

# WESTERN SYDNEY DIABETES YEAR-IN-REVIEW 2018





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## PURPOSE OF THIS DOCUMENT

Western Sydney Diabetes (WSD) is co-led by Western Sydney Local Health District (WSLHD), Western Sydney Primary Health Network (WSPHN), Diabetes NSW and ACT, and PricewaterhouseCoopers (PwC). At the start of 2018, the Western Sydney Regional Office of the NSW Department of Premier and Cabinet (DPC), were also a key partner, but since the disbanding of the office, DPC are no longer connected and work needs to be done to regain this vital support, especially for primary prevention. Local governments have stepped up their partnership to partially fill this void.

We recognise that diabetes prevention and management needs a multi-sector and multi-disciplinary approach as diabetes care occurs in a variety of settings. As such, a partnership model has been established to engage decision-makers and to drive a united effort to secure commitment for more resources. This will enable the education and motivation of residents to adopt healthier diets and to incorporate more physical activity into their daily lives. This is already occurring under the WSD Alliance, which has expanded membership over 2018 to about 113 members.

Our members are actively driving initiatives to motivate and enable residents to get healthy and to beat diabetes.

This document outlines the efforts, challenges and achievements of the leadership team, core team and partners, working to deliver the WSD 2018 Strategic Plan. Knowing that we alone do not have sufficient resources to *'Take the Heat out of Our Diabetes Hotspot'*, we disseminated the strategic plan, along with results of our interventions through advocacy, event presentations and meetings, and publication at scientific meetings and in key medical journals. The intent of this was to increase awareness of, and support for, our many initiatives. This document serves as a record of activities and outcomes of WSD in 2018 and is illustrative of our work and the work of our supporting partners. This is amplified by complimentary work being done by NSW Health, the Agency for Clinical Innovation (ACI), other units in the Local Health District (LHD) and our many partners. This document reflects the activities connected with our core WSD team and partners. Much is being done, and much more needs to be done, when additional resources become available.

## EXECUTIVE SUMMARY

**“The goal of Western Sydney Diabetes is to increase the proportion of the healthy population, slow the progression towards being at risk of diabetes, and reduce the size of the at-risk population.”**

Tackling the diabetes epidemic in western Sydney is a mammoth challenge, but I am pleased to report we have made significant in-roads to progress this goal.

Diabetes Australian (DA) and their affiliated organisation, Diabetes NSW & ACT, selected Blacktown Hospital to launch this year's National Diabetes Week campaign in the media. The theme was 'diagnosis', which aimed to raise awareness of the importance of early diabetes detection. WSLHD Corporate Communications established a partnership with DA, which culminated in a joint press conference at Blacktown Hospital. The media opportunity also included WSLHD, WSPHN, Bridgeview Medical Practice and DNSW & ACT. The conference raised national awareness about the importance of early detection and the need for more testing for type 2 diabetes. Data from early detection carried out at Blacktown and Mount Druitt hospitals and General Practices in western Sydney, was highlighted.

From this detection conducted via blood tests, it was confirmed that diabetes is in fact a much larger problem in western Sydney than previously thought. Traditional diabetes prevalence estimates are based on the number of people registering for the National Diabetes Service Scheme (NDSS) and annual phone interviews by the NSW Ministry of Health, which report the prevalence rates in WSLHD as 5.3% and 11.5% respectively.

In 2018, HbA1C data routinely collected Blacktown and Mount Druitt hospitals (BMDH) and WSLHD Emergency Departments (EDs), showed that 30% of results were consistent with pre-diabetes and 17% were consistent with diabetes.

**“In addition, discharge hospital coding for diabetes confirmed that 22% of patients in Blacktown and Mount Druitt hospitals have diabetes and HbA1C results showed the diabetes burden in hospital is growing at 1% each year.”**

This year, with support from WSPHN, WSD took detection one step further, with testing carried out at eleven local General Practices across the LHD. This involved the same protocol of HbA1C testing as that carried out at EDs in BMDH. Results revealed that a nearly exact pattern of 27% pre-diabetes and 17% diabetes existed. This is higher than previous GP records in western Sydney, which showed an

average of 8.6% diabetes diagnosis in over 20-year-old patients tested in 181 General Practices. The gap between people known to have diabetes and those with newly diagnosed diabetes, is significant.

**“Even larger, is the unknown group of people with pre-diabetes, for whom a small weight loss can prevent the progression of diabetes. This represents an important opportunity for early intervention.”**

This year also saw PricewaterhouseCoopers (PwC) working hard to strengthen the WSD plan, *'Data for Decision Making: Building a System to Monitor and Evaluate'*. Together with WSLHD and WSPHN, they secured a new partnership with the Australian Digital Health Agency (ADHA), to continue to improve WSD's population surveillance capability, including investment to improve the hospital diabetes management dashboard and help to develop systems to better monitor all our interventions.

PwC lead an advocacy drive with our WSD Executive Management Team (EMT) to inform high-level decision makers in local, state and federal governments, of the case for change and the investment opportunity. This builds on their work in 2017, where PwC worked with WSD to develop investment opportunity booklets for both Primary Prevention and Secondary Prevention and Management.

Also this year in August, our sharing-the-opportunity concept was strengthened during The Australian Partnership Prevention Centre, a national collaboration of researchers, policy makers and practitioners, national forum on chronic disease prevention. Attended by key stakeholder representatives, including the Australian Health Policy Collaboration, the Australian Centre for Public and Population Health Research, Primary Health Networks, universities and senior leaders from the Commonwealth Department of Health, the forum discussed and showcased some of the leading prevention programs from across the country. Walter Kmet, CEO of WentWest (WSPHN), delivered an overview of WSD and the approach to tackling the growing burden of Type 2 Diabetes in our region. The presentation was very well received and there was particular interest in the alliance of partners that had been brought together by WSD.

Our Framework for Action in *'Taking the Heat out of the Diabetes Hotspot'*, formed the basis of the 2018 WSD Strategic Plan, which was developed this year. Over 22 interventions were developed under this 'Framework' and are ready for scaling up, however resources in 2018 have remained limited. Engaging and mobilising public support was one such goal that was a focus for the WSD team during 2018. Partnerships were established with key



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community leaders, with the aim of driving community-based change. A 'place-based' approach was developed and key suburbs were identified including Parramatta CBD, Toongabbie, Blacktown CBD, Mount Druitt and Rouse Hill. Local multi-cultural, multi-sector leaders were identified to work with representatives of WSD and community residents to build engagement and health improvements locally. This work has so far been fruitful, however, if long-term self-sustainable efforts are to be maintained, this will require an investment beyond our core team. We deliberately slowed down this place-based rollout during the year and focused on Toongabbie and Mount Druitt. There is now viable engagement happening in these places and the Community Diabetes forums turned out more than 140 and 110 people respectively. We are convinced the public are interested and do want to engage and support this work.

A Mobilising Public Support communications working group, led by WSLHD Corporate Communications, was also established to support and promote the place-based change initiative. Representatives from The University of Sydney, PwC, WSROC and WSPHN are part of the working group. A 'Mobilising Public Support Communication Strategy 2018' was also developed to drive promotion of diabetes initiatives now and into the future. WSLHD Corporate Communications supported the WSD team in stimulating and responding to numerous media opportunities throughout the year.

Expansion of the WSD Alliance continued over the past year, with over 113 members now involved, including the recent addition of several corporate members. Planning and cooperation among members has enabled the progression of projects focused on motivating and enabling residents to get healthy. This work is being enhanced through the WSD Hub, an online information exchange portal for Alliance members, the development of which was a key initiative of WSD this year.

There are also other existing WSLHD diabetes services and programs which function in collaboration with, and in a complementary manner, with WSD. In particular, the Western Sydney Integrated Chronic Care Program, one of three NSW demonstrator programs for integrated care, has a large diabetes component. This service aims to provide better continuity of care between primary care, community health, and hospital care for people with chronic disease. The Westmead and Blacktown Mount Druitt hospitals Departments of Diabetes and Endocrinology provides a large number of specialised diabetes services, and undertakes research which is widely recognised at a national and international level.

## WHERE TO FROM HERE?

With the need for additional resources to turn the diabetes epidemic around, WSD and our Alliance partners, continue to expand contributions to support our strategic goals. From this, we are developing a WSD patient self-management App with a new partner, Longevum, which will be tested by patients before year end.

HbA1C testing in EDs continues at Blacktown, Mount Druitt and Westmead hospitals. Patients are being given a new booklet 'Healthy Living Options', developed by WSD, which lists 25 locally available inexpensive lifestyle programs aimed at preventing diabetes and assisting those with the disease to live healthier.

A diabetes in-patient management dashboard is being built and tested, and inpatient and outpatient diabetes services are being streamlined and improved with better connectedness with GPs and the community. Joint Specialist GP case conferences continue to expand, with Westmead Hospital increased staff numbers to increase coverage.

We are pleased to report a very productive year and thank the many people who have made this possible and who continue to support the important work of WSD.

## ABOUT WESTERN SYDNEY DIABETES

WSD is co-led by four partner organisations including WSLHD, WSPHN, PwC, and Diabetes NSW & ACT. The chief executive of WSLHD and chief executive officer of WSPHN, co-chair an Executive Management Team (EMT), which also includes senior executives from these organisations, the executive director of WSLHD Integrated and Community Health, general managers of Westmead Hospital and BMDH, director of Division 3 Ambulatory and Medicine at BMDH, heads of Endocrine and Diabetes departments at Westmead Hospital and BMDH, and director and program manager at WSD.

The WSD Alliance has 113 member organisations who came together twice yearly to progress key projects. Please refer to pages 24-25 of this document for a full list of Alliance members.



Working groups have been established to progress our key actions. These include:

- WSD WSLHD core team
- WSLHD and WSPHN
- WSD Communications Working Group
- Food, Physical Activity and Urban Planning Working groups
- WSD App Working Groups for project management, communications and evaluation
- WSD Research Group

- Community Pharmacy Working Group
- Consumer Engagement Working Group
- Clinical Working Group
- Primary Prevention Working Group

Within WSLHD, WSD is a division of the Integrated and Community Health (ICH) directorate and has 12.7 FTEs and a core operating budget of \$2.1M annually. Over the past year, this core team has been strengthened through approval to recruit additional people to improve the delivery of our initiatives and enhance our work.



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## FRAMEWORK FOR ACTION

The WSD Framework for Action underpins the WSD 2018 Strategic Plan and guides all work by the core team and Alliance partners. The Framework comprises two major sections including Primary Prevention and Secondary Prevention and Management, with key indicators under each. The following section of this document outlines key actions undertaken this year to progress these goals.

## PRIMARY PREVENTION

The 2018 focus for Primary Prevention was the creation of a 'whole-of-community' approach for the prevention of diabetes. The WSD Alliance and its members have been key to advancing this work with additional emphasis placed on growing the links between member organisations and the local community.

### WSD ALLIANCE

The Alliance has grown over the last year, from 70 to over 113 member organisations. Bi-annual meetings have been conducted with over 90 attendees at each. More recently, the Alliance has been enhanced with the inclusion of the corporate sector.

Collaboration between our partners has been facilitated through the identification of opportunities and potential partnerships for Alliance member organisations.

The meeting held on 28 March this year, focused on grant opportunities, improved communication offerings, as well as networking which was conducted through a series of 'speed dating' activities.

The meeting held on 1 November, was chaired by the new acting chief executive of WSLHD, with a focus on three themes including:

- Building a stronger engagement of the corporate sector and growing the WS Diabetes Alliance
- Sharing the outcome of recent 'Healthier Food' and 'Increased Physical Activity' Alliance Working Groups that engaged over 80 of our members
- Exploring a 'Greater Western Sydney' vision for WSD

The development of the 'WSD Prevention Hub' was a major achievement this year, enabling Alliance partners to connect with each other and drive programs aimed at improving food, physical activity, healthy built environments and Government leadership. Work underway by the Alliance includes:

- Centre for Population Health and WSD collaboration with Western Sydney University, SWSLHD and WSPHN, which has resulted in an application for an NH&MRC grant valued at \$2.5m for the introduction of a five year church-based diabetes prevention program in 80 Islander churches throughout SWSLHD and WSLHD
- Over \$1 million dollars in grants and tenders have been made available to Alliance members through identification and promotion of WSPHN tenders, Club grants, Council grants and the efforts of the Westmead Medical Research Foundation
- The WSD Consumer Council have been active in working with clinicians to prepare and train for a presentation to community groups. This program will be implemented in 2019 initially with a focus on CALD groups through the Bilingual Community Education (BCE) program.

### IMPROVING FOOD CONSUMPTION



A working party for 'Food' has been reinstated at the request of the Alliance members, with attendance from over 80 organisations. At these meetings, the existing strategy was revisited and plans put in place for further combined efforts on food-related projects.



### Support Interventions

- Identification of people at high-risk of developing diabetes has been supported through the compilation and distribution of the Healthy Living Options booklet, developed by WSD. Community support and additional input has occurred resulting in an updated version due out in 2019
- Support has been provided to the WSLHD Staff Health and Wellbeing program (with Population Health) – the focus has been on improving the food offerings at the hospital food outlets
- Stephanie Alexander Kitchen Gardens have been launched in two local schools
- Through collaboration with WSPHN and the Heart Foundation, GP walking groups have been launched in sixteen General Practices.

### INCREASING PHYSICAL ACTIVITY & BUILDING A HEALTHY ENVIRONMENT



Working parties for Physical Activity and a Health Environment have been reinstated at the request of the Alliance members, with attendance from over 80 organisations. At these meetings, the existing strategy was revisited and plans put in place for further combined efforts. An Alliance brochure which captures this updated strategy and plans for the Alliance has been prepared.



### GOVERNMENT LEADING THE WAY



A Steering Committee for WSLHD Healthy Food and Drink in Health Facilities has been established chaired by the general manager of Westmead and Auburn hospitals and supported by WSLHD Centre for Population Health. This Committee is focused on implementing the NSW Health Framework for Healthy Food and Drinks in all health facilities. Remarkable progress is being made, such that drinks sold by vendors is virtually compliant and food options sold in venues is improving. WSD is represented on this Committee.

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## SECONDARY PREVENTION & MANAGEMENT

In 2018, the WSD team continued to refine and expand on 18 interventions for Secondary Prevention and Management. This section outlines the progress against key indicators under the Framework for Action.

### HbA1c TESTING



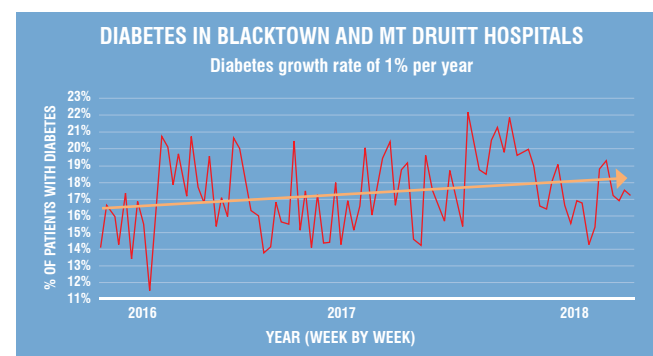
#### Diabetes Detection and Management Strategy (DDMS)

Diabetes testing (HbA1c) in BMDH EDs has continued successfully with currently over 70,000 patients tested. Findings showed consistent results, with 17% of those tested having the diagnosis of diabetes and 30% with pre-diabetes. Review of the rate of diabetes detected revealed a worrying 1% growth per year in the last two years. Moreover, a similar testing protocol done among 11 GPs in western Sydney, revealed a similar result to the hospital testing. These results have highlighted again the burden of disease, with the following actions undertaken:

- Patients who test positive for diabetes or pre-diabetes, receive a letter outlining the results, and a letter is sent to their GPs as well. These letters have been reviewed and updated further, including 'What is HbA1c?'
- DDMS – Multicultural Health Service (MCHS) BCE Joint Project Trial of offering BCE program 'Diabetes awareness in your community' was identified in October 2018
- 176 patients were selected with Pre-diabetes HbA1c range (5.7% ~ 6.4%) with India, Sri Lanka & Fiji as their nationalities from 01/05/2018 – 22/09/2018 (from DDMS data) living in the Blacktown precinct
- Though attendance was suboptimal, MCHS team is keen for DDMS to try again, planning for Arabic and Filipino (Tagalog) communities to be held in mid-late March 2019
- DDMS support nurse started attending monthly Pacific Islands Mount Druitt Network Action Group meetings since August to seek opportunities and engagement with the Pacific Island community
- A live in-hospital surveillance system (Diabetes Dashboard) for individuals admitted with diabetes has been created and will be used to better monitor and manage those with diabetes within the hospital



- Westmead Hospital recently added HbA1c screening in the Emergency Department, in addition to a pre-existing blood glucose screening program. In the first year of this program, some 2500 HbA1cs have been performed with 2000 of these exceeding 6.5% which is the cut-off for the diagnosis of diabetes. A total of 230 of these were new cases of diabetes which had not previously been diagnosed. A total of 721 people had an HbA1c >9%, which represents marked hyperglycaemia. All of the admitted patients with newly diagnosed diabetes or HbA1c >9% were seen by our diabetes educator for diabetes training and medical review if required, with the aim of improving diabetes management both in hospital and after discharge
- In partnership with Diabetes NSW & ACT, a submission was developed for the NSW Health Minister, proposing the expansion and funding of three LHDs to undertake similar ED testing with an associated primary care quality improvement program, which is currently under consideration.

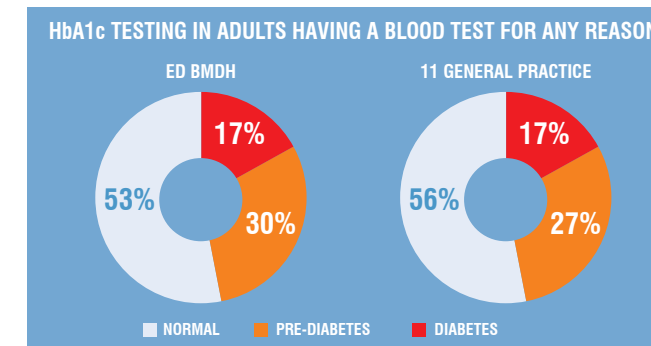


Total number of patients tested June 2016 to Jan 2018: 48,000.  
Trend calculated using least-square method,  $R^2=0.1$

### Promote Diabetes Detection in the community

This year, WSD trialed routine HbA1c testing in GPs to promote early detection of diabetes and pre-diabetes in the community. HbA1c testing was performed in five geographical locations in western Sydney, including Blacktown, The Hills District, Mount Druitt, Toongabbie and Westmead.

Very high rates of diabetes and pre-diabetes were found in the community in a similar proportion to that found in Blacktown and Mount Druitt hospitals. In General Practice, 17% of patients had an HbA1c consistent with diabetes and 27% of patients had an HbA1c consistent with pre-diabetes. This highlights the need for routine HbA1c testing in the community to identify those at risk and enable early detection and better management of diabetes. We are working towards promoting routine HbA1c testing in General Practice across western Sydney.



Note: WSPHN data from 181 General Practices for Diabetes rates  
Average rate (all): 6.4%. Average rate (over 20): 8.6%

### LIFESTYLE COACHING



#### Integrate Primary prevention work with Secondary Prevention to promote lifestyle options

A booklet has been prepared which outlines a variety of local lifestyle options aimed at improving the health and wellbeing of residents. These activities are either free or very inexpensive and cover a large range of options with the intent of all those identified as being at-risk of diabetes, or as having diabetes, finding an activity they will engage with. Over 2000 of these booklets have been distributed to GPs and other health professionals through WSPHN staff, WSD Alliance organisations and to individuals and community groups this year.

### Linking HbA1c measurements to Lifestyle modification

- A subsidized Diabetes Education Programs list has been sent out to patients with the HbA1c result including information on Healthy Living Options for western Sydney
- DDMS patients were invited to two community diabetes forums if they lived near the event location and have been identified as having pre-diabetes or diabetes via ED HbA1c testing
- DDMS patients are likely to continue to be invited to future community diabetes forums/events.

### JOINT CASE CONFERCING



#### Enhance Joint Specialist Case Conferencing (JSCC)

The collaboration between WSD and the WSPHN has continued very successfully during 2018, which has resulted in the most productive year to date for JSCC. In Blacktown, the WSD clinical team has two teams available and the capacity to deliver four JSCC a week. The Westmead team have also been delivering JSCC during 2018, with the following outcomes:

- There has been a 15% increase in number of JSCC compared with 2017 (98 to 113), with 26 of these being new practices
- By year-end >550 patient will have been reviewed
- 60 new GPs involved, an increase of 30% on 2017
- Practices targeted in the areas where community engagement activities have been occurring
- Successful engagement of the Greater West Aboriginal Health Services who have had three JSCC this year
- Demand for JSCC has increased with booking required one-two months prior to the case conference
- Continuation of two GP CPD points for each hour of JSCC
- GPs using JSCC as an element of their Planning Learning & Need (PLAN) activity
- Continued engagement with the WH team, who now deliver regular JSCC under the auspices of the Western Sydney Integrated Chronic Care Program, and whose capacity will grow in 2019 with the addition of a 0.5 FTE staff specialist supported by WSD.

#### Outreach visits Joint Specialist Case Conferencing (JSCC)

In addition to our placed-based approach in Western Sydney, an extension of our service was to initiate diabetes support to regional areas of NSW by Joint Specialist Case



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Conference (JSCC) visits. These visits were complemented by an education session offered to GPs, practice nurses and other Allied Health professionals.

- Outreach JSCC visits were conducted by our endocrinologist and Credentialed Diabetes Educator in March at Mudgee and November at Goulburn
- An education session followed the JSCC to showcase the latest evidence-based management of type 2 diabetes and allow discussion.

## Mental Health Engagement

With the appointment of Dr Ram Ganapathy, staff specialist Psychiatry and Medical Superintendent and clinical director of Blacktown and Mount Druitt Mental Health Services, this program has been re-ignited. Dr Ganapathy is committed and enthusiastic to strengthen the collaboration between the two teams to build their capacity to manage diabetes and the metabolic health for patient through:

- Monthly Joint Specialist Case conferencing with the Mental Health team. Aiming for four patients to be reviewed per session
- Nurses to participate in the JSCC
- Support for selected nurses in the mental health unit to complete the online NADC education program
- Face-to-face education session delivered by the WSD team, to the Mental Health team with over 40 attendees
- Invitation to write an article on Management of Diabetes in Psychiatry for the journal Australasian Psychiatry
- Evaluation of this collaboration after six months (February 2019).

## HEALTH PATHWAYS



### Promote HealthPathways

HealthPathways is a resource directed toward General Practice to help provide succinct information and resources. WSD provides feedback on the information to WSPHN to try and keep the information current. Medications and data related to the diabetes related pathways are changing rapidly.

## GP SUPPORT LINE



The GP support line provides easy access for GPs to the clinical team, with the Advanced Trainees available to discuss management queries and discuss management options, which can save a clinic visit or facilitate a review with the clinical team in the complex type 2 clinic. The patients' GP is often called from the clinic regarding the management plan – GPs appreciate the call and support; at this time case conferences are often agreed further strengthening relationships.

## WSD APP



The diabetes epidemic in western Sydney is placing a growing burden on the struggling hospital system. Likewise, Primary Care is over-burdened. Self-management solutions are needed to help patients manage their own diabetes. This is especially important as time with health professionals is limited and at-home care is increasingly the major focus of diabetes management.

WSD is developing an application that will provide essential self-management services for patients in the community. Patients will sign up to the app with GPs and share data with them. The WSD App (WSDA) is being designed to link up a patient's individual care plan (developed in conjunction with their GP and shared with the hospital), with their own day-to-day self-monitoring activities and data.

- A Tender process was completed in May 2018 and Longevum was selected as the app development partner to join the consortium
- Clinical algorithms for specific patient self-management have been incorporated into the app
- Seven General Practices have signed up to be part of the app trial
- 25 diabetes education videos have been produced with GoShare, for integration into the app. A further 25 videos are planned for February 2019
- A GP information exchange with the app is being developed through HealthLink
- A Pre-trial, with the sign-up of GPs and patients from Bridgeview Medical Practice, was launched in December 2018.

The WSD App is based on a platform called Gevity that is already available to the public. The Gevity platform is focused on chronic disease management. As part of the

WSD App project, Gevity has been enhanced over recent months to include extra features that make it even better for patients to self-manage their diabetes.

The extra features include:

- Ability to specify care plan templates for patients
- Algorithms that control the dissemination of messages to patients based on Blood Sugar Levels (BSL) they are monitoring in the app. Both warning messages and messages of encouragements are included
- Ability to track patient substance use such as tobacco and alcohol
- Ability to specify a patient's individual goal for their HbA1c.

These extra features have been developed and are in the final stages of the testing process.

The other area of enhancement to the Gevity platform is GP integration. This involves taking information from GP EMR Clinical Management System (CMS) and passing it to the WSD App. The type of information that will be passed included are BMI, HbA1c, eGFR, Medications via the HealthLink secure messaging architecture. This integration development is almost completed.

Evaluation is a cornerstone of the app development process and is being built in at every stage. WSD is quickly progressing with the app development with roll-out expected to begin in early 2019. This stage will include an iterative design methodology that allows quick changes to be made to the app based on patient and GP feedback. It will also involve design workshops to look at the efficacy of the application and how it can be improved, with input from consumers and experts involved in the development.

The next stage of more formal evaluation will begin early next year, with two main arms. Firstly, WSD will create an app cohort of patients who will be enrolled long-term in a prospective study that will look at the experiences of consumers with diabetes in western Sydney. There will also be a formal evaluation that will take the form of a randomised controlled trial of the application looking at benefit to consumers and providers. Both of these parts of the evaluation will be discussed at the WSD app evaluation meeting in late November, with ethics applications being submitted early 2019, with an aim to begin evaluation as the initial iterative design phase ends.

## COMMUNITY PHARMACY



The pharmacy working group was established in 2017. The group includes the Pharmaceutical Society of Australia, Pharmacy Guild of Australia, DNSW & ACT, WSPHN and WSD. The group has met twice in 2018 and will continue to collaborate.

- The group continues to progress community pharmacy engagement in western Sydney through promotion of WSD events on PSA e-newsletters and bulletins
- Presentations delivered in plenary to over 500 pharmacists by WSD team at state and national PSA conferences
- Continued connection and collaboration with the General Practice Pharmacists (GPP) commissioned through WSPHN has occurred, including an education session for the team, and PHN community pharmacist involvement in the community forums.



## PRACTICE NURSE TRAINING



The WSLHD, WSPHN and the National Association of Diabetes Centres (NADC), collaborated to deliver a tailored suite of three diabetes education programs for practice nurses specific to the needs of staff and patients across western Sydney.

- 50 nurses were offered the NADC National Diabetes Care Course, an online training program of 30 hours duration
- Practice nurses are also invited to participate in JSCC in the familiar learning environment of their own GP practice

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- One nurse said the benefit of participating in JSCC was, "learning about all aspects of care for patients with diabetes, diet, injections, Blood Glucose Level monitoring, medication regimes"
- 55 nurses attended one of the two Basic Diabetes Education for practice nurses training days at Blacktown or Merrylands
- Results from the Basic Diabetes Education for practice nurses demonstrated there was a statistically significant improvement on a diabetes knowledge test due to the education days, with scores improving from an average of 80% to 96% pre and post the intervention ( $p < 0.001$ )
- 30 nurses attended the Advanced Diabetes Education for practice nurses training day at Blacktown
- After the one education day, one practice nurse commented that she, "feels more confident providing diabetes support to patients".

## SAVE A LEG



The High Risk Foot Service (HRFS) is a small service at Blacktown Hospital that is undergoing expansion. Currently, a lack of staff means that growing demands of the service are not being met effectively; which hinders it from meeting best standard practices. It is one of the areas prioritised by the Leading Better Value Care Program (LBVC). Hence funding was sought and approved for extra staff, mainly a 1.0 FTE podiatrist and 0.4 FTE vascular surgeon. The recruitment process is still underway for this. Processes to prioritise and streamline the multi-disciplinary HRFS are underway.

## COMMUNITY EYE PROGRAM



A secondary referral centre in Blacktown, led by Optometrist Joe Nazarian, has already started to receive referrals from GPs. The project is yet to be opened widely. There are ongoing steering committee meetings with Westmead ophthalmology group to further progress this project.

### Outpatient Eye screening

Together with an ophthalmology research group from Westmead, a retinal screening project has been started at Blacktown and Westmead diabetes clinics to opportunistically detect and highlight diabetic retinopathy.

## RAPID ACCESS CLINIC



### Redesign Diabetes Clinics Blacktown Hospital

The diabetes clinics are one of the largest clinics of Blacktown Hospital's outpatient clinics. In order to improve patient and staff experience of these growing clinics, a redesign project was undertaken. Current clinic schedules, patient feedback, staff feedback, and issues faced, were all collected. Some of the key issues identified included:

- Suboptimal referral processes
- The waiting times for less-urgent patients being longer than several months
- Time-wastage of clinicians during clinics.

Although a formal implementation process was not undertaken, recommendations from the project has helped stimulate departmental discussion, streamlining the triage and referral processes for the clinics, improved booking schedules for patients and a subsequent reduction in waiting times, and pre-clinic work undertaken to reduce clinician time wastage during clinics. This is a dynamic process and changes will be ongoing.

### Audits of new medications, Blacktown Hospital

Three new injectable medications have been introduced onto PBS in 2018. The clinical team are constantly evaluating the efficacy and patient experiences of over 113 patients with these new medications.

- > 50 patients commenced Ryzodeg 70/30 insulin
- >70 patients commenced on weekly dulaglutide injection

## CGM FOR DIAGNOSTICS



The complex Type 2 diabetes outpatient clinic has continued to use Continuous Glucose Monitoring (CGM) as an adjunct tool to assist with assessment and guide management decisions.

- Over 100 CGMs completed this year
- Experience being gained with the new Freestyle Libre Flash glucose monitoring which will be an additional option available in 2019.

## INTEGRATED CARE



### Build capacity to better-manage diabetes in Integrated and Community Health (I&CH) – Community Diabetes Clinic

BMDH Endocrine and Diabetes Department, WSD, and the WSLHD Integrated Community Health (I&CH) Directorate's Clinical Operations (CO) Directorate, have been working together to plan and establish a New Joint Specialist General Practice Community Diabetes Clinic (JSGPC DC) in the Mount Druitt Community Health Centre, planned to be operational in 2019.

- A team of three staff specialists from WSLHD and a GP from Mount Druitt Medical Centre visited Metro South Brisbane in April 2018 to explore their existing model of diabetes care
- A working group was established to explore the opportunity, through consultation with senior management including clinicians in I&CH, BMDH, WSPHN, Mount Druitt Medical Practitioners Association and Mount Druitt Consumer Organisations
- In August 2018, a workshop was conducted to further discuss this new model of care
- Operational and business models are still in development for the JSGPC DC
- Barriers for the progression of the model have included renovations at the Mount Druitt Community Health Center which requires capital works approvals, and contracting arrangements for GPs to be hired also needs to be determined.

### Integration of Care in Outpatient clinic

#### Health2Sync

Patients attending the Complex Type 2 Diabetes Clinic often require adjustment of their insulin doses between hospital outpatient visits. This has traditionally been done by the Credentialed Diabetes Educator (CDE) with a weekly phone call. The demand for insulin stabilisation is increasing, with over 113 patients referred in 2018 and up to 20 patients at one time requiring stabilisation.

In 2018, WSD trialed the use of the Health2synca phone application (app) and compared it with the traditional phone method.

There were significant statistical differences between the two groups on several measures including:

- Meantime per contact for the app is six minutes 53 seconds compared with nine minutes 22 seconds for phone contacts
- The mean difference in total time taken to titrate was 10 minutes LESS per patient using the app

- 71% of app users had no missed contact compared with only 23% of phone users
- There was a 3 ½ minute increase in total time taken, with every 1% increase in HbA1c.

The findings were presented at the Australian Diabetes Congress (ADC) in Adelaide and the Australian Diabetes Technology Symposium (ADATS) in Sydney, in the Quick Bytes: Innovation in Diabetes Centres session.

## IN-HOSPITAL CARE



### Build capacity in hospital (Cardio/Gastro/Surgery)

WSD is working to build the capacity of the BMDH inpatient services to deal with the high burden of patients admitted to hospital with diabetes and pre-diabetes. We have completed an audit of management, prevalence and incidence of diabetes among the Gastroenterology and General Surgery inpatients. An audit of the Respiratory Service is currently in process. This follows on from our previous audit of Cardiology inpatients. We have had an inter-departmental meeting with the Gastroenterology Service, to enhance their awareness of new diagnoses of pre-diabetes and diabetes. We have continued with Cardiology Case Conferences this year, and we aim to audit the impact of this intervention on the management of diabetes inpatients admitted to the hospital.

## EDUCATION CENTRES



The following healthcare professional workshops were hosted by WSD:

- Symposium on Diabetes and Oral Health: Better Teeth, Better Health, 22 February, 2018
- WSD Booth at Tamil Annual Festival 6 May, 2018
- Diabetes and Obesity Forum: It's time to act on the Obesity epidemic now, 2 May, 2018
- WSD Booth at Men's Health Week 14 June, SydWest, Blacktown
- Early Detection of Pre-diabetes and Diabetes – then what? 10 July, 2018
- WSD Booth at Blacktown Community Services Expo 12 September, Bowman Hall, Blacktown
- Diabetes and Kidney Disease Forum: Slow the clock on Kidney Disease, 27 November, 2018
- WSD booth at (Aboriginal) Elders Olympics 28 November, Sydney



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## BARIATRIC OBESITY CLINIC



### Development of Obesity/Metabolic Services

Obesity and diabetes go hand-in-hand. Driving the exponential growth and cost of diabetes, is the rising rates of overweight and obesity, which affects nearly two in three people in western Sydney.

That is why the newly established Metabolic & Weight Loss Program at Blacktown, an affiliate of WSD, has formed an interdisciplinary model of care to tackle 'Diabetes'. The model focusses on treating diabetes with the right medications and an intensive approach to lifestyle modification to achieve weight-loss. Together, we hope to put a halt to the growing problem of diabetes and obesity and reverse the progression of complications that come with diabetes and obesity. The program started in May 2018 and is expected to run clinical trials to halt and reverse diabetes through weight loss using the latest evidence on lifestyle and medications.

We started the year strong with an Obesity Forum held in May 2018. The second component of our program is the bariatric division, a service aimed at highly-motivated patients with multiple obesity-related complications. It serves as a 'one-stop-shop' providing medical (endocrinologist), bariatric surgery (upper GI surgeons), hepatology (gastroenterologist), dietetics, exercise, psychological and nursing services. We employ state-of-the-art equipment to measure body composition, bone density (with a certified DXA technician), and fatty liver disease (FibroScan) to obtain a complete assessment of a patient's health status. The service has operated on over 40 patients in the western Sydney, with good outcomes

achieved to date, and with many patients either ceasing their medications or having their diabetes in 'remission'. To date, nearly 400 patients are enrolled in the program.

A clinical and basic science research unit (MIMO – Metabolic Inflammation Microbiome in Obesity) is also being established to explore the disease process underpinning obesity.

## PLACE-BASED MOBILISATION



The 'Place-based' approach, which commenced in Blacktown in 2017, has continued in 2018, with a concentration of efforts on Toongabbie and Mount Druitt. The different needs in each area were highlighted by meetings of community leaders and through consumer forums, has become evident and will provide excellent groundwork for the direction of tailor-made programs in our future work within these areas.

Community Leaders Meetings were held to educate and empower key community representatives in these locations to drive change among local residents. These meetings were well attended by up to 50 key community leaders from social, medical, cultural, NGO and religious backgrounds.

Diabetes community forums were hosted by WSD, featuring a range of expert healthcare professionals and featuring the opportunity for residents to sign-up to free lifestyle programs. The forums were extremely well-supported with more than 140 participants at each event in Toongabbie and Mount Druitt.

Community Diabetes Forums and community leaders' meetings included:

- Toongabbie leaders' meeting, 1 June 2018, at Bridgeview Medical Practice
- Toongabbie Community Diabetes Forum, 25th July 2018, at Toongabbie Sports Club and was well-received with more than 140 people in attendance. A follow-up leaders' meeting was held on 24 October 2018, at Toongabbie Sports Club
- Mount Druitt leaders' meeting, 19 September 2018, at Mount Druitt Hospital
- Mount Druitt Community Diabetes Forum, on 14 November 2018 at Rooty Hill RSL Club was also well-received with more than 110 people in attendance
- A follow-up Toongabbie Diabetes Leadership Group Meeting was held on 5 December 2018, at Bridgeview Medical Practice, with the Toongabbie Core Leaders discussing community-based diabetes awareness activities/events for next year. The community leaders will drive initiatives in their local community with the WSD team's ongoing support/advice/guidance.

A specific need for healthy eating and food preparation was identified among the Pacific Islander population, in particular within the Mount Druitt area. Work with church and community leaders has commenced and planning is taking place for a community-based nutrition and cooking skills program.

From the attendance at these forums, we are convinced the public are interested and do want to engage with this work and so far it has been fruitful. However, if long-term self-sustainable efforts are to be maintained, this will require an investment beyond our core team. We deliberately slowed down this place-based rollout during the year and focused on Toongabbie and Mount Druitt.

## PUBLIC AWARENESS

The work of WSD and the Diabetes Alliance was strongly supported by WSLHD Corporate Communications and the WSD Communications Working Group.

Early in the year, a WSD Mobilising Public Support Communications Strategy was created, which outlined the key goals of the Mobilising Public Support initiative, key partners involved, and key media opportunities aimed at promoting the work of WSD to engage with community leaders to motivate change among residents. Four Mobilising Public Support communications meetings were held over the past year to discuss and progress media and communication initiatives.



Below is a list of all media coverage generated and facilitated by the WSLHD Corporate Communications conduit to WSD, over the past year.

## NATIONAL DIABETES WEEK

A media conference at Blacktown Hospital with WSD, Diabetes Australia and Diabetes NSW & ACT, announcing new figures from diabetes testing at BMDH and call by DA for government support to boost testing for type 2 diabetes.

Coverage included:

- National TV coverage on Ch7, 9, 10 and SBS on 8 July, 2018
- Sydney Morning Herald on 9 July, 2018
- Bay Post and Moruya Examiner on 9 July, 2018
- Pharmacy News on 10 July, 2018
- WSLHD The Pulse
- WSLHD Facebook

Also as part of National Diabetes Week, WSLHD Corporate Communications WSD conduit, secured support by Parramatta City Council to light up the Town Hall blue to raise awareness of diabetes. The following coverage was generated:

- DNSW & ACT Circle Magazine
- The Pulse
- WSLHD and DNSW & ACT Facebook





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The Toongabbie community diabetes forum was held on July 25, as part of the WSD Mobilising Public Support initiative. The following coverage was generated:

- Active Parramatta Facebook
- WSLHD Facebook
- SBS Tamil Radio

## DENTAL HEALTH WEEK

Held on August 6-12, 2018, the national campaign theme this year was, 'Watch Your Mouth'. The WSLHD Corporate communications conduit to WSD worked closely with Dental Health Association (NSW branch) to issue a media release to raise awareness of the link between gum disease and diabetes. This is a topic that has not gained much media attention in the past. The media release was issued by the Association not WSD, so the following is only an outline of our local coverage.

- WSLHD and DNSW & ACT Facebook
- The Pulse

## DIABETES HEAT MAP

The WSLHD Corporate Communications conduit to WSD pro-actively pitched a story to Ch7, revealing results from the largest- analysis of type 2 diabetes test ever conducted in Australia by WSD. The study received support from community pathology services and involved the analysis of over 500,000 blood tests. The results found that people in western Sydney are more at risk of the potentially deadly disease than those living elsewhere in the city. Ongoing research is continuing as part of this project. The story was pitched as an exclusive to Ch7 News.



Coverage included:

- National TV story on Ch7 on 16 August, 2018
- WSLHD Facebook
- The Pulse

Collaboration was also made with the Australian Medical Association (AMA), who expressed interest in announcing details about the detection findings and to raise awareness about diabetes detection from a GP perspective. The AMA issued a media release which praised the work of WSD. The WSLHD Corporate Communications conduit also generated an article in The Pulse on 17 August, 2018.

## WORLD DIABETES DAY (WDD)

Held on November 14 this year, WSD was approached by Pharmaceutical company BD, suppliers of insulin pen needles and syringes, to support a national campaign for WDD. The campaign aimed to raise awareness of correct injecting techniques. Prof Glen Maberly, director of WSD, was allocated the role of NSW clinical spokesperson and he facilitated a live interview with 2GB.

## DATA FOR DECISION-MAKING

As WSD has grown, so too has our data for decision-making. We have not only met our targets set at the start of 2018, as outlined in our yearly Strategic Plan, but we have exceeded them in a number of important areas. This has included incorporation of the 'place-based' approach, with work around GP clinics in the place-based areas and moving forward with secondary prevention, with projects involving patients in hospital. It has also been a big year for research, with more papers submitted in 2018 than in the previous four years combined – three of which have been published and three are awaiting publication.

The WSD initiative, 'Data for Decision Making: Building a System to Monitor and Evaluate', received a significant boost when WSLHD, WSPHN and PwC secured funding from the Australian Digital Health Agency (ADHA), to continue to improve WSD's population surveillance capability. This included investment to improve the hospital diabetes management dashboard and help to develop systems to better monitor all our interventions. In addition, NSW Health and Primary Health Networks (PHNs) including our Western Sydney Primary Health Network (WSPHN) are involved with a large trial of data linkage with GPs and have reached out to us to join this effort going forward.

## GP TESTING

As described above, in 2018 we took diabetes detection from the hospital into the community. This involved working closely with WSPHN as well as 11 GP clinics across the LHD. From this, we identified rates of diabetes that were almost identical to the high rates seen in hospital, with 17% and 27% of patients having results consistent with diabetes and pre-diabetes respectively. We have also cemented the relationship with these GP clinics, with an aim to collect this data moving into the future.

## PATHOLOGY PROJECT

In 2018, we completed the pilot phase of our pathology services project. This involved mapping the results of every HbA1c test in Sydney from 2014 to 2016 – 18 million tests – to see the geographic distribution. We are currently in the process of expanding this pilot to include other measures of diabetes control, and will progress this further with academic publication in 2019.

## IN-HOSPITAL DIABETES AUDITS

In 2018 we have continued our in-hospital diabetes audits, after the success of our work with cardiology, to include gastroenterology, respiratory, surgery, and are currently working through a second audit of the cardiology department. This work has already yielded improvements in patient care, as well as several academic presentations at conferences. We hope to publish these results early in 2019.

## OUTPATIENT DIABETES AUDITS

We have continued our outpatient diabetes audits as described above, collecting data on patients using new medications such as the weekly GLP1ra, newer insulins; data from CGM studies, and our ongoing study comparing Health2Sync with the regular standard of care for insulin titration in type 2 diabetes.

## WESTERN SYDNEY DIABETES APP

The WSDA evaluation has been a major focus in 2018, with workshops held several times throughout the year. We have now begun recruitment of GP/patients for the application, and have designed a randomised controlled trial as well as a separate cohort study that will take place in 2019 to evaluate WSDA and provide data on efficacy for app optimisation as well.

## VLCD/VLED STUDY

In collaboration with the Blacktown obesity clinic, we have started a study looking at very-low-calorie diets and medications for type 2 diabetes. We have applied to three different funding bodies including the Translational Research Grant Scheme, Research Education Network and ACI for funding, and hope to commence this study in early 2019 when funding is approved.

## RESEARCH

Research and publication is an important part of knowledge-generation as well as publicity. In 2018, WSD set a very high goal of four papers submitted and six abstracts presented at a conference – the equivalent of a pure research lab! We not only reached, but actually exceeded this goal.

- Three papers published in 2018<sup>1-3</sup>, with three more submitted
- Six abstracts<sup>4-8</sup> presented

Four ethics applications for new projects in 2018.

## WSLHD DIABETES PROGRAMS AND SERVICES COMPLEMENTARY TO WSD

### WESTERN SYDNEY INTEGRATED CHRONIC CARE PROGRAM

The Western Sydney Integrated Chronic Care Program (WSICCP) has evolved out of the Western Sydney Integrated Care Program (WSICP) which was one of three integrated care demonstrators supported by the NSW Ministry of Health. The WSICCP is focused on providing coordinated and seamless care for people with the chronic diseases of type 2 diabetes, chronic obstructive pulmonary disease, and coronary artery disease or congestive cardiac failure, across the primary care, community care and hospital sectors. In three years of operation, 60 general practices with 194 GPs have been directly engaged. The program has reduced ED presentations by 32% and unplanned hospitalisations by 34% for patients who have utilised WSICCP services.

Specialist Services provided by the WSICCP include Rapid Access and Stabilisation (RASS) Clinics, GP capacity building activities such as workshops and case conferencing and a GP Support Line. These services operate out of Westmead and Blacktown Hospitals.



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RASS Clinics serve as a rapid response clinic for patients who require urgent attention, and an ED bypass. In the last three years, Diabetes RASS Clinics have provided 9700 occasions of service to 6500 individual patients.

The GP Support Line operates between 0900 and 1900 hours to provide specialist advice to GPs as they need it. It also offers a means of ensuring rapid specialist review for patients who require semi-urgent attention, but not hospital admission. Since the inception of the WSICP, 400 diabetes related GP Support Line calls have been answered.

A number of GP workshops have been undertaken by the WSD diabetes team in the WSICCP. Case conferencing along similar lines to the WSD started in 2016, with an Endocrinologist and diabetes educator visiting GP surgeries. This provides the opportunity for on-site training for GPs when seeing their own patients. Over 190 patients have now been seen through WSICCP Diabetes Case Conferencing.

**WESTMEAD AND BLACKTOWN MOUT DRUITT HOSPITALS DEPARTMENTS OF DIABETES & ENDOCRINOLOGY**

Westmead Hospital (WH) and BMDH run a range of highly specialised diabetes clinics, as well as more general clinics such as the WSICCP RAASS clinics described above. Both departments of Diabetes and Endocrinology have a prominent role in the management of diabetes among the inpatient population as well. In addition, they provides specialised training and education to endocrinology, diabetes educator and dietitian trainees, as well as general training to medical students, junior medical officers and nursing staff. They undertake a large amount of research, both at the basic science and clinical levels.

**DIABETES CLINICS**

**Westmead Hospital**

Around 11 diabetes clinics are run every week at Westmead Hospital. These include clinics for type 1 diabetes, complex type 2 diabetes, young adult diabetes, diabetes in pregnancy, diabetes pre-pregnancy planning, cystic fibrosis diabetes, and rapid access and stabilisation.

**Diabetes Clinics Occasions of Service January to November 2018**

Clinic type	Occasions of Service
Chronic Complex Type 2 Diabetes and Type 1 Diabetes Clinics	1342
Diabetes in Pregnancy Clinics	3029
Young Adult Diabetes Clinics	650
Diabetes Pre-Pregnancy Planning Clinic	53
Cystic Fibrosis Diabetes Clinic	83
<b>Total</b>	<b>5157</b>

**Blacktown and Mount Druitt hospitals**

Nine to 11 diabetes clinics are run each week at Blacktown and Mt Druitt Hospitals. The following occasions of service relate to reviews not inclusive of diabetes education from January to October 2018.

Clinic type	Occasions of Service
Complex Type 2 Diabetes, Diabetesity and Type 1 Diabetes Clinics	2427
Diabetes in Pregnancy Clinics	6248
Insulin Pump Clinics (monthly)	38
Case Conferencing	478
Podiatry	470
<b>Total</b>	<b>9661</b>

**INPATIENT DIABETES MANAGEMENT SERVICES**

**Westmead Hospital**

A dedicated Inpatient Diabetes Management Service automatically reviews surgical patients with diabetes to ensure good glycaemic management in hospital and to minimise complications which may be related to poor diabetes control. Each day the service sees around 700 individual patients with diabetes and provides about 4200 occasions of service every year. This service has been shown to reduce length of stay for surgical patients.



**Blacktown and Mount Druitt hospitals, Diabetes Education & Ambulatory Care Centre (DEACC)**

Similar to Westmead, an Inpatient Diabetes Management Service exists and all individuals with HbA1c levels 9% or greater are automatically reviewed.

The DEACC provides education to people with diabetes, with services provided by diabetes educators and dietitians. The allied staff work in concert with the diabetes clinics and inpatient services. Some 13,000 occasions of service are provided by DEACC every year.

**BMDH Diabetes Education Centre (Maddie’s Cottage and May Cowpe Centre)**

The diabetes education team work across both the Blacktown and Mt Druitt campuses, providing both outpatient and inpatient services. Outpatient diabetes education and dietitian sessions are provided either on an individual or in a group setting, depending on need. Outpatient education services account for 4922 occasions of service and inpatient education 1506 occasions of service from January to the start of November 2018.

**INPATIENT DIABETES SURVEILLANCE SYSTEM/DIABETES DASHBOARD**

A dashboard to monitor diabetes in Blacktown and Mt Druitt hospitals was launched on November 5, 2018. This is based on parameters collected around the HbA1c measurements undertaken in the EDs. The near-live data facilitates the work of the IDMS team by rapidly identifying individuals currently in hospital who require review, such as those with HbA1c ≥ 9% or new diagnoses of diabetes. Additional functionality was also built in to filter the data by numerous parameters (e.g. gender, ATSI status, age group) to allow evaluation of specific subset of individuals. The capabilities of this new dashboard is just becoming apparent and it is anticipated this will foster research and enable evaluation of in-hospital capacity building exercises in 2019.

Further sophistication is currently being developed and will be implemented over the next few months. This will include the integration of data obtained through eMEDs and that of bedside glucose monitoring. At a later stage, it is anticipated this system will also be rolled out to the other hospitals in the LHD.



**GLUCOSE AND HbA1C SCREENING THROUGH EMERGENCY**

**Westmead Hospital**

Glucose and HbA1c screening through the ED is a new program undertaken by the Diabetes and Endocrinology Department and directly supported by WSD. It builds on the long-standing program of Blood Glucose (BG) screening alone. See earlier for details of some of the great results.

**Blacktown and Mount Druitt hospitals**

Testing in the Emergency Departments for diabetes using HbA1c begun in June 2016. This is now routinely undertaken in all individuals with a valid blood sample. Individuals (and their GPs) are notified by mail if an abnormal finding is noted. See HbA1c Testing section above on page 8.



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## PUBLICATIONS

### WSD

- Julie Ayre, C.B., Sian Bramwell, Sharon McClelland, Rajini Jayaballa, Glen Maberly, Kirsten McCaffery, Primary care physician perspectives on patient apps for type 2 diabetes self-management that link to primary care: An interview study to identify factors to support physician engagement. JMIR MHEALTH AND UHEALTH, 2018.
- Meyerowitz-Katz, G.B., Sian Jayaballa, Rajini Bishay, Ramy Corless, Ian Ravi, Sumathy Soars, Linda Feng, Xiaoqi Astell-Burt, Thomas Manoharan, Manimegalai McLean, Mark Maberly, Glen, 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, 2018. 26(3): p. 199-210.
- Ramy H Bishay, G.M.-K., David Chandrakumar, Rajini Jayaballa, Tien-Ming Hng, Mark Mclean, Dilini Punchihewa, Maiyoori Jeyaprakash, David Burgess, John Riskallah, Glen F Maberly, Evaluating the Diabetes-Cardiology interface: A glimpse into the diabetes management of cardiology inpatients in western Sydney's 'diabetes hotspot' and the establishment of a novel model of care. Diabetology & Metabolic Syndrome, 2018. Forthcoming.

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- Wang M, Padmanabhan S, Athayde N, Cheung NW. Causes of Stillbirths in Diabetic and Gestational Diabetes Pregnancies at a NSW Tertiary Referral Hospital. Aust NZ Obstet Gynecol in press.
- Cheung NW, Crampton M, Nesire V, Hng TM, Chow C. A model for integrated care for chronic disease in the Australian context: The Western Sydney Integrated Care Program. Aust Health Rev in press.
- Cheung NW, Moses RG. Gestational diabetes: Is it time to reconsider the diagnostic criteria? Response to Sacks. Diabetes Care in press.
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- Sung J, Padmanabhan S, Gurung S, Inglis S, Begg L, Cheung NW, Girgis CM. SGLT2 inhibitors and amputation risk: Real-world data from a diabetes foot wound clinic. J Clin Transl Endocrinol 2018; 13: 46-47.
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- Cheung NW, Moses RG. Gestational diabetes: Is it time to reconsider the diagnostic criteria? Diabetes Care 2018; 41: 1337-38.
- Pinidiyapathirage J, Jayasuriya R, Cheung NW, Schwarzer R. Self-efficacy and planning strategies can improve physical activity levels in women with a recent history of gestational diabetes mellitus Psychol Health 2018; DOI: 10.1080/08870446.2018.1458983.
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- Jelsma J, van Poppel MNM, Smith BJ, Cinnadaio N, Bauman A, Tapsell L, Cheung NW, van der Ploeg HP. Changing psychosocial determinants of physical activity and diet in women with a history of gestational diabetes mellitus. Diabetes Metab Res Rev 2018; 34(1).
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- Bernadette Sadsad, David Chipps- HbA1c testing Initiative introduced in the Emergency Department at Westmead Hospital. An effective way to detect new cases of diabetes and to improve treatment & care of patients in the hospital with suboptimal glycaemic control. Poster presentation at Australasian Diabetes Congress 2018
- Sadsad B, Chipps D, Cheung NW, Shi M, O'Neill A. HbA1c Testing Initiative introduced in the Emergency Department at Westmead Hospital: An effective way to detect new cases of diabetes and to improve treatment and care of patients in the hospital with suboptimal glycaemic control. NSW Diabetes Forum 2018.

### BMDH

Research at BMDH primarily consists of epidemiological/clinical studies and is undertaken in collaboration with WSD. In addition, there is a Clinical Trials Unit that undertakes pharma sponsored clinical studies. Publications include:

- Hussein A, Duke A, Mclean M, Hng TM. Precipitation of Type 1 diabetes with anti-PD-1 immunotherapy. Clinical Endocrinology 2018;89, 90
- Hng TM, Burren D. The appearance of Do-It-Yourself closed loop systems to manage Type 1 diabetes. Internal Medicine Journal. 2018. 48 (11): 1400-1404



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## PRESENTATIONS

### WSD

- Rajini Jayaballa, R.S., Amy Nguyen, Gideon Meyerowitz-Katz, Claire Zheng Dilini Punchihewa, Sian Bramwell, Ana Murugesan, Melissa Joseph, Xiaoqi Feng, Mark McLean, Glen Maberly, Continuous glucose monitoring system (CGM) used as a diagnostic and education tool for patients with complex type 2 diabetes mellitus (T2DM) in outpatient clinics at Blacktown Hospital. Australian Diabetes Society Annual Congress, 2018.
- Sharon McClelland, D.D., Gideon Meyerowitz-Katz, Kylie Foley, Natalie Wischer, Glen Maberly Upskilling Nurses in General Practice in Western Sydney: a practice nurse education program to improve knowledge, skills and confidence in caring for patients with diabetes. Australian Diabetes Society Annual Congress, 2018.
- Gideon Meyerowitz-Katz, S.S., Thava Seelan, Lumina Titus, Tien-Ming Hng, Pankaj Guar, Thomas Astell-Burt, Xiaoqi Feng, Glen Maberly, Detecting diabetes: HbA1c testing reveals similarities in diabetes burden between hospitals and general practice in western Sydney Australian Diabetes Society Annual Congress, 2018.
- Bramwell S., Jayaballa R., Singh K., Meyerowitz-Katz G., McClean M., Maberly G., Testing 'Health2sync' phone application as a new tool to assist Diabetes Educators to help patients stabilise blood glucose levels in a hospital outpatient setting. Australian Diabetes Society Annual Congress, 2018.
- Glen Maberly and Janine Dawson – 20th Feb 2018 Joint Blacktown Council / WSLHD meeting presentation – WSD Investment Opportunity: Primary Prevention
- Glen Maberly – Presentation on Western Sydney Diabetes at Agency for Integrated Care Global Conference 2nd Feb 2018
- Glen Maberly 26th May 2018, presentation of use of CGM for T2D at Novo Nordisk Insulin Summit, International Conference Centre, Darling Harbour
- Glen Maberly – Diabetes Models of Care working Group – 21st April 2018 – Park Royal, Melbourne Airport – Australian Diabetes Society and national Association of Diabetes Centres
- Glen Maberly – Diabetes Masterclass – Uncovering the benefits of DPP4s, SGLT2s and GLP1s, PSA18, Jul 27th, 2018

- Sian Bramwell – Presented Testing 'Health2sync' phone application as a new tool to assist Diabetes Educators to help patients stabilise blood glucose levels in hospital outpatient setting' the Health2Sync project at the Australian Diabetes and Technology Symposium (ADATS), under the Quick Bytes: Innovation in Diabetes Centres session, October 2018
- Gideon Meyerowitz-Katz – Diabetes Epidemiology at annual PSA forum for diabetes 7/07/2018
- Rona Francisco – Diabetes Metabolism at annual PSA forum for diabetes 7/07/2018
- Walter Kmet & Brendan Peek – Presentation to The Australian Partnership Prevention Centre forum on chronic disease prevention, 23rd August 2018, Department of Health, Canberra.

### WESTMEAD HOSPITAL

- Lauren Stonnill – A New Diabetes Education Program for Nursing Staff at Westmead Hospital, Poster presentation Westmead Week.
- Natasha Diwakar – Late referrals for Inpatient Insulin Education, Poster presentation Westmead Week.
- Seema Gurung, Shehzi Yusaf, Christian Girgis – Psychological Distress in patients with Diabetes in Integrated Care Service. Poster presentation at Australasian Diabetes Congress 2018.
- N Wah Cheung, Roslyn Hogan, Caron Blumenthal, Tony Barry, Ben J Smith, Aravinda Thiagalingam, Julie Redfern, Nancy Cinnadaio, Clara Chow. A pilot randomised controlled trial of text messaging and activity monitors to improve health behaviour after gestational diabetes. Australasian Diabetes in Pregnancy Society Meeting 2018.
- Cheung NW, Middleton S, Campbell L, Fulcher G, Chipps D, McElduff P, Pollock C, Flack J, McLean M, Chen R, Depczynski B, Park K, Moses R, Carter J, Poynten A, Morrow T, Acharya S, Webber M, Scadden D, Kuo I, White C, Tonks K, Wong V, Mumford G, Champion B, Tridgell P, Zingle C, Kinsella J, Layton M. A cluster randomised trial of routine glucose testing in the Emergency Department. Australian Diabetes Congress 2018.

- Chai TY, McLean M, Wong VW, Cheung NW. Glycaemic variability is associated with adverse cardiovascular outcomes in patients hospitalised with an acute myocardial infarction. Australian Diabetes Congress 2018.
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- Haider R, Hyun K, Cheung W, Chow C. Effect of lifestyle focused text messaging on risk factor modification in patients with diabetes and coronary heart disease: A sub-analysis of TEXT-ME. Australian Diabetes Congress, 2018.
- Lee MA, Farrell K, Clark-Lucitti A, Cheung NW, Holmes-Walker DJ. The impact of continuous glucose monitoring in youth with type 1 diabetes aged 16-21 years. Australian Diabetes Congress, 2018.
- Atsalos C, Payk M, O'Neill A, Inglis S, Cheung NW, Jackson D. Meeting the challenges posed by an escalating diabetes healthcare burden: a mixed methods study to identify new strategies to enhance diabetes care. Westmead Association Hospital Week 2018.
- Burns J, Hng TM, Cheung NW. Socioeconomic relationship trends between diabetes and postcodes in NSW, Australia. American Diabetes Association Annual Scientific Meeting, 2018.
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### BMDH

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- Weir T, Evans A, Hng TM. Carbohydrate knowledge amongst junior medical officers at Blacktown Mt Druiitt Hospital. Poster presentation, Australian Diabetes Congress 2018.
- Chen K, M.-K.G., Edye M, Hng TM, An Audit of non-elective surgical admissions and its relationship to admission HbA1c. Australian Diabetes Society Annual Congress, 2018
- Francisco R, Sriram R, Gaur P, Meyerowitz-Katz G, Kwok R, Maberly G, Hng TM. Assessing the burden of Diabetes in an Inpatient Gastroenterology Service. Poster presentation, Australian Diabetes Congress 2018
- Hng TM. The Utility of HbA1c testing in the Emergency Department. Endocrine Grand Rounds, Bankstown Hospital 19 Sept 2018
- Hng TM. Developing and Inpatient Diabetes Surveillance System. Data for Decision Making Executive Team Meeting, Integrated and Community Health Directorate, WSHLD 28th Aug 2018



AWARDS

**Lauren Stonnill**, Clinical Nurse Consultant Westmead Hospital, won the Best Nurses poster for Westmead Week

**Marlene Payk (NP)** was awarded Kickstarter grant for her research proposal- A mHealth learning intervention for safe insulin use. It was 1 of only 4 grants awarded by Western Sydney Nursing and Midwifery Research Centre and WSLHD Research and Education Network

**Siân Bramwell**, Community Diabetes Nurse Consultant, has received the Contribution to Research Award at the 2018 WSLHD International Nurses and Midwives’ Day Award Celebrations on 8th May.

WSD ALLIANCE MEMBERS

AASHA Australia Foundation	Diabetes NSW & ACT	National Institute of Complementary Medicine (NICM) Health Research Institute	Stephanie Alexander Kitchen Garden Foundation
Active Living NSW	Dietitians Association of Australia	NSW Department of Education	Stroke Foundation
Agency for Clinical Innovation (ACI)	Dr Sundar’s Medical Practice Toongabbie	NSW Office of Preventive Health	South Western Sydney Local Health District (SWSLHD)
Athletics Australia	Eating Disorder and Obesity Clinic (EDOC)	NSW Office of Sport	Sydney Business Chamber
Australian Dental Association	Ellawell	NSW Planning and Environment	Sydney Children’s Hospital Westmead
Australian Hearing	Family and Community Services (FACS)	NSW Police	Sydney Markets
Australian-Cook Islands Community Council	Foodbank	Nutrition Australia	Sydney Physios + Allied Health Services
Bicycle NSW	Football NSW	Optimum Health Solutions	Sydwest Multicultural Services
Blacktown City Council	Get Kids Cooking	Ozharvest	TAFE
Blacktown Medical Practitioners Association	GHD	Pacific Islands Mount Druitt Action Network	The Food Coach
Blacktown Podiatry	GI Foundation	Parramatta City Council	The Practice
Blacktown Women’s and Girl’s Health Centre	Go4Fun	Parramatta Mission	The Good Foundation/Jamie’s Ministry of Food Australia
Box Divvy	Government Architect NSW	Parramatta Park and WS Parklands	The Hills Shire Council
Bridgeview Medical Practice	Greater Sydney Commission	Police-Citizens Youth Club (PCYC)	Transport for NSW
Bunnings	Harvest Hub	Pharmaceutical Society	University of NSW
Cancer Council NSW	Hawkesbury Harvest	Pharmacy Guild	University of Sydney
CanToo	Heart Foundation NSW	Playgroups NSW	University of Wollongong
Catholic Education	Jameson Health	Population Health WSLHD	University of Technology Sydney (UTS)
Centre for Oral Health Strategy NSW	Kidney Health Australia	PricewaterhouseCoopers (PwC)	Walking Volunteers
Chester and Jakes Pharmacy	Kildare Road Medical Clinic	Ray Kelly Fitness	WentWest (Western Sydney PHN)
Coles	Live Life Get Active	Reclink	Western Sydney Local Health District (WSLHD)
Connect Hearing	Ministry of Health	Richmond Road Family Practice	Western Sydney University
Consumer Representatives	Mount Druitt Medical Centre	Students as Life Style Activists (SALSA)	Westmead Medical Research Foundation
Consumers NSW	Multicultural Health	Seventh Day Adventist Church	Woolworths
Commonwealth Scientific and Industrial Research Organisation (CSIRO)	National Australia Bank (NAB)	SHARE	WSROC – Western Sydney Region of Councils
Cumberland Council	NSW Council of Social Service (NCOSS)	SPRINTER	Young Men’s Christian Association (YMCA)
Definitions Health Club	Netball NSW	Settlement Service International (SSI)	
Dementia Australia		St Vincent de Paul	
Dental Association of Australia			
Department of Premier and Cabinet (DPC)			





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## CONTRIBUTORS

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## CONTACTS

For more information about WSD, please visit the website at [www.westernsydneydiabetes.com.au](http://www.westernsydneydiabetes.com.au)

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