision-making.

Above is a series of graphs for the last six months of data taken from the Population Analytics dashboard which show that the number of admitted patients with diabetes has been growing steadily from a nadir in April (graph 1); that the proportion has varied considerably this year (graph 2); that the acuity of these patients was very high in April but has lowered and steadied since then (graph 3); and that this is also represented in NWAU and LoS (graphs 5 and 6).

Monthly average NWAU before and after improvements in data capture for WSD



Develop a Linked Patient Cohort from mHealth, GP Systems and Hospital Data

Having a linked cohort of patients is a long-standing goal for WSD which has moved forward on several fronts. Firstly, local data linkage efforts, in which WSD is leading NSW to create a locally-linked group of patients for whom we have both hospital and GP data.

WSD has had local data linkage with the WSPHN approved by both CEOs, governance, and the ethics committee of WSLHD. WSD has begun testing the shared platform, and will shortly be able to ink data for research purposes that are specifically outlined in our ethics approval between GP and hospitals. This has taken years of work, and it is very encouraging to see the project being implemented in 2020.

WSD is working closely with CareMonitor, its diabetes application partner, to develop a cohort of patients who have agreed prospectively to have their data linked moving forward. Through CareMonitor, WSD plans to bring the patient, provider, and care team together in one cloud application that allows data sharing for the benefit of all. WSD held several workshops with Raymond Tong leading from the WSLHD IT side, which aim to allow not just data sharing between GP and hospital but the ability to interface this with Cerner into the future. This vision of having patient's consent to be followed through a large linked dataset is approaching realisation.

The WSPHN has begun trials of the CareMonitor platform in five General Practices across western Sydney. Through Collaborative Commissioning, CareMonitor will be supplied to all practices participating in the WSPHN Patient Centred Medical Home (PCMH) expansion as well as all existing Health Care Home (HCH) practices.

Western Sydney Diabetes research, monitoring and surveillance coordinator Gideon Meyerowitz-Katz conducted a study which found nearly half of people who use mobile phone apps to monitor their chronic disease stop using the apps quickly – but those who persist get great benefits

ENABLERS (CONT'D)

RESEARCH

Research is a vital part of our data work and supports everything we do. WSD has grown its research work incrementally each year, and is now actively producing a goal of 4+ academic papers and 6+ presentations at academic conferences per year. The eventual aim is to grow this to be a sustainable research lab, with dedicated research staff funded through a variety of sources. In particular, during 2020 WSD applied for and was awarded a number of grants to expand research work.

Academic Submissions

This year WSD exceeded previous goals in terms of academic submissions, with eight papers published in peer-reviewed journals, and five in preparation for submission or currently under review. The full list of papers can be found below, and includes reviews on diabetes-related applications, work on virtual care, and COVID-19 related publications from our team.

WSD presented a record number of times at national and international conferences, with 14 presentations at scientific conferences. This included presentations at the American Diabetes Association annual meeting, the International Society for Integrated Care, and the Australasian Diabetes Society meeting, as well as a range of local scientific and other meetings.

Grants

WSD submitted six grant applications in 2020, including two major grant schemes from NSW Health, for a total value of $2 million. Despite not succeeding in our NSW Health COVID-19 grant scheme, WSD received approval from a grant for the NHMRC on Better Parks, Better Healthcare; a grant from WSLHD to research Diabetes Distress; and a grant on Greening Sydney from the NSW Government. WSD was also awarded a $20,000 grant to run a randomised-controlled trial of CGM through the ICH grant scheme. These grants represent $800,000 in funding over the next three years.

Support Graduate Student Research

As part of its growing research focus, WSD has supported graduate students to undertake research projects. WSD collaborated with the USYD, WSU and the UoW to recruit graduate students to work with the team and expand WSD's research agenda. This has already resulted in five submitted academic works and seven abstracts presented at national academic conferences. The students for 2020 include:

- 6 Master of Public Health students from USYD
- 2 MD students from UWS

WSD has also supported staff members Gideon Meyerowitz-Katz and Sumathy Ravi to pursue their PhDs with UoW and USYD respectively. Their projects are:

- Gideon Meyerowitz-Katz: Attrition and Dropout in Virtual Care; and
- Sumathy Ravi: Evaluation of the impact of Virtual Care.

This represents more than a doubling of WSD's research capacity in 2020, from three students last year to 10 this year.

Randomised-Controlled Clinical Trials

WSD put in place two RCTs, the TWO BIRDS study and the Flash CGM study. TWO BIRDS is an examination of the effectiveness in the real world of meal replacement diets either by themselves or combined with weight loss medications, while the Flash CGM study is looking at flash glucose monitoring in highly acute patients with diabetes and whether this can improve their clinical care.

The TWO BIRDS study has already recruited more than 30 patients, while the Flash CGM trial is in the process of ethics submission.

Published Papers

1. Levin AT, Meyerowitz-Katz G, Owusu-Boaitey N, Cochran KB, Walsh SP. Assessing the age specificity of infection fatality rates for covid-19: systematic review, meta-analysis, and public policy implications. medRxiv. 2020:2020.07.23.20160895.
2. Meyerowitz-Katz G, Merone L. A systematic review and meta-analysis of published research data on COVID-19 infection fatality rates. International Journal of Infectious Diseases. 2020;101:138-48.
3. Meyerowitz-Katz G, Astell-Burt T, Ravi S, Arnolda Lf, Feng X. 775-P: Mobile Self-Management Apps to Manage Diabetes and Chronic Disease: A Systematic Review and Meta-analysis into Dropout and Attrition Rates. Diabetes. 2020;69 (Supplement 1):775-P.
4. Isautier JM, Copp T, Ayre J, Cvejic E, Meyerowitz-Katz G, Batcup C, Bonner, C. Dodd, R. Brooke, N. Pickles, K. Cornell, S. Dakin, T. McCaffery, K.Lessons from the COVID-19 pandemic: People's experiences and satisfaction with telehealth during the COVID-19 pandemic in Australia. Journal of Medical Internet Research
5. Prasad S. , Maberly, G., Wong, G. , Hng, T., Meyerowitz-Katz, G. Prevalence of Diabetes Mellitus Associated Chronic Kidney Disease in Ethnically Diverse Backgrounds in Western Sydney. Research Square. 2020.
6. Meyerowitz-Katz G, Ravi S, Arnolda L, Feng X, Maberly G, Astell-Burt T. Rates of Attrition and Dropout in App-Based Interventions for Chronic Disease: Systematic Review and Meta-Analysis. J Med Internet Res. 2020;22(9):e20283.

7. Tahhan N, Ford BK, Angell B, Liew G, Nazarian J, Maberly G, Mitchell, P. White, A. Keay, L. Evaluating the cost and wait-times of a task-sharing model of care for diabetic eye care: a case study from Australia. BMJ Open. 2020;10(10):e036842.
8. Ayre J, Bonner C, Bramwell S, McClelland S, Jayaballa R, Maberly G, McCaffery, K. Implications for GP endorsement of a diabetes app with patients from culturally diverse backgrounds: a qualitative study. Australian Journal of Primary Health. 2020;26(1):52-7.

Academic Presentations

1. Shukla, A, Meyerowitz-Katz, G, Maberly, G, Hng, T. Exploring the impact of country of birth on Type 2 Diabetes prevalence and diagnosis rates in Western Sydney Australasian Diabetes Congress 2020; 2020.
2. Peng, A, Meyerowitz-Katz, G, Maberly, G, Dawson, J. Diabetes prevention and dance: an opportunity to encourage physical activity and health in culturally and linguistically diverse (CALD) communities. Australasian Diabetes Congress 2020; 2020.
3. McClelland, S, Meyerowitz-Katz, G, Maberly, G. Building the capacity of healthcare professionals in western Sydney to better manage diabetes during the COVID-19 pandemic. Australasian Diabetes Congress 2020; 2020.
4. Bramwell, S, Meyerowitz-Katz, G, Maberly, G, Jayaballa, R, Lin, A. Flash Glucose Monitoring for patients with Type 2 diabetes during the COVID-19 pandemic: Collaborating with Community Pharmacy. Australasian Diabetes Congress 20202020.
5. Namboodiri, D, McLean M, Meyerowitz-Katz G, Hendon S, Duke A, Utility of Stratifying OGTT Values in Gestational Diabetes to Predict Pregnancy Outcomes. Australasian Diabetes Congress 2020; 2020.
6. Meyerowitz-Katz G, Ferdousi, S, Messom R, Corbett S, Maberly G, Hng T. COVID-19 and diabetes: Are people with diabetes accessing care? Australasian Diabetes Congress 2020; 2020.
7. Zeng M, Hng T, Maberly G, Meyerowitz-Katz G, The inverse relationship between diabetes and socioeconomic status in Western Sydney Australasian Diabetes Congress 2020; 2020.
8. Prasad S, Hng T, Wong G, Meyerowitz-Katz G, Maberly G. Prevalence of Diabetes Mellitus associated Chronic Kidney Disease in ethnically diverse backgrounds in Western Sydney. Australasian Diabetes Congress 2020; 2020.
9. Jayaballa R, Meyerowitz-Katz G, Bramwell S, McLelland S, Lin A, Ravi S, Maberly G. Western Sydney Diabetes (WSD) Virtual Care: the successful establishment of a fully online diabetes service during COVID-19. Australasian Diabetes Congress 2020; 2020.
10. Driscoll S, Meyerowitz-Katz G, Bishay R. The Power of Partnerships – Integrating the Get Healthy Service into standard care for adults attending a public specialist obesity service: A Pilot Study. Australasian Diabetes Congress 2020; 2020.
11. Perananthan V, Meyerowitz-Katz G, Buckley N, Maberly G, Hng T. Evaluating the prescribing trends of oral hypoglycaemic agents at Blacktown/Mount Druitt Hospital. 2020; Australasian Diabetes Congress 2020.
12. Maberly G, The Diabetes Epidemic Meets the COVID-19 Pandemic in Western Sydney: Accelerating Integrated Virtual Care of Type 2 Diabetes With Community Providers. Australasian Diabetes Congress 2020; 2020.
13. Meyerowitz-Katz G, Ravi S, Arnolda L, Feng X, Maberly G, Astell-Burt T, Mobile self-management apps to manage diabetes and chronic disease: A systematic review and meta-analysis into dropout and attrition rates. American Diabetes Association Scientific Sessions 2020; 2020; Chicago.
14. Meyerowitz-Katz G, Dawson J, Ravi S, Bramwell S, McClelland S, Jayaballa R, Hng T, Maberly G. Western Sydney Diabetes: An integrated program for diabetes prevention, management, and control in Sydney, Australia. International Conference for Integrated Care 2020; 2020; Croatia.

Presentations

1. *Western Sydney Diabetes and Wentwest: Collaborative Research Across the Spectrum of Care*, Wentwest Research Forum, Gideon Meyerowitz-Katz, September 2020
2. *Western Sydney Diabetes: Data for Decision Making Planning*, DDMT Forum, Gideon Meyerowitz-Katz, October 2020
3. *Saving Hearts and Kidneys: Cardio-Renal-Metabolic Axis*, WSD Masterclass Series, Glen Maberly, August 2020
4. *Welcome to the series*, WSD Masterclass Series, Glen Maberly, August 2020
5. *Diabetes and Mental Illness*, WSD Masterclass Series, Glen Maberly, September 2020
6. *Diabetes and Pregnancy*, WSD Masterclass Series, Sharon McClelland, September 2020
7. *Diabetes Dilemmas*, WSD Masterclass Series, Sharon McClelland, October 2020
8. *Injectables*, WSD Masterclass Series, Sian Bramwell, October 2020
9. *Chronic kidney disease in patients with diabetes mellitus*, WSD Masterclass Series, Germaine Wong, August 2020
10. *Diabetes in the Filipino Community In Western Sydney*, Filipino Forum, Gideon Meyerowitz-Katz, October 2020

ENABLERS (CONT'D)

11. *Evidence Based Prescribing in T2 Diabetes*, WSD Masterclass Series, Andrew Lin, September 2020
12. *Understanding CGM in Type 2 Diabetes*, WSD Masterclass series, Andrew Lin, November 2020
13. *WSD Research 2020*, DDMT Presentation, Gideon Meyerowitz-Katz, November 2020
14. *What is Diabetes and what to do about it*, Indian Community Forum, Rajini Jayaballa, August 2020
15. *What is Diabetes and is there a cure*, Healthy Living Toongabbie Forum Rajini Jayaballa, September 2020
16. *Types of Diabetes*, WSD Masterclass series, Rajini Jayaballa, October 2020
17. *WSD Virtual Care*, WSD Masterclass series, Rajini Jayaballa, November 2020
18. *WSD Virtual Care*, ACI Value Based Healthcare Forum, Rajini Jayaballa, November 2020
19. *Flash CGM*, ICH Research Grant Proposal, Rajini Jayaballa, November 2020
20. *Healthy Living Options*, Mount Druitt Church community, Janine Dawson, February 2020
21. *Dance like your doctor's watching*, WSD Masterclass, Janine Dawson, September 2020
22. *Diabetes Prevention*, UTS Post-grad students, Janine Dawson, October 2020
23. *Diabetes Prevention*, TAFE teachers, Janine Dawson, November 2020
24. *Supporting diabetes Care during Covid-19 and beyond*, NADC, Glen Maberly & Sian Bramwell, July 2020
25. *Patient Education Resource learning*, GoShare Platform Learnings, Rajini Jayaballa & Sian Bramwell, September 2020
26. *Healthy Living for Seniors*, Senior Advisory Committee Blacktown Council, Janine Dawson, November 2020
27. *WSD Alliance- How it works*, Hunter New England Cardio Network, Janine Dawson, November 2020
28. *Let's talk about preventing diabetes*, Riverstone community garden group, Aruni Ratnayake, February 2020
29. *Let's talk about kitchen garden program and preventing diabetes*, P&C Walters Road Public School, Aruni Ratnayake, March 2020.
30. *Diabesity Masterclass: Individualising treatment and preventing complications*, PSA State Conference, Glen Maberly, March 2020
31. *Clinical interventions in diabetes and weight management: screening, prevention and treatment optimisation*, PSA State Conference, Glen Maberly, March 2020
32. *Three takes on Obesity Management*, Obesity Symposium, Glen Maberly, May 2020
33. *COVID-19 and Diabetes*, WSD Pivot to telehealth, Glen Maberly, May 2020
34. *Overview of the GWS videos and use of the GoShare platform in WS*, WSD and GoShare Platform Launch, Glen Maberly, June 2020
35. *Western Sydney Diabetes Pivot to virtual care during the COVID-19 pandemic*, Abbott Japan Advisory Board, Glen Maberly, September 2020
36. *Diabetes and Mental Health 2020*, Mental Health Forum, Glen Maberly, July 2020
37. *Adapting to COVID-19 by accelerating and enhancing Integrated Virtual Care of type 2 diabetes with community providers*, Diabetes tech and DOMTRU, Glen Maberly, October 2020
38. *Western Sydney Diabetes transitioning to remote care during the COVID19 pandemic*, Health Wellbeing and Community Services, Glen Maberly, November 2020
39. *Western Sydney Diabetes 2020 Masterclass*, WSPHN Clinical Council, Glen Maberly, November 2020

8/ LIST OF CONTRIBUTORS TO WSD 2020

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Priya Iyer, Dietitian

Shubha Kumar, President, India Club

MASTERCLASS 2020 SERIES

See myINTERACT for a full list of faculty including short Bios

For more information on WSD, visit www.westernsydneydiabetes.com.au

9/ GLOSSARY

ACI Agency for Clinical Innovation
ACNC Australian Charities and Not-for-profits Commission
ADC Australasian Diabetes Congress
ADHA Australian Digital Health Agency
AHP Allied Health Professional
AIHW Australian Institute for Health and Welfare
ATCC Australian Tamil Chamber of Commerce
BAS Business Analytics Service
BCC Blacktown City Council
BCE Bilingual Community Education
BMDH Blacktown and Mount Druitt Hospitals
BMWLC Blacktown Metabolic and Weight Loss Clinic
CALD Culturally and Linguistically Diverse
CDE Credentialed Diabetes Educator
CGM Continuous Glucose Monitoring
CNC Clinical Nurse Consultant
CPH Centre for Population Health
CSIRO Commonwealth Scientific and Industrial Research Organisation
CT2DC Complex Type 2 Diabetes Clinic
DDE Department of Diabetes and Endocrinology
DDMS Diabetes Detection and Management Strategy
DDMT Data for Decision Making Taskforce
DEC Diabetes Education Centre
DHS Digital Health Solutions
DOMTRU Diabetes, Obesity and Metabolism Translational Research Unit
DPC Department of Premier and Cabinet
DPIE Department of Planning, Industry and Environment
ED Emergency Department
EMT Executive Management Team
EN Enrolled Nurse
FTE Full-Time Equivalent
GDM Gestational Diabetes Mellitus
GP General Practitioner
GPP General Practice Pharmacy
GWAHS Greater Western Sydney Aboriginal Health Services
HLO Healthy Living Options
HLT Healthy Living Toongabbie
HOPE Health Outcomes and Patient Experience
HRFS High Risk Foot Service
IC Integrated Care
ICH Integrated and Community Health
ICP Integrated Care Program
JGPSCC Joint GP Specialist Case Conferencing
JSDMHCC Joint Specialist Diabetes and Mental Health Case Conferences
JSGP-CDC Joint Specialist General Practice Community Diabetes Clinic
LHD Local Health District
MBS Medicare Benefits Schedule
MOH Ministry of Health
MPSCG Mobilising Public Support Communications Group
NADC National Association of Diabetes Centres
NAIDOC National Aborigines and Islanders Day Observance Committee
NBMLHD Nepean Blue Mountains Local Health District
NBMPHN Nepean Blue Mountains Primary Health Network
NDCC National Diabetes Care Course
NDSS National Diabetes Service Scheme
NHMRC National Health and Medical Research Council
NWAU Nationally Weighted Activity Unit
OOS Occasions of Service
PATBI PEN Analytics Tool, Business Intelligence
PDC Post-Discharge Diabetes Clinic
PHN Primary Health Network
PGA Pharmacy Guild of Australia
PN Practice Nurse
PSA Pharmaceutical Society Australia
PwC PricewaterhouseCoopers
RACGP Royal Australian College of General Practitioners
RDT Randomised controlled Trial
SAKGF Stephanie Alexander Kitchen Garden Foundation
SWSLHD South Western Sydney Local Health District
TNP Transition to Nurse Practitioner
UNSW University of NSW
UOW University of Wollongong
USYD University of Sydney
UTS University of Technology Sydney
VMO Visiting Medical Officer
WH Westmead Hospital
WSD Western Sydney Diabetes
WSLD Western Sydney Leadership Dialogue
WSLHD Western Sydney Local Health District
WSPHN Western Sydney Primary Health Network
WSROC Western Sydney Regional Organisation of Councils
WSU Western Sydney University
WW WentWest

NOTES

Western Sydney Diabetes
Beating Diabetes Together

For more information about WSD please visit the website below. To speak with us, or to make an enquiry, please contact WSD program manager, Sumathy Ravi via email at **Sumathy.Ravi@health.nsw.gov.au**

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