TAKING THE HEAT OUT OF OUR DIABETES HOTSPOT

WESTERN SYDNEY DIABETES SCORE CARD

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An Australian Government Initiative

Western Sydney Diabetes

NSW GOVERNMENT Health
Western Sydney Local Health District

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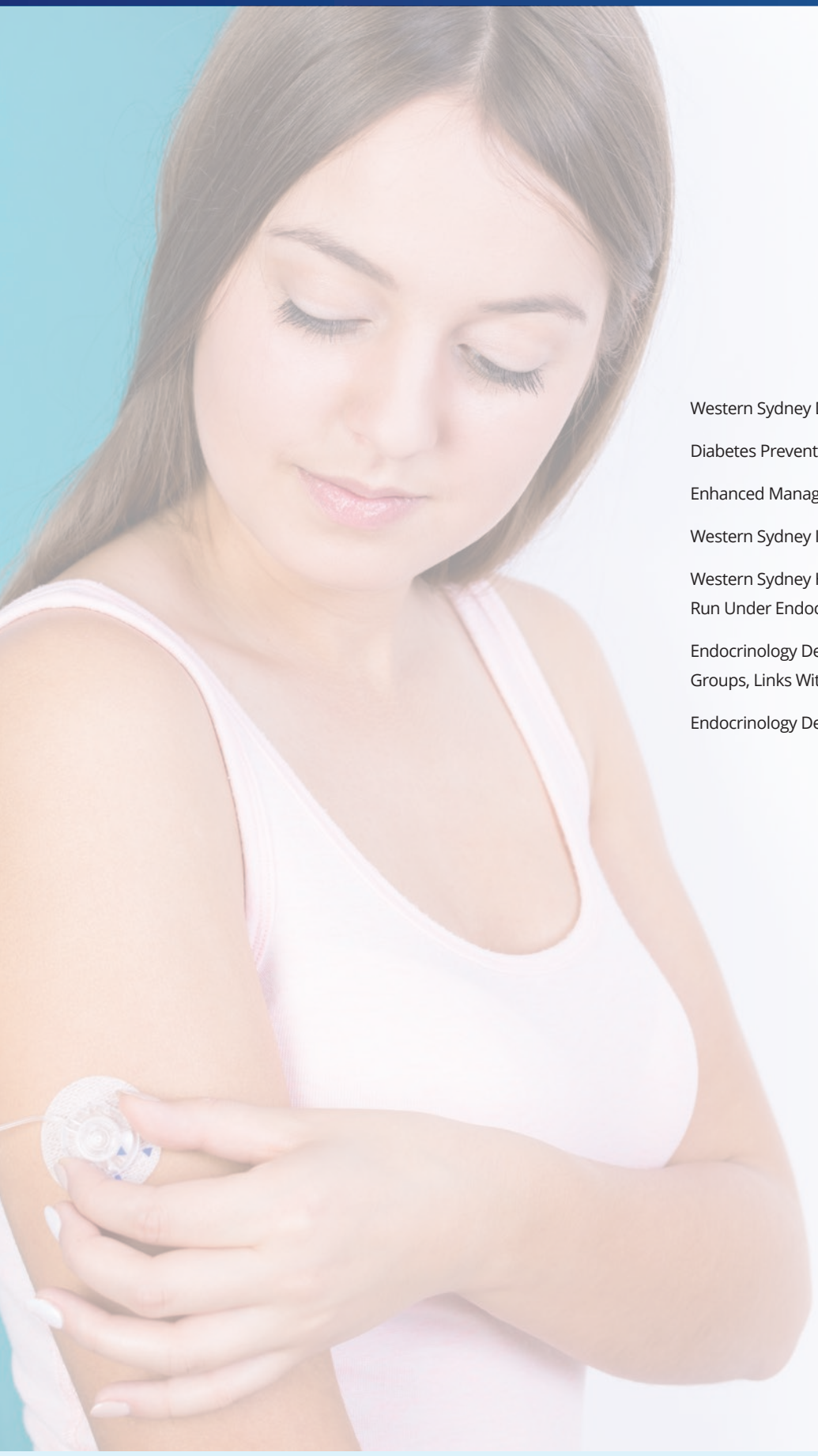
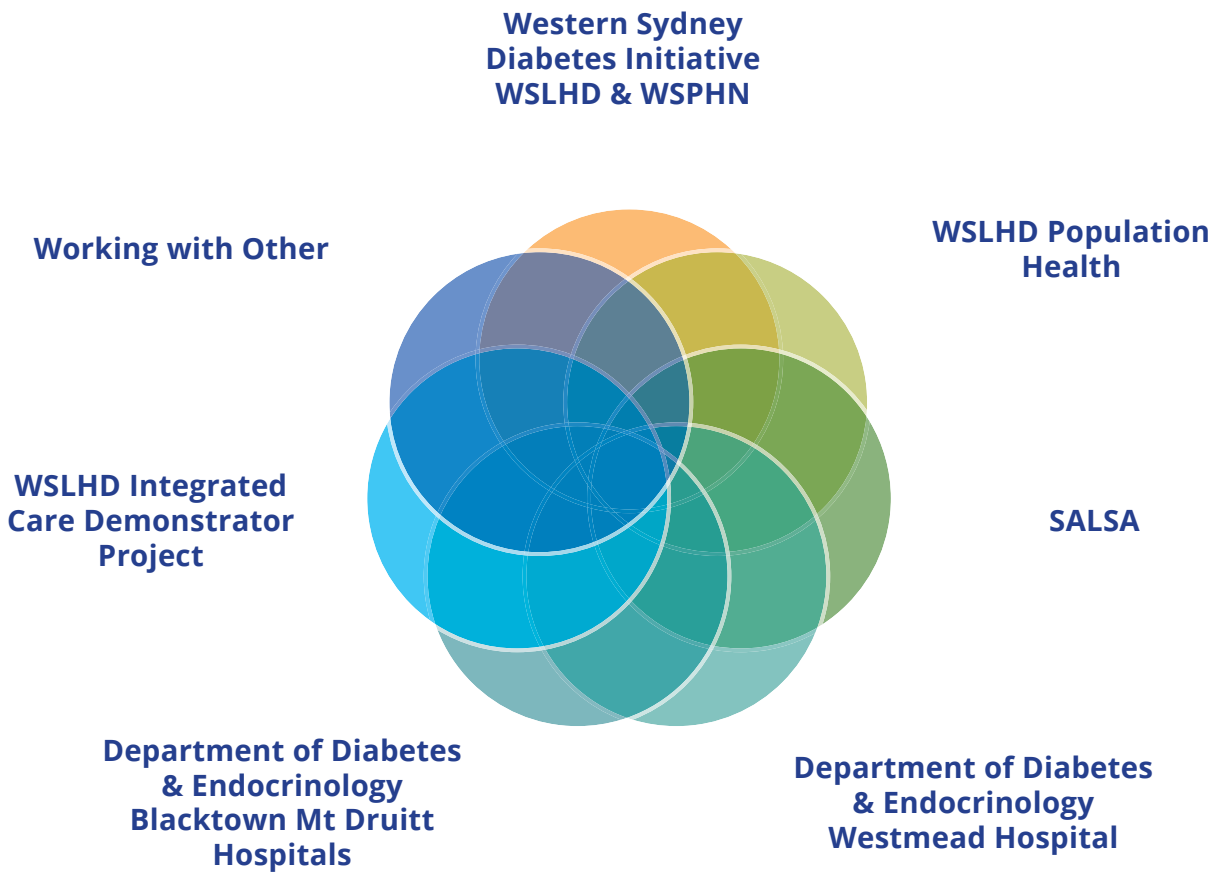


INTRODUCTION

WESTERN SYDNEY DIABETES (WSD) SCORE CARD

This score card reports on activities related to diabetes prevention and management in the Western Sydney Health District. It includes the Western Sydney Diabetes (WSLHD and WSPHN) initiative established in 2013 but also encompasses long established Endocrinology & Diabetes Departments at Westmead Hospital and Blacktown and Mt Druitt Hospitals, the new Integrated Care Demonstrator Project, WSLHD Population Health services, and SALSA (a WSLHD and GP sponsored program). The purpose of this score card is to map the diabetes services, report on their scope, impacts and potential. It is an illustrative picture and not entirely complete. Through expansion of these services we are striving to 'take the heat out of our diabetes hotspot'.



WESTERN SYDNEY DIABETES INITIATIVE

ACTIVITY LEAD ORGANISATION	DESCRIPTION MAIN ELEMENTS	QUANTIFY QUANTITATIVE & QUALITATIVE	OUTCOMES CURRENT & POTENTIAL
WSD Steering Committee WSLHD & WSPHN	• Established in 2013 • Co-chaired by WSLHD CE & WSPHN (WentWest) CEO • 35 high level multi-sector stakeholders with a leaders advisory role • Now scheduled to meet bi-annually	• 8 meetings so far with over 80% of participation at meetings by members and invitees • Effectively engages a spectrum of leaders with WSD • Key external partners include Diabetes NSW, WSROC, NSW Ministry of Health, Department of Premier and Cabinet, GPs, Universities (Sydney, UWS, UOW, UNSW), Councils and NGOs	• Steering Committee has enabled a sustained and growing commitment by partners towards achieving the goals of WSD • Commitment by partners is translating into 'Working Groups' with specific programs • Strong governance platform to expand the scope of WSD
WSD Executive Management Team WSLHD & WSPHN	• Co-chaired by WSLHD CE and WentWest CEO to provide oversight and support for WSD • Scheduled to meet quarterly	• 9 meetings including the Chairs, Executive Sponsors and Program Leads • WSLHD WSD – annual 'core' budget of $797,739	• The high level support by the LHD and PHN has provided resources and guidance to enable the WSD to establish a strong base with credible results allowing for a solid platform to start to bring WSD to appropriate scale
WSD Working Groups PARTNER ORGANISATIONS SUPPORTED BY CORE TEAM	• Working Groups under WSD include: • A Prevention Alliance • A Food Working Group • Save a Leg Steering Committee • Diabetes Eye Working Group • Western Sydney Gateway • BMDH HbA_{1C} Implementation Working Group • A Research and Evaluation Group	• Each of these groups report status, progress and plans at the Steering Committee • Other related activties e.g. HEAL - managed by WSLHD Population Health, WSLHD Endocrine Departments, SALSA, Integrated Care Demonstrator Program, HealthPathways - have their separate governance arrangements but report relevant activities at the WSD Steering Committee to synergise and harmonise efforts	• With each of the four domains in the Framework for Action: 1. Primary Prevention; 2. Screening and Lifestyle Coaching; 3. Enhanced Diabetes Management (Community); 4. Specialised Consultation (Hospital) projects are progressing well • Strong Evaluation and Research is part of these programs so outcomes are being measured • Each of the component programs work together to enhance the overall impact so the sum of the individual parts makes for a greater whole • This provides a strong platform to scale the program and add new dimensions

Western Sydney Diabetes

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WSD Core Team **WSLHD & WSPHN**	**WSLHD:** WSD Core Team are part of the Integrated Health Portfolio in WSLHD. Currently the team consists of: • The Program Lead (1 FTE) • Coordinator (1 FTE) • Prevention Program Manager (1 FTE) • Community Diabetes Nurse Consultant (1 FTE) • Community Advanced Trainee Endocrine Registrar (1 FTE) Annual Rotation • BMDH Community Diabetes RMO (1 FTE) 12 week rotation • Public Health Scientist (Contract with University of Wollongong) – (0.2 FTE) Annually renewable **WSPHN:** WSD core team also engaged with a suite of programs implemented in partnership with LHD and with other partners. The team includes: • The Business Development & Program Director (0.1 FTE) • Primary Health Care Manager (0.1 FTE) • Chronic Disease Manager (0.1 FTE)	WSLHD Core Team meet weekly to manage their responsibilities and have detailed planning sessions twice a year. WSLHD Core Team and WSPHN (WentWest) Core team meet together monthly to coordinate activities. Both teams join in bi-annual more detailed planning. The WSD program plan is maintained in Microsoft Program Manager. Overall team skills include: • Public Health and Clinical Leadership • Advocacy and Partnership Mobilisation • Initiative Network Building • Media Campaigns and Public Relations • Project Management and Administration • Communications • Proposal Development • Event Organisation and Management • Diabetes Care and Education • Clinical Capacity Building • Practice Management Capacity Building • Health Systems Change Management • e-Health build and adoption • Epidemiology, Data collection, Data linkage, geo-mapping, evaluation • Public health and clinical research	• Having a core team committed to planning and implementing the WSD initiative with partners within the LHD, WentWest and with other key partners has been vital to ensure and document progress. • The team is small but has grown over the life of WSD and gains its strength in working with others to achieve a leverage that makes supporting signature activities in the 4 domains of work in WSD possible. • Immediate gaps in the team include: 1. further Administration support for the Clinical components; A Communication Expert (Journalist, Media Campaign Manager, Developing and Maintaining 'Cloud based' specific communication tool kit and products; 2. Data manager; 3. Clinical skill-set to be added to the team of a – Psychologist and Exercise Physiologist • Growth of the Core Team will depend upon the rate at which the WSD program can be scaled-up. However the principle remains to keep this team small with most of the work to be undertaken with and through partners

WESTERN SYDNEY DIABETES INITIATIVE

ACTIVITY LEAD ORGANISATION	DESCRIPTION MAIN ELEMENTS	QUANTIFY QUANTITATIVE & QUALITATIVE	OUTCOMES CURRENT & POTENTIAL
WSD Forums CORE TEAM	Several Forums are arranged each year as a way of bringing a larger community together to support WSD. So far these forums include: • Western Sydney a diabetes hot spot: understanding the geo-epidemiology, economics and environment – 87 participants • Diabetes is Everyone's Business – 75 participants • Diabetes Prevention and the NSW Healthy Worker Initiative – 73 participants • Metabolic and Psychosocial Care for People with Mental Illness and Diabetes – 98 participants • Planning for our Healthier Future – 81 participants • Implementing the New Standards for High Risk Foot Services – 135 participants • Developing A Model of Care for Diabetes Eye Care in Western Sydney – 122 participants • Building the Capacity of General Practice for Diabetes Management and Highlighting the Role of the Practice Nurse – 78 participants • Diabetes in Aged Care – 89 participants	Participants come from various partners including: • LHD and WentWest Executive and Senior Management • Diabetes NSW • NSW Ministry of Health • WSROC and Councils • WS Department of Premier and Cabinet • Hospital Diabetes and other Specialists • General Practitioners • Hospital and Community Nurses • Diabetes Educators • Podiatrists • Optometrists • Dietitians • Pharmacists • Exercise Physiologists • NGO representatives • Pharmaceutical Companies • Community organisations • University academics and students • Food Manufacturers • Consumers	• These Forums have allowed participants from a wide range of organisations in Western Sydney and beyond to gain insights and discuss appropriate responses to specific aspects of Diabetes and its impact on our community. • They allow for the identification of champions and leaders to help move the initiative forward. • These forums have led to the development of specific projects/ programs that are now part of the overall WSD initiative.
WSD Media and Comm-unications WSLHD & WSPHN	Supported by LHD Communications various collateral materials are being developed to assist with communication. Edge Marketing is currently engaged in this work with us.	• Western Sydney Diabetes Prevention and Management Initiative booklet • Improving Diabetes Care in Your Practice brochure • The future of diabetes self-management brochure • Taking the heat out of our diabetes hot spot brochure	Enable high level and wide communication which is easy and appropriate. Support attracting resources and partnerships. A website portal is underway for development in 2016.

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WSD Media and Comm-unications WSLHD & WSPHN	The Media Team WSLHD and WSPHN create opportunities to raise WSD profile and provide high level support for key events and findings through newspapers, radio, TV and social media.	Some examples of Media Exposure include: • ABC 3 – Fresh food harder to come by in areas with high diabetes – Sept 14, 2015 • ABC 2 – Food deserts: Healthy food stores must be an essential part of city planning, says researcher Dr Thomas Astell-Burt – July 8, 2015 • ABC 7.30 Report – These are the Australians eating themselves to death in the diabetes epidemic – Sept 29, 2015 • Blacktown Sun – Health experts unite to fight diabetes – April 21, 2015 • Daily Telegraph – New diabetes treatment plan being trialled in Blacktown with western Sydney rates highest in NSW – April 21, 2015 • Daily Telegraph – Fair-go for the west: Type 2 diabetes rates in Western Sydney a 'ticking bomb' for NSW health services – March 19, 2015 • Mount Druitt Star –Diabetes support ramps up in Western Sydney – April 13, 2015 • 2GB interview – Prof Glen Maberly – March 19, 2015 • Daily Telegraph – Fair go for the west: Type 2 diabetes hot spots in areas with less parks and more fast food outlets – March 12, 2015 • MJA Insight – Diabetes a "major challenge" – Nov 10, 2014 • Blacktown Advocate – Diabetes is booming; Trials to tackle diabetes – Sept 24, 2014	These media events provide opportunities to portray the state of the diabetes epidemic in WS and our comprehensive action plan that is tackling this issue. This has built a platform for a wide media campaign for important population health messaging.

DIABETES PREVENTION & SCREENING

ACTIVITY LEAD ORGANISATION	**DESCRIPTION** MAIN ELEMENTS	**QUANTIFY** QUANTITATIVE & QUALITATIVE	**OUTCOMES** CURRENT & POTENTIAL
WSD Building Alliance WSLHD & WSPHN (PREMIERS DEPARTMENT)	An alliance of leaders from health, industry and government to address the diabetogenic environment of WS.	A series of one on one meetings and group presentations has been completed to leaders within transport, TAFE, education, parks & rec, community care. This adds to the current support provided by the Ministry, Diabetes NSW, universities and local councils.	Ownership has been gained from other sectors and the platform has been created for the launch of a high level Alliance in March 2016.
WSLHD Population Health HEAL Strategy	• Healthy Children Initiative in day care and primary schools • Healthy Workers Initiative • Get Healthy Information and Coaching Service	• Participation in 80% of schools in WSLHD • 98 businesses registered at 230 work sites and employees 33,337 • 3,125 people referred to the service in WS	Performance targets are being met and a solid basis has been established for further expansion in areas outlined in both the Ministry of Health and the Premier's objectives.
Screening (WENTWEST)	ANPHA grant to screen 2000 WS residents (1000 CALD), identify those at high risk of diabetes and enrol into LMPs.	4000 screened, over 50% at high risk and over 600 GP referrals to LMPs. 2000 CALD were screened.	A base has been established for launching refined screening programs due to the knowledge gained from local screening venues, specific CALD populations, engagement in LMP programs and retention within the programs.
Students as Active Lifestyle Activists (SALSA)	The SALSA program is a peer-led educational intervention which motivates high school students to make healthier lifestyle choices. SALSA engages a wide range of stakeholders, from students, staff, community stakeholders and future and current health and education professionals. It is now being applied by UNICEF and other NGOs in Jordon and other countries.	The SALSA program was implemented in 23 high schools during 2014–15. 96 university students volunteered as SALSA educators, 850 Year 10 Peer Leaders and more than 4,800 Year 8 students participated in the program.	High school students who deliver and participate in the SALSA program have shown improvements in lifestyle behaviours and intentions to live a healthy lifestyle. These include fruit and vegetables consumption, drinking water, reducing screen time and eating breakfast. SALSA has been recognised with awards from the LHD and AMA and its successful evidence based grassroot approach is ready expansion in Western Sydney, the State and beyond.

ENHANCED MANAGEMENT BY GPS AND ALLIED HEALTH

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ACTIVITY LEAD ORGANISATION	DESCRIPTION MAIN ELEMENTS	QUANTIFY QUANTITATIVE & QUALITATIVE	OUTCOMES CURRENT & POTENTIAL
WSD Case Conferencing WSLHD & WSPHN	• Joint program between WSPHN and WSLHD • Capacity to deliver 4 case conferences per week involving Blacktown Community Diabetes Services visiting GP practices	• 37 practices visited • 113 GPs • 634 individual case conference sessions completed • 76% resulted in increase or change in management • 12% No change • 12% medication reduced	Audit of 40 case conference sessions, 3–6 months post case conference showed clinically significant improvement in HbA_{1c} (0.87%); average weight reduction (1.9Kg); Systolic Blood Pressure (6.45mmHg). 97% of GPs reported increased confidence to manage diabetes. Potential increase in completed Diabetes Annual Cycle of Care
WSD Western Sydney Gateway WSLHD, WSPHN, DIABETES NSW, TELSTRA	An app allowing the provision of personalised education and allowing management data to be input, updated and viewed by both patient and GP	Western Sydney Gateway working group established to develop, launch and implement Diabetes Self- Management app. Partnership between Telstra Health, Diabetes NSW, WSLHD & WentWest with a total financial commitment of $920K over 2 years. Sponsorship commitment of $100K received from Sanofi with several others pending. Framework established, Linked EHR incorporated, initial content determined Recruitment of 10 GPs for the initial launch has commenced. A total of 2000 WS patients to be enrolled within 2 years. Evaluation and refinement will occur prior to region-wide roll out.	Preliminary launch event planned in May 2016 for current and potential sponsors. The involvement of the WSLHD and WSPHN will allow the app to be made available free of charge to WS residents for all disease states in perpetuity. Additional disease states and geographical areas are to be added. Quality personalised education will be available to the general population rather than a select few.
WSD Working Groups PARTNER ORGANISATIONS SUPPORTED BY CORE TEAM	Working Groups under WSD include: • A Prevention Alliance • A Food Working Group • Save a Leg Steering Committee • Diabetes Eye Working Group • Western Sydney Gateway • BMDH HbA_{1c} Implementation Working Group • A Research and Evaluation Group	• Each of these groups report status, progress and plans at the Steering Committee • Other related activties e.g. HEAL – managed by WSLHD Population Health, WSLHD Endocrine Departments, SALSA, Integrated Care Demonstrator Program, HealthPathways – have their separate governance arrangements but report relevant activities at the WSD Steering Committee to synergise and harmonise efforts	Evaluation of the sessions demonstrated that Primary Healthcare Nurses felt more confident in all aspects of diabetes care, including screening for diabetes. Potentially the increase in screening will result in early detection of pre-diabetes and appropriate early intervention to prevent or delay progression to diabetes. Improved management and understanding of regular monitoring of people with diabetes may increase the number of completed Diabetes Annual Cycle of Care – this can be measured through use of the PENCAT tool. This training program is to be annualised and aim to use advanced learning technologies.

ENHANCED MANAGEMENT BY GPS AND ALLIED HEALTH

ACTIVITY LEAD ORGANISATION	DESCRIPTION MAIN ELEMENTS	QUANTIFY QUANTITATIVE & QUALITATIVE	OUTCOMES CURRENT & POTENTIAL
WSD Community Eye Care WESTMEAD EYE SERVICE WSLHD & WSPHN	Western Sydney Diabetes Community Eye Care Project: A new model of care for establishing a primary diabetes eye screening and developing a standardised referral system to the secondary screening and appropriate triaging by the secondary screening centre. This model is being developed in conjunction with ACI C-Eye-C project and Westmead Eye Service.	• A working group has been formed • 6 General Practices and related optometrists are participating in pilot stage • Development of standardised electronic diabetes eye screening referral template for GPs to optometrists • Development of standardised comprehensive diabetes eye screening report for optometrists to report to GPs • Funding approved for establishing the Secondary Eye Screening Centre in Blacktown	• Use of electronic and standardised referral and reporting system between GPs, optometrists and eye services will facilitate easy tracking of referrals and reports. • Reduce waiting times and improve patient health outcomes. • Updating and completion of annual cycle of care improves patient health outcomes and ensures the practice with the incentives.
WSD Save a Leg WSLHD & WSPHN	Building Integrated Diabetes Foot Services in Western Sydney: ACI Centre for Healthcare Redesign Project under 2015 Program 1. Joint initiative between WSLHD and WSPHN	Project Team X4; Executive Sponsors X2; Clinical Sponsors X9; Redesign Leader X1. Three objectives to establish minimum standards for diabetic foot screening, to increase diabetes foot screening in the community, and to improve electronic referral pathways to hospital foot services	Developed a 60-second diabetic foot screening tool and educated patients, nurses and clinicians on the importance of using the tool and conducting regular foot checks at least annually. • 11 GPs and 3 private podiatry practices participating within WSLHD. • 60% of patients screened during the pilot had NEVER had their feet examined prior. • 66% had previously NEVER been told about the risk of foot complications by their GP. • Pre Implementation – 10% Practice Nurses surveyed felt confident to recommend to a GP that they consider a referral to a Podiatrist for the patient. • Post Implementation – 100% Practice Nurses surveyed felt confident to recommend to a GP that they should consider a patient referral to a Podiatrist.
Health Pathways WSLHD & WSPHN	HealthPathways is a web-based information portal supporting primary care clinicians to plan patient care through primary, community and secondary heath care systems in Western Sydney.	• Diabetes was the first suite of Pathways to be localised in Western Sydney • 26 live Diabetes pathways including 40 individual pages • Diabetes pathways are most frequently searched • Diabetes pathways are currently under review	Enabler of WSD and for fostering clinician engagement and alignment. Set the template and process for future pathway development and collaboration.

WESTERN SYDNEY INTEGRATED CARE DEMONSTRATION PROJECT

Western Sydney Diabetes

ACTIVITY LEAD ORGANISATION	DESCRIPTION MAIN ELEMENTS	QUANTIFY QUANTITATIVE & QUALITATIVE	OUTCOMES CURRENT & POTENTIAL
WSICD WSLHD & WSPHN	The Western Sydney Integrated Care project is a new model of integrated care for the management of chronic disease, focusing on 3 specialty areas, including Diabetes. WS is one of the three demonstrator sites in NSW for this model.	• Staff for Diabetes integrated care include Specialist 1.2FTE, CNS 3.4FTE, Dietitian 0.6FTE, Podiatrist 0.4FTE and Admin 0.8FTE • Rapid Access Specialist Service and Rapid Access Stabilisation Service have been newly established and running • 34 general practices enrolled in program to date. Care Facilitators appointed to support primary care. IT systems, and hospital services developed to support Integrated Care patients. • GP Training Day held in partnership with the Australian Diabetes Society in Parramatta (28 attended). Evaluation: Entirely met learning needs of 94% of respondents, and entirely relevant to 94% of respondents. • GP Training Evening held in partnership with WentWest in Blacktown and as part of the Western Sydney Integrated Care Program (28 attended)	Work to continue and expand to enrol appropriate patients with diabetes for integrated care to meet the targets and goals. Continue to improve training of GPs and practice staff in the management of diabetes. Smooth transition of patients to adult services ensure they are not “lost to the system”, improving long term clinical outcomes.

WESTERN SYDNEY HOSPITAL DIABETES SERVICES RUN UNDER ENDOCRINOLOGY DEPARTMENTS

ACTIVITY LEAD ORGANISATION	DESCRIPTION MAIN ELEMENTS	QUANTIFY QUANTITATIVE & QUALITATIVE	OUTCOMES CURRENT & POTENTIAL
Endocrinology & Diabetes Departments Governance WSLHD	**Westmead Diabetes & Endocrinology** under the auspices of the Ambulatory Services of Division of Medicine and Cancer. **Blacktown Mt Druitt**: Department of Diabetes and Endocrinology, within Department of Medicine.	**Westmead**: Monthly meetings of Ambulatory Services. **Blacktown-Mt Druitt Hospitals**: Bi-annual Department Planning meetings and weekly business meetings Monthly business meeting between Westmead Hospital team, senior team from Blacktown Hospital and Auburn Hospital.	Ensures Departments of Diabetes & Endocrinology operate within hospital framework and meets the clinical needs of the LHD. Auburn, Blacktown and Westmead Hospitals work closely together sharing clinical protocols and providing mutual support. Allows for service redesign especially related to Integrated Care and WSD implementation.
Departments of Endocrinology & Diabetes STAFF WSLHD	Consist of diabetes specialist physicians, diabetes educators, dietitians	**Westmead**: 4.5 FTE staff specialists, 2 FTE VMOs, 4 FTE VMPs, 3.5 FTE advanced trainees in Endocrinology, 7.7 FTE diabetes educators, endocrine nurse and young adolescent CNC, 1.2 FTE dietician **Blacktown Mt Druitt**: 2.5 FTE staff specialists, 0.6 FTE VMO, 3 FTE advanced trainees in Endocrinology, 1 FTE RMO, 4 FTE diabetes educators,1 FTE administration officer	Dedicated multidisciplinary team of specialist medical and allied health clinicians have provided high quality care to people with diabetes in Western Sydney for many years. Immediate gaps Westmead Hospital include • Inpatient Diabetes Service Diabetes Educator to support this service • Expanded nurse support services for young adult diabetes/pump services • Additional Diabetes Educator support for an unprecedented growth in demand for Diabetes in Pregnancy Services Immediate gaps in the Blacktown Mt Druitt team include: • Lack of structured Type 1 Diabetes and pump service. This is needed to provide a service to the patients transferring from the Westmead and Children's Hospital young adult services • 1.0 CNC funded position remains unfilled • Psychologist • Exercise physiologist
Westmead Hospital Diabetes Clinics	Westmead operates a diverse range of highly specialised multidisciplinary diabetes clinics including: Type 1 Diabetes, Complex Type 2 Diabetes, Young Adult Diabetes, Insulin Pump, Diabetes in Pregnancy, Pre-Pregnancy Planning, Integrated Care Diabetes, Cystic Fibrosis Diabetes	Provides approx. 6,000 diabetes specialist consultations per annum through our 11 separate outpatient clinics	Dedicated multidisciplinary team of specialist medical and allied health clinicians have provided high quality and highly specialised care to people with diabetes in Western Sydney for many years.

Western Sydney Diabetes

ACTIVITY LEAD ORGANISATION	DESCRIPTION MAIN ELEMENTS	QUANTIFY QUANTITATIVE & QUALITATIVE	OUTCOMES CURRENT & POTENTIAL
Endocrinology Departments Hospital Services Diabetes	Run by Departments of Endocrinology & Diabetes at Westmead and Blacktown–Mt Druitt Hospitals	Provides inpatient and outpatient services, health professional training (internal and external), support and education for people with diabetes, and conducts research. **Westmead**: Provided 14,721 Occasions of Service for Diabetes Education in 2015 and 15,351 in 2014 **Blacktown Mt Druitt**: Provided 4,684 (Blacktown) and 1,392 (Mt Druitt) occasions of service for diabetes education in 2014.	Dedicated multidisciplinary team of specialist medical and allied health clinicians have provided high quality care to people with diabetes in Western Sydney for many years. Between 30-40% of patients admitted to hospitals have diabetes. With support from the Integrated Care demonstrator project the focus of current work is to ensure all health service units provide optimal diabetes care care for these patients.
Endocrinology Departments Blacktown and Mt Druitt Diabetes Clinics	Blacktown Mt Druitt operates a range of highly specialised multidisciplinary diabetes clinics including: Type 1 Diabetes, Complex Type 2 Diabetes, Diabetes in Pregnancy (Blacktown campus only), Integrated Care Diabetes, Post-discharge review and stabilization clinics	Provides >4500 (Blacktown) and 400 (Mt Druitt) diabetes specialist consultations per annum through our 9 separate outpatient clinics. In October 2015 services at Mt Druitt were enhanced with 2 extra multidisciplinary clinics per month. Waiting times for new complex T2D cases to be seen in the clinic has been reduced from 3 months to 3 weeks and more urgent cases in a few days. More sophisticated measures to better manage complex cases e.g. diagnostic weekly continuous glucose monitoring have been introduced. Better linkage with GPs established for ongoing care.	Outpatient Clinics are being progressively restructured throughout 2015–16 to concentrate on patients with complex needs and diabetes complications, while routine diabetes management is being transferred to General Practice through a program of GP education, support and GP Case Conferencing. This is greatly changing the case-mix of Hospital based services. This shift in Diabetes OPD allows for a more integrated management of diabetes in the district. It is dependent on other aspects of the initiative working included Integrated Care and especially building the capacity of General Practice and the community to better manage T2D.
Endocrinology Departments Joint Mental Health and Diabetes OPD Clinics at Blacktown	Joint Mental Health Clinics: Building the capacity of the mental health team to identify and screen the metabolic risk factors in the high risk mental health population. Encourage the mental health team to participate in the management of diabetes to maximise the improvement in health outcomes.	Weekly joint consultations with mental health team and diabetes team. Screened 190 patients in Clozapine clinic and identified 10% of them to have pre diabetes and 20% had uncontrolled diabetes. Lifestyle modification recommendation resulted in significant weight reduction (7–10Kg) and better control of diabetes. New project of screening of patients who are managed by case managers (Pilot phase) in the outpatient setting has identified 50% of them are at high risk.	• Early detection and management of diabetes or pre-diabetes in this high risk group. • Increase in staff awareness in the need for regular screening for diabetes. • Continue and expand the screening and joint management plan in the mental health inpatient services including aged care psychiatry unit.

WESTERN SYDNEY HOSPITAL DIABETES SERVICES RUN UNDER ENDOCRINOLOGY DEPARTMENTS

ACTIVITY LEAD ORGANISATION	**DESCRIPTION** MAIN ELEMENTS	**QUANTIFY** QUANTITATIVE & QUALITATIVE	**OUTCOMES** CURRENT & POTENTIAL
Department of Endocrinology & Diabetes and Departments of Obstetrics & Gynaecology Diabetes in Pregnancy Services	Joint multidisciplinary Diabetes in Pregnancy Antenatal Clinics, together with the Department of Obstetrics & Gynaecology, are held twice a week at Westmead and once a week at Blacktown Hospitals. Additional Diabetes Educator run Diabetes in Pregnancy Services are held most days.	**Westmead hospital**: approx 5,500 deliveries per annum with ~1,000 patients with diabetes in pregnancy (mostly gestational diabetes) in 2015. In 2014, 3,246 occasions of medical service and 4,595 occasions of diabetes education service were provided by the diabetes team for diabetes in pregnancy. **Blacktown hospital**: 3,098 births in 2015 and 523 or 16.8% were complicated by diabetes. 3,693 occasions of service occurred in 2015 in these antenatal clinics.	Good multidisciplinary care ensures the best outcomes for women with diabetes in pregnancy. One in two patients with gestational diabetes will go on to T2D. The rate of gestational diabetes is accelerating. The increased demand has not been met by the increased allocation of resources, particularly in diabetes education. For example, in 2003, Westmead provided 381 medical occasions of service and 850 diabetes education occasions of service for 327 women. The workload has increased tremendously and with greater complexity but without an increase in diabetes educator numbers.
Westmead Hospital Department of Diabetes & Endocrinology Young Adult Diabetes Service	Young Adult Diabetes Service at Westmead is well established receiving most of the patients from Westmead Children's Hospital with T1D.	Managing 400 patients with type 1 diabetes. Prevention of hospital admissions through telephone support with 0.3 admissions per 100 patient years BENCHMARK IN INTERNATIONAL LITERATURE; HbA_{1c} median of 8.7% and 90% under regular review 2 or more visits per year Regular audits of DKA rates and HbA_{1c}	Plan to implement Mobile diabetes educator to link young people not under care to general practices in Western Sydney and establish either case conferencing with GP or community based clinic model rather than hospital based model to capture estimated 50% of type 1 diabetes aged 15–25 not under regular care in Western Sydney and Wentworth LHDs. Comparative study of DKA admission rates in HNELHD cf WSLHD comparing impact of model of care in WSLHD
Westmead Hospital Department of Diabetes & Endocrinology Pre-Pregnancy Planning Clinic for women with diabetes	Establishment of Westmead Pre-Pregnancy Planning Clinic for women with diabetes	Service established in 2014. Approx. 50 women seen per annum for pregnancy planning and follow-up post-partum	Women with diabetes are at high risk of pregnancy complications. Better pregnancy planning improves pregnancy outcomes.

Western Sydney Diabetes

ACTIVITY LEAD ORGANISATION	DESCRIPTION MAIN ELEMENTS	QUANTIFY QUANTITATIVE & QUALITATIVE	OUTCOMES CURRENT & POTENTIAL
Blood glucose testing in Westmead Emergency Department	Blood glucose testing in Westmead Emergency: In a study of 6,187 patients, we have shown that elevated glucose levels on admission predict increased mortality and facilitates the identification of people with diabetes	Mortality rate amongst people not previously known to have diabetes, is ~12% if the glucose is >10, and ~30% if the glucose is >16,	Routine glucose measurement in Emergency has been implemented. Further support is required to enable adequate follow up of people identified to have hyperglycaemia in Emergency
HbA_{1C} Testing in Blacktown and Mt Druitt Emergency Departments	HbA_{1c} testing: A pilot study conducted in 2014 on patients presenting to Blacktown Hospital ED to assess the efficacy of HbA_{1c} testing to detect diabetes and pre-diabetes in an area of high diabetes prevalence.	4580 presentations to the ED and 1267 (27%) HbA_{1c} measurements were obtained over the 6 week period. In this cohort: • Diabetes was detected in 38.4% • Diabetes was newly detected in 32.2% • Pre-diabetes detected in 27.4% • Hospital coding analysis revealed 28% (n=88) of patients identified as having diabetes through ED HbA_{1c} testing were not coded for a diagnosis of diabetes on discharge	The results confirmed the high rate of diabetes in WS. This pilot leading to the implementation of HbA_{1c} testing in ED as a routine approach. It will be part of an enhanced model of care to early identification of patients with diabetes allowing earlier life style coaching and better management of diabetes in the community and hospitals.
Westmead Inpatient Diabetes Management Service	Westmead Inpatient Diabetes Management Service. Established in 2012 with specific support from the CE to improve the care of people with diabetes in hospital, particularly those undergoing surgery.	Sees an average of 10 new inpatients per week. In addition to inpatient consultations, follow-up is provided to those who require it, to ensure a smooth transition back to community care.	Since the introduction of this service, the average length of stay of surgical patients has fallen from being 3.5 days above the national benchmark to 0.7 days below the national benchmark. The international evidence is that Inpatient Diabetes Management Teams improve cost efficiency and reduces lengths of hospital stay.
Blacktown and Mt Druitt Joint Diabetes and Aged Care team service	Joint Diabetes and Aged Care team service to inpatient: Aim is to build the capacity of the geriatrician and aged care nursing staff in the management of diabetes.	• Weekly joint consultation with Aged Care Rehabilitation Team at Mt Druitt Hospital. • 4 Diabetes education in-services provided to nursing staff to upskill the nurses in the geriatric unit. • In 2015 half day seminar for Diabetes Management in Aged Care Facilities held at Norwest. 45 registered nurses and clinical nurse educators attended with excellent evaluation of the program.	• Offering the specialist support and upskilling the geriatrician in the management of diabetes will reduce the length of hospitalisation and better follow up plan for outpatient continuity of care. • Expanding similar services in the Aged care facility to upskill the general practitioner in the management of diabetes especially in setting the goals in older peple will prevent unnecessary hospitalisations.

ENDOCRINOLOGY DEPTARTMENTS PARTNERS AND WORKING GROUPS, LINKS WITH NATIONAL ORGANISATIONS

ACTIVITY LEAD ORGANISATION	**DESCRIPTION** MAIN ELEMENTS	**QUANTIFY** QUANTITATIVE & QUALITATIVE	**OUTCOMES** CURRENT & POTENTIAL
Universities	University of Sydney: All senior consultant staff have academic titles with the University of Sydney, or University of Western Sydney including 4 professors, 4 associate professors	Undertakes teaching and supervision of students for the University of Sydney. Conducts research under the auspices of University of Sydney	Ensures medical staff are of the highest standard, and contributes back to the development and training of future doctors, adds to the pool of medical knowledge and practice through research
Agency for Clinical Innovation (ACI)	Agency for Clinical Innovation: Former chair of ACI Endocrine Network from Westmead Hospital. Westmead and Blacktown are represented in the Endocrine and Chronic Care ACI Networks. Current Chair of Hospital Diabetes Management Working Party from Westmead.	Members of the Westmead and Blacktown diabetes teams have been prominent in leading a number of ACI initiatives. Involvement of Westmead clinicians have resulted in members of our team leading in the development of many Australian initiatives and guidelines. WSLHD have participated in ACI Redesign Schoool.	Development of the statewide NSW Adult subcutaneous insulin chart was led by the Westmead/ Blacktown team, and based on the chart developed by the WSLHD Diabetes team. ACI Standards of Diabetes Active Foot Care and Diabetes Model of Care are being adopted in the WSLHD
Australian Diabetes Society (ADS)	Australian Diabetes Society (the lead clinical and scientific body for diabetes in Australia): The two immediate past Presidents of the ADS and a current Council member are from the Westmead Diabetes Team. Diabetes Australia (the national lay organisation representing and advocating for people with diabetes in Australia): Two members of the Westmead Diabetes Team have been board members of DA	Involvement of Westmead clinicians have resulted in members of our team leading in the oversight and development of many Australian resources for people with diabetes. It has also fostered a relationship between the Westmead clinicians and those active in advocacy (including current and past politicians and bureaucrats)	Examples include the NHMRC National Evidence Based Clinical Care Guidelines for Type 1 Diabetes, the National Gestational Diabetes Register, ADS Guidelines for Routine Glucose Control in Hospital, HbA_{1c} for the diagnosis of diabetes, individualisation of HbA_{1c} targets, ADS Type 2 Diabetes Management Algorithm Examples include materials for women with gestational diabetes, women with pre-existing diabetes in pregnancy, use of insulin pumps, glucose control in hospital
Westmead Children's Hospital	Close links exist with WCH to facilitate the transition of adolescents to young adult services at Westmead.	There is a joint Transition Diabetes Working Group and an Insulin pump Working Group.	There is synergy between WSLHD and Westmead Children's Hospital and this could be leveraged further

Western Sydney Diabetes

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National Funded Centre for Pancreatic Islet Cell Transplantation	National Funded Centre for Pancreatic Islet Cell Transplantation: Members of the Westmead Diabetes Team have been a part of the clinical islet cell transplantation program.	To date, 50 islet cell transplants have been perfomed at Westmead Hospital	Access and experience with new technology in diabetes including continuous glucose monitoring systems. The NFC for islet transplantation will contribute patients to the first Australian closed loop study commencing in 2016 and funded by JDRF with Westmead part of the National Multicentre study The centre provides National data on islet cell transplantation to the International Islet Transplantation registry
Department of Surgery Westmead Hospital	The Inpatient Diabetes Management Service has worked in concert with surgical teams to improve diabetes care amongst surgical patients.	Some 1,000 occasions of service occur per annum in these clinics	Pre-admission and in-hospital management of Diabetes is managed by the Diabetes Services
Podiatry and Vascular Surgery	In addition to interactions through the Inpatient Diabetes Management Service, a joint Diabetes High Risk Foot Clinic is about to commence.	People with diabetes foot disease suffer enormous morbidity and this is associated with increased mortality. Diabetes is now the most common cause of lower limb amputations	Better care for people with diabetes foot disease.
Westmead Millenium Institute (WMI)	Prof Jenny Gunton who is a member of the Westmead Dept of Diabetes & Endocrinology, is also the Director of the Centre for Diabetes & Obesity Research at WMI	Basic research into pathological mechanisms in diabetes and obesity	Links between WMI and Westmead brings research from bench to bedside. Prof Gunton is also Head of the SydWest Juvenile diabetes centre. This centre includes ~45 endocrinologists, diabetes educators and dieticians across the Western region of Sydney from several hospitals. Prof Phil O'Connell was awarded 3.3 million in JDRF funding for islet transplant research.

ENDOCRINOLOGY DEPTARTMENTS RESEARCH

ACTIVITY LEAD ORGANISATION	DESCRIPTION MAIN ELEMENTS	QUANTIFY QUANTITATIVE & QUALITATIVE	OUTCOMES CURRENT & POTENTIAL
Recent publications relating to diabetes in Western Sydney	Diabetes case finding in the Emergency Department using HbA_{1c}: An opportunity to improve diabetes detection, prevention and care.	Tien-Ming Hng, Amanda Hor,Sumathy Ravi, Xiaoqi Feng, Jaime Lin, Thomas Astell-Burt, David Chipps, Mark Mclean, Glen Maberly Poster at ADS 2015 Submitted with BMJ Open Diabetes and Research 2016	Poster preseted Publication result pending
	Effectiveness of Joint Specialist Case Conferences in building general practice capacity to manage diabetes in the community: Evidence from Sydney Australia	Mani Manoharan, Sian Bramwell, Amanda Hor, Vidura De Silva, Sumathy Ravi,Thomas Astell-Burt, Xiaoqi Feng, Mark Mclean, Glen Maberly Poster at ADS 2015 Submitted to Diabetes Research & Clinical Practice	Poster preseted Publication result pending
	Determining the risk of diabetes in pregnancy in women receiving infertility treatment	Sumita Barua, Tien-Ming Hng, Howard Smith, Jennifer Bradford and Mark McLean Aust NZ J Obstet Gynecol.	Publication result pending
	Effect of pregnancy on insulin requirements differs between Type 1 and Type 2 Diabetes: a cohort study of 222 pregnancies.	Padmanabhan S, McLean M, Jiang S, Cheung NW. Aust NZ J Obstet Gynaecol 2015	In press
	The discordance between HbA_{1c} and glucose tolerance testing for the postpartum exclusion of diabetes following gestational diabetes.	Duke A, Yap, C, Bradbury R, Hng TM, Kim C, Wansbrough A, Cheung NW. Diabetes Res Clin Pract 2015; 108: 72-7.	Published
	Gestational diabetes: A red flag for future type 2 diabetes in pregnancy? A retrospective analysis.	Cheung NW, Lih A, Lau SM, Park K, Padmanabhan S, McElduff A. Diabetic Med 2015; 32: 1167-71	Published
	Investigation of a lifestyle change strategy for high-risk women with a history of gestational diabetes.	Smith BJ, Cinnadaio N, Cheung NW, Bauman A, Tapsell LC, van der Ploeg H. Diabetes Res Clin Pract 2014; 106: e60-3.	Published
	Falling insulin requirements is associated with adverse obstetric outcomes in women with pre-existing diabetes.	Padmanabhan S, McLean M, Cheung NW. Diabetes Care 2014; 37: 2685-92	Published
	Vitamin D supplementation and the effects on glucose metabolism during pregnancy: A randomized controlled trial.	Yap C, Cheung NW, Gunton JE, Athayde N, Munns CF, Duke A, McLean M. Diabetes Care 2014; 37: 1837-44	Published
	Social and geographic determinants of diabetes in Western Sydney	Astell-Burt T, Feng X, Kolt GS, McLean M, Maberly G. Diabetes Research & Clinical Practice. 106(3):e68-73, 2014	Published
	Determining the cause of diabetes in patients being treated with anti-psychotic medications	Lau SL, Caetano D, Assur Y, Beach R, Muir C, Tran B and McLean M. Journal of Clinical Psychopharmacology	In press

Western Sydney Diabetes

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Recent grants relating to diabetes in Western Sydney	2016 NHMRC Project Grant to UWS	Mapping diabetes prevalence, and its complications, in relation to social and geo-physical causative factors	What types of built environment synergise with, or antagonize the benefits of clinical management for the prevention of cardiovascular disease among people with Type 2 Diabetes Mellitus? Longitudinal analysis of a cohort of 20,765 Australians.Thomas Astell-Burt CIA. Glen Maberly and Mark Mclean AIs NHMRC Project Grant APP1101065, 2016-18, $704,405
	2011-16 NHMRC Partnership Grant (with Agency for Clinical Innovation)	A cluster randomised trial investigating case detection of diabetes through Emergency Admissions, and examining the epidemiology of admission blood glucose and patient outcomes	NW Cheung, L Campbell, S Middleton, G Fulcher, C Pollock, H Watt, P McElduff. $160,016.
	2015 NNRDS Grant	Examining the Relationship Between Admission Blood Glucose Levels, Future Diabetes, and Long-Term Mortality.	NW Cheung $14,350.
	UWS and WSLHD Grant	A candidate gene for Type 2 Diabetes and obesity (Glut-1) first identified in a Western Sydney family. A comprehensive assessment of gene-disease association	M McLean, SL Lau and I Piatkov
	UWS and WSLHD Grant	A prospective study of glucose metabolism, body composition and metabolic disturbances in patients with prostate cancer undergoing hormonal treatment	V Birzniece and M McLean
	UWS and WSLHD Grant	A longitudinal cohort study of women and their babies after Gestational Diabetes, determining the factors associated with progression to Type 2 Diabetes	M McLean and SL Lau
	2016 NHMRC Project Grant to UWS and University of Sydney	A randomized trial of diagnosis and management strategies for gestational diabetes to be conducted at 10 sites nationally, including Westmead and Blacktown Hospitals	Simmons D, Hague W, Teede H, Cheung NW, Nolan C, Peek M, Girosi F, Cowell C. $2,197,280
	Sanofi Grant for Investigator initiated research	Trial of different insulin strategies to optimize diabetes control for older patients	M McLean and G Maberly, application to Sanofi for Investigator Initiated Research Grant, $120,000
	WSLHD and U Sydney, PhD project, NHMRC scholar	Optimizing treatment and identifying obstetric risks for women with Type 1 and Type 2 Diabetes in pregnancy	Funding from Novo Nordisk. Studies performed at the purpose-built Clinical Trials Centre at Blacktown Hospital.
	Pharma sponsors	3 current international multi-centre trials of new diabetes drugs	Studies performed at the purpose-built Clinical Trials Centre at Blacktown Hospital.
	JDRF Australia Multi-Centre closed loop study	National study with Westmead contributing 8-10 patients to participate in trial of insulin pump therapy with and without closed loop.	To commence in late 2016- funds approved and ethics submission in progress
	NNRDS Grant	Trialling a strategy for modification of diet and lifestyle to prevent Gestational Diabetes in our highest risk population - women of Indian Sub-continental background	SL Lau, $20,000
	Current UWS funded PhD project, 2016 NHMRC application	Preventing metabolic complications of cancer treatment using exercise and diabetes medication	V Birzniece, NHMRC Project Grant application 2016
	WSLHD and UWS	Identifying factors that cause diabetes complicating anti-psychotic drug treatment	
	Australian Diabetes Society Sanofi Diabetes Grant	A pilot interactive smart phone program to improve healthcare following gestational diabetes	NW Cheung, B Smith, A Thiagalingam, J Redfern, C Chow. $50,000.

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Western Sydney Diabetes

NSW GOVERNMENT Health
Western Sydney Local Health District