

NADC Best Practice In Diabetes Centres Symposium
Saturday 24 & Sunday 25 October, 2015
Pullman Sydney Hyde Park, NSW

Using ANDA and AQSMA data in practice

Dr Anthony Zimmermann

Medical Head Diabetes and Endocrine Services
Northern Adelaide Local Health Network, NALHN



Government
of South Australia

SA Health

Disclosures: nothing to declare

I live in Adelaide



I wear white lycra

JDRF | 
RIDE TO CURE
DIABETES



Adelaide's Health Networks & Metropolitan Hospitals

CALHN



NALHN

SALHN



State government depiction of the new RAH on completion



SA Health

Northern Adelaide Local Health Network (NALHN)



Provides care for approximately 350,000 people living in the northern metropolitan area, as well as services for people from regional areas.

Includes:

- Lyell McEwin Hospital:
 - 336 beds
- Modbury Hospital
 - 164 beds
- GP Plus Health Care Centres and Super Clinics
- 4 dedicated Aboriginal healthcare sites
- Subacute and mental health



NALHN Service Level Agreement 2014/15

“SA Health will lead and deliver a comprehensive and sustainable health system that aims to ensure healthier, longer and better lives for all South Australians”

“We will work with other government agencies and the community to address the environmental, socioeconomic, biological and behavioural determinants of health, and to achieve equitable health outcomes for all South Australians”

We will achieve our aims by:

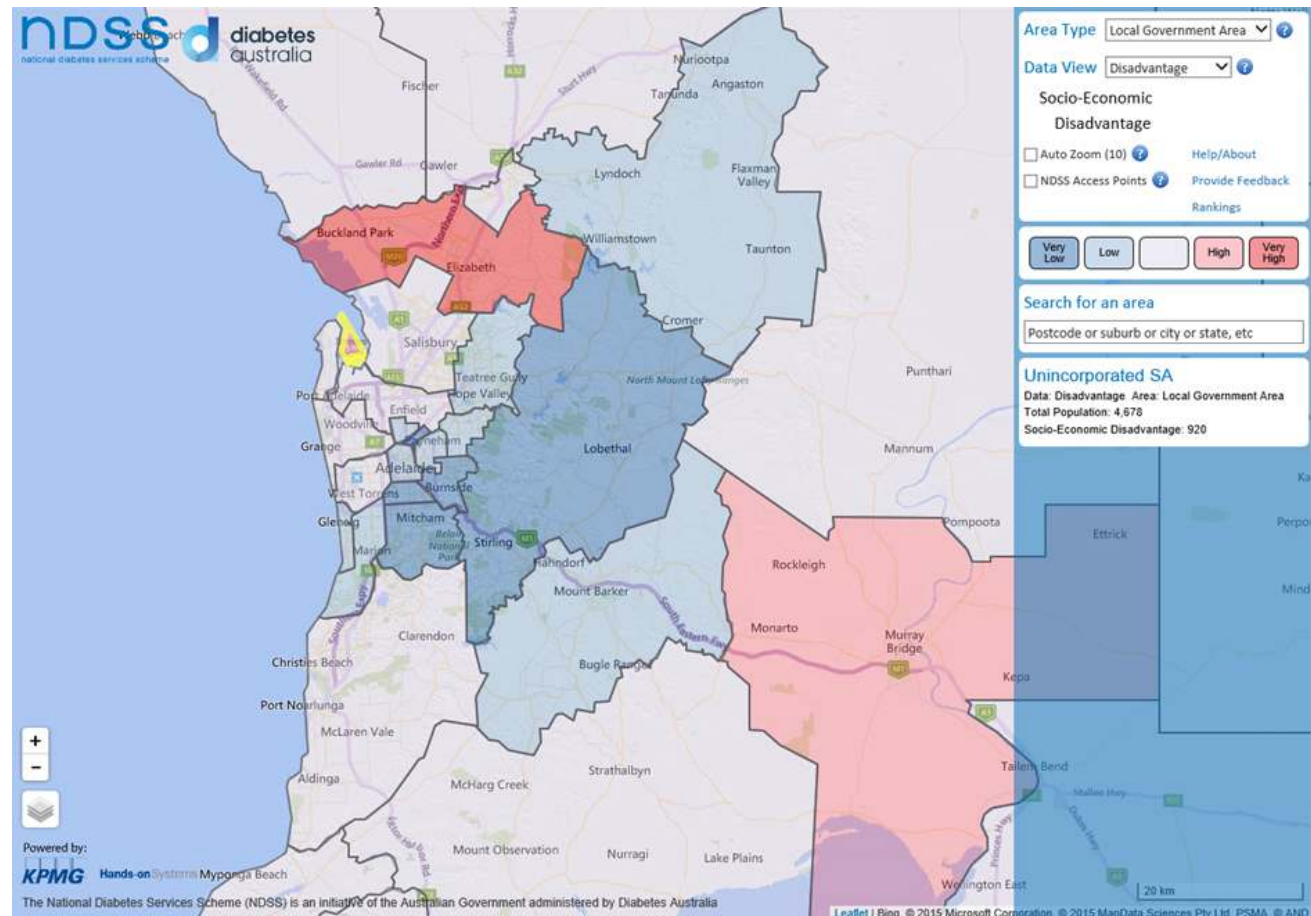
- Strengthening primary health care
 - Enhancing hospital care & reducing unnecessary utilisation
 - Improving the health of Aboriginal people
- Committing to a health system that produces positive health outcomes by focusing on health promotion and early intervention

What have we got to worry about?



“Here comes the scary part.”

Socio-economic disadvantage

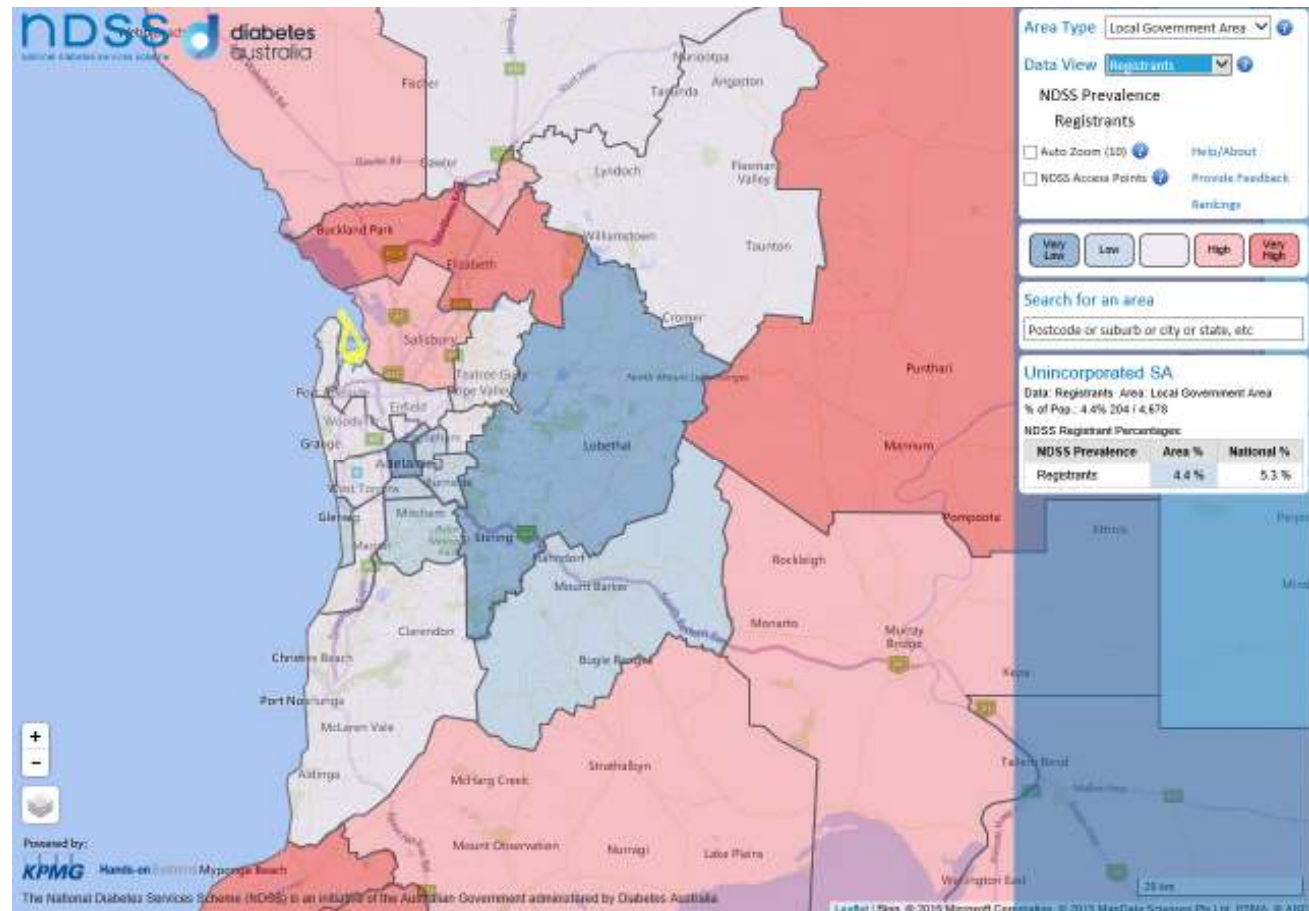


<http://www.diabetesmap.com.au>

SA Health

NDSS Prevalence registrants

7.2% vs 5.3% National



<http://www.diabetesmap.com.au>

SA Health

The Challenges....

LMH DEC under attack
- fighting to keep our
tertiary centre

Block on new staff
appointments

Reduction of
budgeted Outpatient
Diabetes Services

Changing patient demographic

Outpatient service KPI
agreement:

- “Agreed” Occasions Of Service (OOS) target
- “Agreed” New:review target
- “Agreed” Discharge target
- Failed to attend rate <10%
- Clinic cancellation rate <5%

Corporate GP practices:
“7 minute medicine”

Rising Diabetes
prevalence



Facing the challenges....

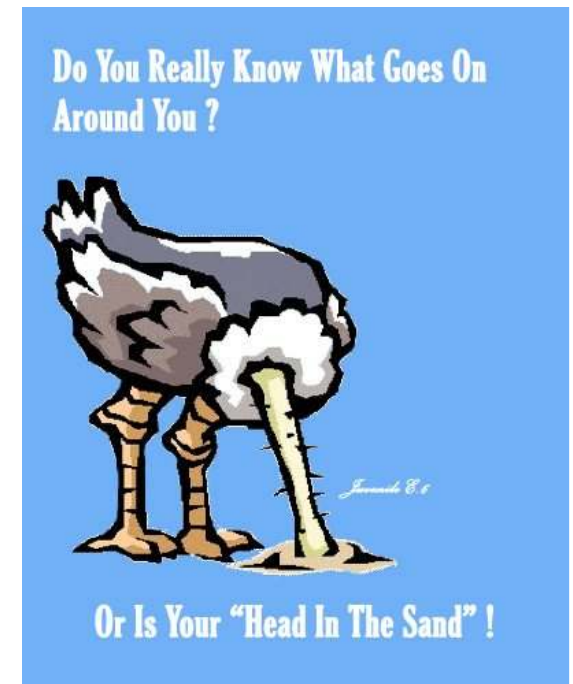
Know your business

Learn from others



Facing the challenges....

- > Outline your aims – what does your centre want to achieve?
- > Have a database
- > Track referrals & activity
- > Monitoring outcomes
- > Internal audits
- > ANDA & AQSMA data
 - Bench marking
 - Monitoring trends
- > Identify problems
- > Develop solutions
- > QI projects



Our Diabetes Centre service



- > Clinicians
- > Diabetes Educators
- > Dietitian
- > Podiatry service
 - Multidisciplinary Foot Clinic
- > Antenatal service
- > Administrative staff

- > Appointment system
- > Geographically challenged

- > Need to consolidate service
- > Improve efficiency
- > Adopt a **Team based** model of care

NALHN DEC aims include:

- Improve patient care and flow by offering a **team based assessment and management approach**
- Improve access for patients who need rapid assessment
- Avoid hospital admission
- Provide equality across our service - LMH and Modbury Super Clinic sites
- Reduce wait times – 140 patients waiting for new appointments
- Provide evidence based, tertiary level expertise
- Work as a Team - share the load, share knowledge
- Review scope of practice; up-skill staff members
- Support our GP and allied health colleagues in Primary Health Care
- Work towards being a “Centre of excellence”



ANDA & AQSMA

Reminder “it’s time to review your business”

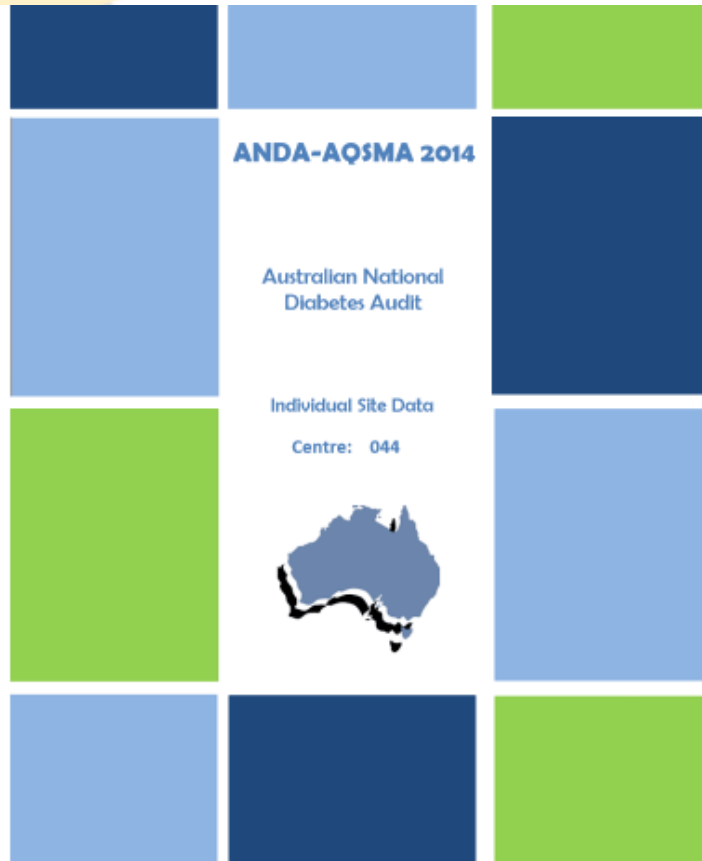


SA Health

ANDA-AQSMA Reports

Table of contents:

1. Site Report at a Glance
2. Historical Comparison Report
 - Provides 3 years of comparative data for your site
3. National Benchmarking Report
 - Compares your site and all other sites
4. Comparative Statistics by Site
 - Breakdown of each variable for all patients, by diabetes type and site ranking
5. NADC's Guide to Quality Improvement



Site report at a glance:

Summarises selected variables

Data Item	2012		2014		All Other Sites 2014	
	n	% / SD	n	% / SD	n	% / SD
Number	0		67		2614	
Mean Age (years)	NA ± NA		54.9 ± 17.3		55.0 ± 17.5	
Gender						
Male	0	NA	31	46.3%	1326	50.8%
Female	0	NA	36	53.7%	1285	49.2%
Visit						
Initial Visit	0	NA	13	19.4%	441	16.9%
Review Visit	0	NA	54	80.6%	2166	83.1%
Aboriginal/Torres Strait Islander						
Indigenous	0	NA	3	4.5%	104	4.0%
Non-Indigenous	0	NA	64	95.5%	2508	96.0%
Diabetes Type						
Type 1	0	NA	19	28.4%	678	26.0%
Type 2	0	NA	47	70.1%	1754	67.2%
GDM	0	NA	1	1.5%	132	5.1%
Don't Know	0	NA	0	0.0%	0	0.2%
Other	0	NA	0	0.0%	40	1.5%
Mean HbA1c						
Mean HbA1c - Type 1	NA ± NA		9.0 ± 2.2		8.5 ± 1.8	
Mean HbA1c - Type 2	NA ± NA		8.4 ± 1.6		8.1 ± 1.8	
Ever forget to take medications	0	NA	22	32.8%	698	27.2%
Attended diabetes educator	0	NA	47	70.1%	2015	77.3%
Attended dietitian	0	NA	32	47.8%	1317	50.5%
Attended podiatrist	0	NA	51	76.1%	1399	54.5%
Difficulties following prescribed diet	0	NA	23	34.3%	774	30.1%
Do not check glucose as often as recommended	0	NA	15	22.4%	649	25.2%
Depression Likely						
Depression Likely - Type 1	0	NA	4	21.1%	205	29.5%
Depression Likely - Type 2	0	NA	14	29.8%	516	28.8%
Mean Own Health State						
Mean Own Health State - Type 1	NA ± NA		72.1 ± 16.1		66.8 ± 19.3	
Mean Own Health State - Type 2	NA ± NA		61.2 ± 21.2		66.0 ± 20.3	
Mean Total DDS Score						
Mean Total DDS Score - Type 1	NA ± NA		2.4 ± 0.4		2.3 ± 0.8	
Mean Total DDS Score - Type 2	NA ± NA		2.1 ± 0.9		2.3 ± 0.9	

Identifying problems:

HbA1c at referral to LMH for outpatient insulin initiation 2009

>	N = 168			
>	Age	59.0 ± 12.1y		
>	Male	88 (52.4%)	Female	80 (47.6%)
>	Duration of diabetes:			
	• More than 10 years	50.6%		
	• Less than 10 years	44.6%		
>	Oral Hypoglycaemic therapy used at referral:			
	• Three agents	36 (21.4%)		
	• Two agents	92 (54.8%)		
	• One agent	34 (20.2%)		
	• Nil	6 (3.6%)		
>	HbA1c:			
	• Whole group	10.09%		
	• Males	10.23%	Females	9.90%
	• Age Group:			
	▪ ≤50	10.86%		
	▪ 51-60	10.22%		
	▪ 61-70	9.8%		
	▪ >70	9.34%		



Problem: “Insulin resistance”

Reluctance of local GPs to initiate insulin in primary health care

Solutions:

- > Provide support to primary health care
- > Education:
 - Medical professionals in primary health care
 - Patient forums
 - Titration tools
- > Insulin stabilisation service

ANDA: Diabetes Type & Management LMH

	2011 n=42	2013 n=104	2014 n=67	2014 all sites n=2614
T1D	28.6%	23.1%	28.4%	26.0%
T2D	71.4%	71.2%	70.1%	67.2%
GDM	0.0%	1.0%	1.5%	5.1%
Diet/tabs.	2.4%	18.3%	7.5%	29.9%
Tabs/injectables	-	-	5.9%	3.6%
Insulin +/- other	97.6%	81.8%	86.6%	66.5%

ALL TYPES OF DIABETES

At 30 June 2015

There were 1,176,180 people with diabetes registered on the NDSS

Diabetes Type	Number	%	Registered in Past Year
Type 1	117,917	10%	2,973
Type 2	1,019,708	86%	65,463
Gestational*	31,890	3%	31,890
Other	6,665	< 1%	932
Total	1,176,180	100%	101,258

INSULIN THERAPY

At 30 June 2015

There were 371,197 people with diabetes who required insulin therapy registered on the NDSS. This was 32% of all people with diabetes

Diabetes Type	Requiring Insulin	% of Total	% of Diabetes Type
Type 1	117,917	32%	100%
Type 2	240,400	64%	24%
Gestational	9,412	3%	30%
Other	3,468	< 1%	52%
Total	371,197	100%	32%

NDSS Registrants: Diabetes Type & Management 

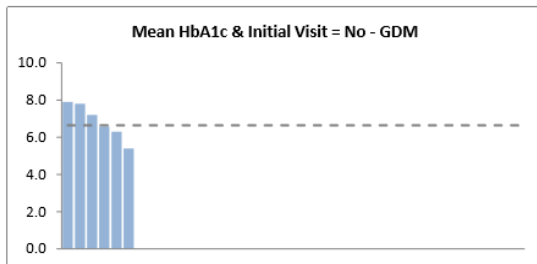
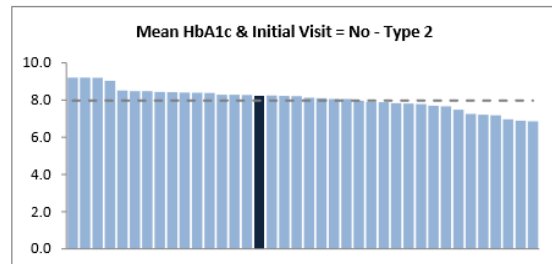
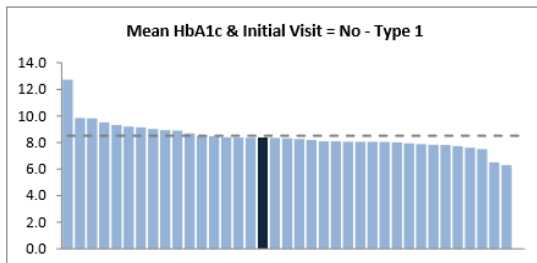
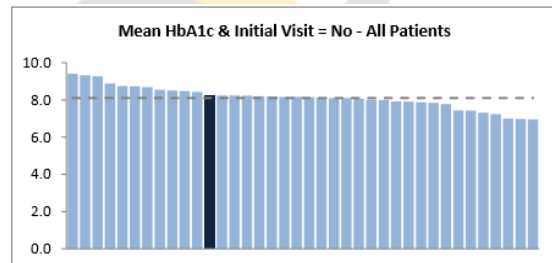
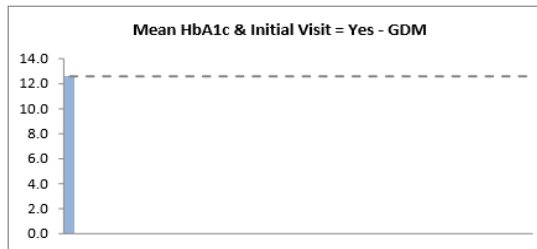
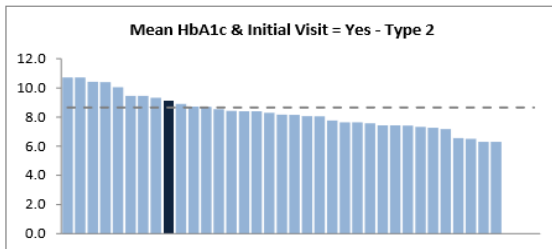
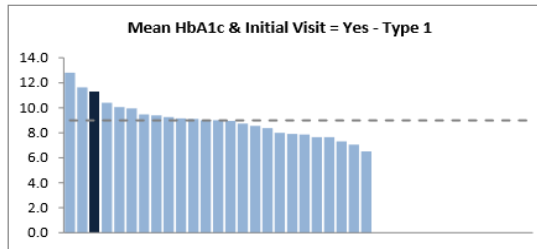
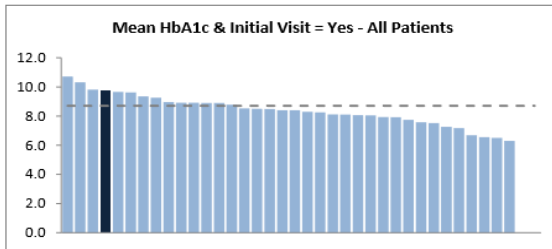
www.ndss.com.au

ANDA: Diabetes Type & HbA1c LMH

HbA1c %	LMH 2013 n=104	All sites 2013 N=3739	LMH 2014 N=67	All sites 2014 n=2614
Overall	8.3	8.1	8.6 +/- 1.8	8.2 +/- 1.8
T1D	8.4	8.5	9.0 +/- 2.2	8.5 +/- 1.8
T2D	8.3	8.0	8.4 +/- 1.6	8.1 +/- 1.8
T1D initial visit			11.3 +/- 3.1	
T1D review visit	8.3 +/- 1.4		8.3 +/- 1.6	
T2D initial visit			9.1 +/- 1.9	
T2D review visit	8.2 +/- 1.7		8.3 +/- 1.5	

Encouraged by improved HbA1c

Diabetes Type by HbA1c Comparative statistics 2014



Initial visit:
- Higher than site average

Review visit:
- Consistent with site average

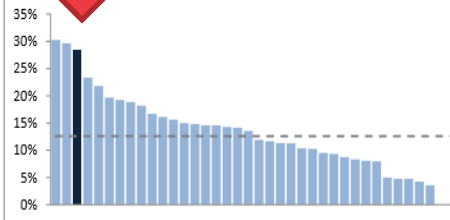
Physical Activity Status comparative statistics 2014

Physical Activity Status by Diabetes Type

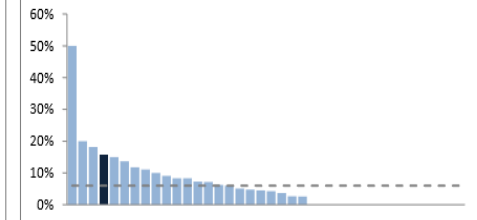
	Type 1		Type 2		GDM		Don't know		Other		Missing		Total	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Sufficient	10	52.6%	10	21.3%	0	0.0%	NA	NA	NA	NA	NA	NA	20	29.9%
Insufficient	6	31.6%	21	44.7%	1	100.0%	NA	NA	NA	NA	NA	NA	28	41.8%
Sedentary	3	15.8%	16	34.0%	0	0.0%	NA	NA	NA	NA	NA	NA	19	28.4%



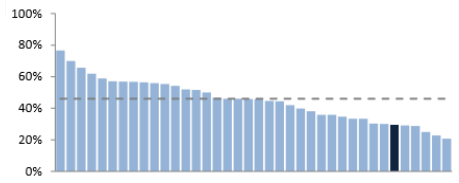
Sedentary - All Patients



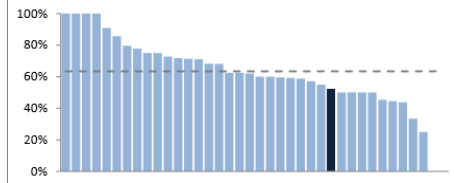
Sedentary - Type 1



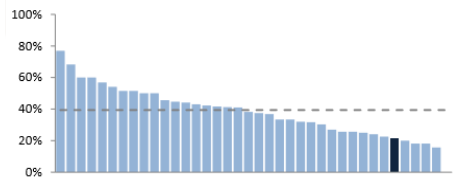
Sufficient - All Patients



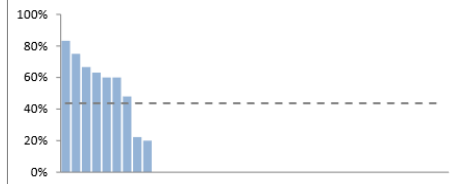
Sufficient - Type 1



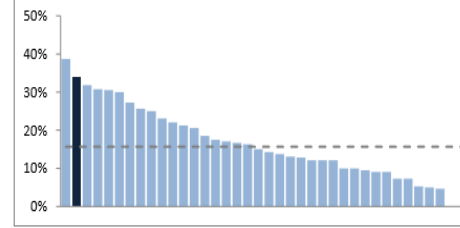
Sufficient - Type 2



Sufficient - GDM



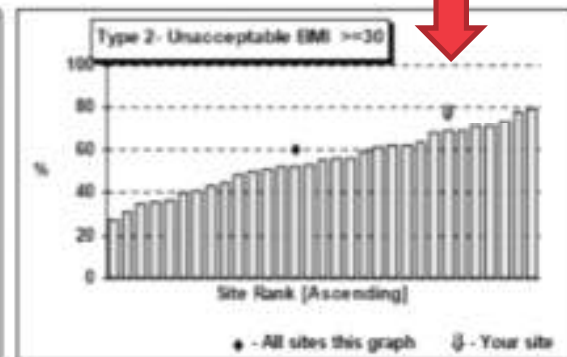
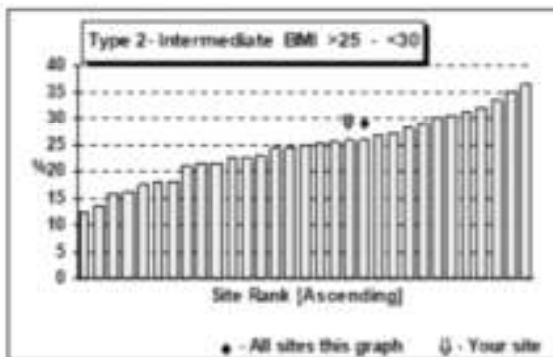
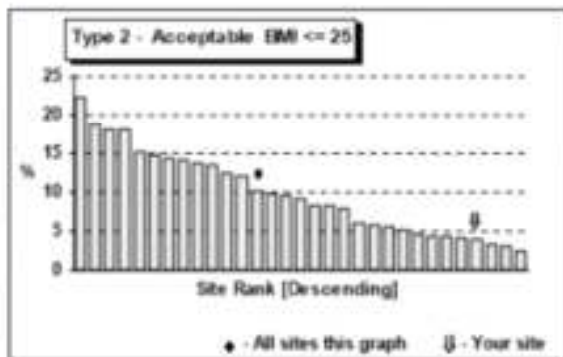
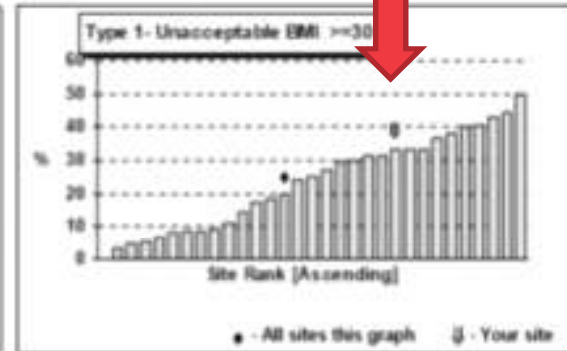
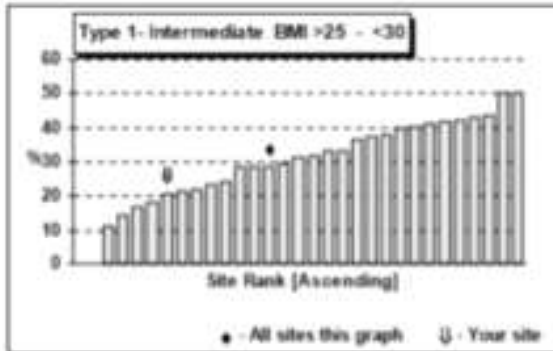
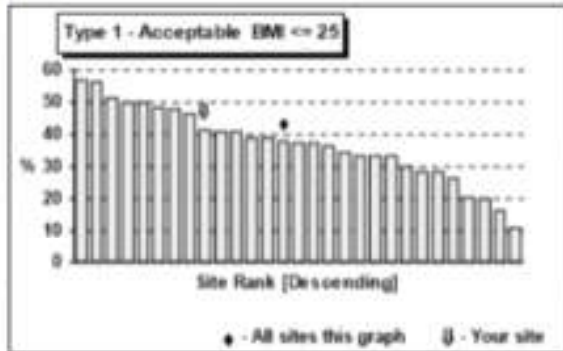
Sedentary - Type 2



Sedentary - GDM



Diabetes type by BMI comparative statistics 2013

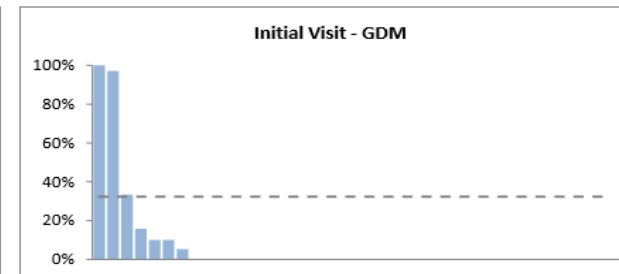
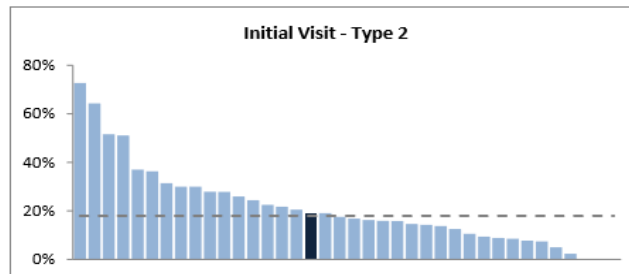
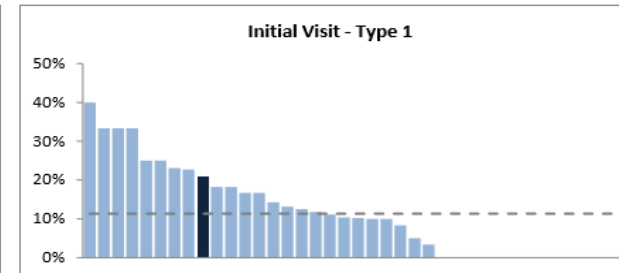
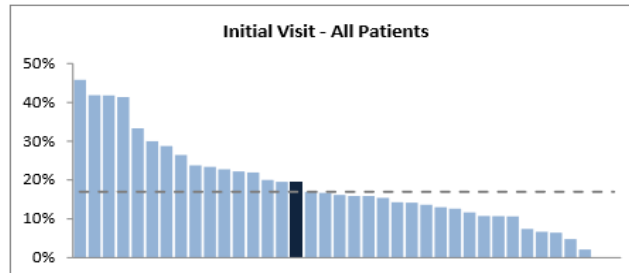


Initial Visit by Diabetes Type comparative statistics 2014

Outpatient reform: “Agreed” New:review target

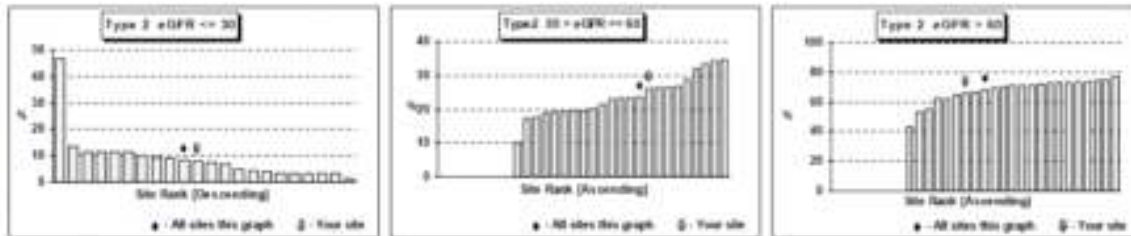
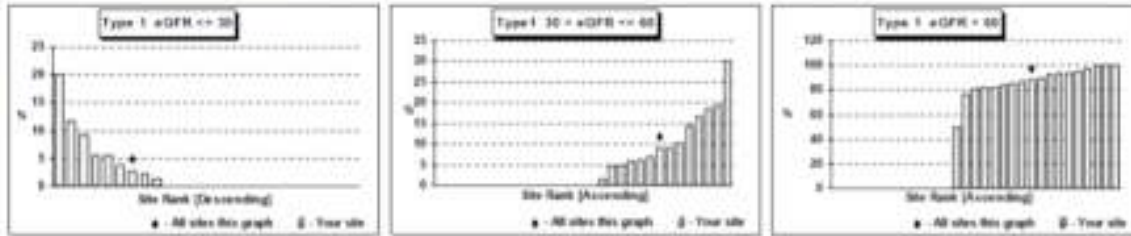
Initial Visit by Diabetes Type

	Type 1		Type 2		GDM		Don't know		Other		Missing		Total	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Yes	4	21.1%	9	19.1%	0	0.0%	NA	NA	NA	NA	NA	NA	13	19.4%
No	15	78.9%	38	80.9%	1	100.0%	NA	NA	NA	NA	NA	NA	54	80.6%



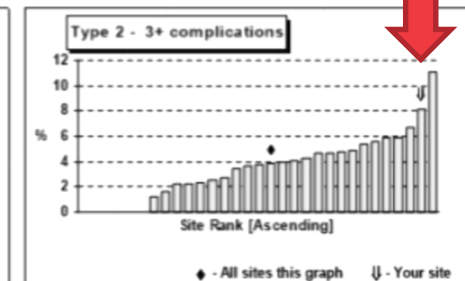
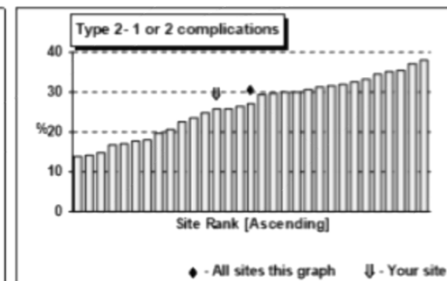
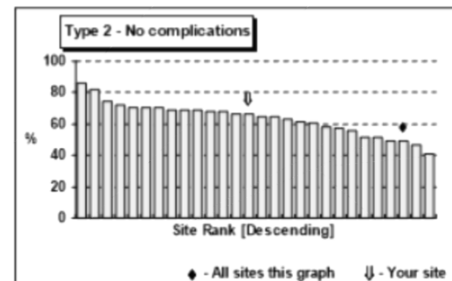
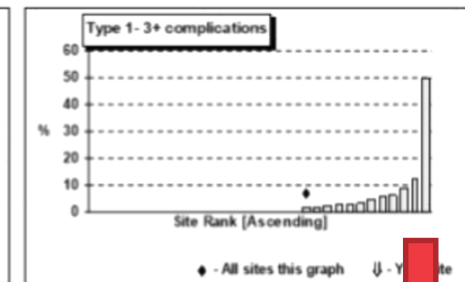
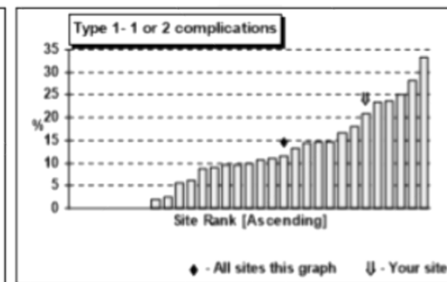
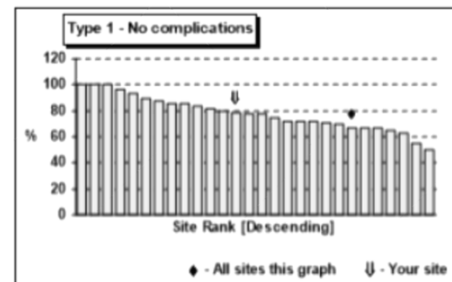
?1:4

Diabetes type by eGFR & Vascular Complications comparative statistics 2013



eGFR

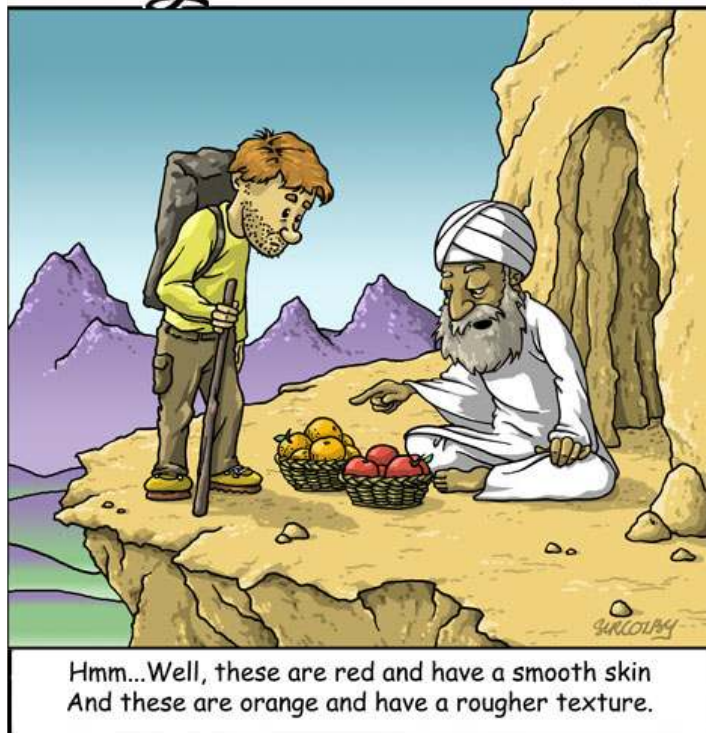
Vascular Complications





Other useful ANDA comparative statistics

- > Demographics
- > Lifestyle
- > Causative cardiovascular risk factors
- > Medication use
- > Health Professional attendances
- > Self Care Practices
- > Mental health
- > QOL assessment
- > Complications



Comparative data

- > Caution with comparisons
- > Know your sample:
 - Is your site sample the same from year to year?
 - Is your site sample the same as samples from other sites?
- > Sample bias:
 - NALHN sample:
 - Data collected by doctors
 - “Traditional” clinic model up to 2015
 - One clinic and one site within NALHN
 - Antenatal and multidisciplinary foot clinic not been targeted

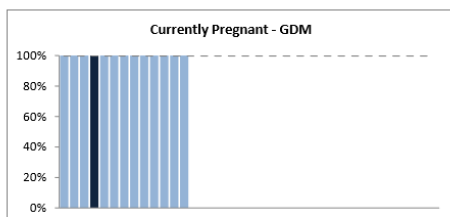
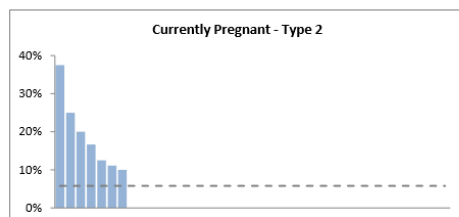
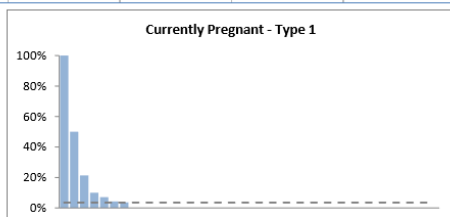
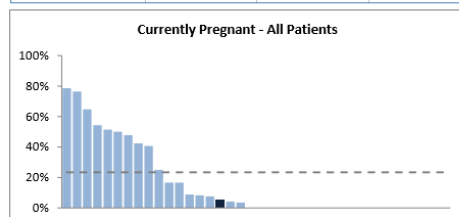


Current pregnancy & Indigenous Status by Diabetes Type comparative statistics 2014

Pregnancy status

Currently Pregnant* by Diabetes Type

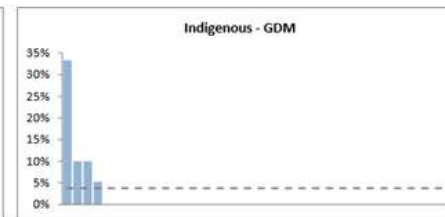
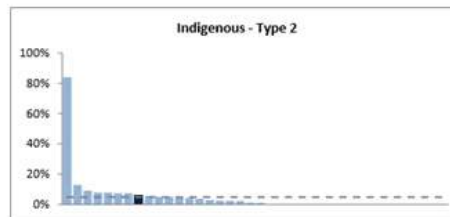
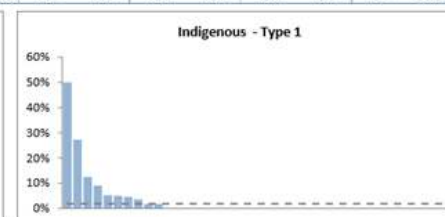
	Type 1		Type 2		GDM		Don't know		Other		Missing		Total	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Yes	0	0.0%	0	0.0%	1	100.0%	NA	NA	NA	NA	1	5.3%	1	5.3%
No	10	100.0%	8	100.0%	0	0.0%	NA	NA	NA	NA	18	94.7%	18	94.7%



Indigenous status

Indigenous Status by Diabetes Type

	Type 1		Type 2		GDM		Don't know		Other		Missing		Total	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Yes	0	0.0%	3	6.4%	0	0.0%	NA	NA	NA	NA	NA	NA	3	4.5%
No	19	100.0%	44	93.6%	1	100.0%	NA	NA	NA	NA	NA	NA	64	95.5%



*for females aged between 15-55 years



NADC's Guide to Quality Improvement


- > QI is an important part in the provision of any service
- > Easy to get lost and bogged down in service provision and to lose track of goals
- > Unless we measure what we do and the outcomes of our care, it will be difficult to know exactly what needs to improve and what impact our improvements have had over time
- > Reliable data must drive efforts to improve systems or processes



NADC's Guide to Quality Improvement

Data allows us to:

- > Identify problems
- > Assist with prioritising QI initiatives
- > Enable objective assessment of whether improvement has occurred after change
- > Understand, focus and improve our service by allowing us to compare our performance either against known standards or against our own prior results



NADC's Guide to Quality Improvement

5 Step Guide to Quality Improvement

- > Step 1: What is your centre aiming for?
- > Step 2: Assess your ANDA data?
 - Can you do better?
 - Are you an outlier?
 - Why?
- > Step 3: Decide on your projects?



NALHN DEC Projects

- > Relocate Doctor consulting into DEC
- > Establish a Young Adult Diabetes Service
- > Improve facilities for downloading of CSII and glucometers in all consulting areas
- > Introduce a formal inpatient consultative service at Modbury Hospital supported by improved access to inpatient DE
- > Standardise inpatient insulin management
- > Establish a centralised appointment triaging process
- > Establish a patient database: BioGrid
- > NALHN DEC Service model change
- > Upskill DEC staff members




NADC's Guide to Quality Improvement

5 Step Guide to Quality Improvement

> Step 4: Rapid Cycle Model Questions?

- What are you trying to accomplish?
- How will you know that a change is an improvement?
- What changes can you make that will result in an improvement?
- How will you know that a change is an improvement?



NADC's Guide to Quality Improvement

5 Step Guide to Quality Improvement

Step 5: Deploy the PDSA cycle?

- > **Plan:** what exactly you will do; who will carry out the plan; when will it take place; where; what do you predict will happen; what will you measure
- > **Do:** carry out the plan; document problems; begin analysis of data
- > **Study:** complete data analysis; review and reflect on the results; compare the data to predictions; summarise what was learned
- > **Act:** what changes are to be made; what is the next cycle; can you grow the improvements that have been made



Using ANDA & AQSMA data in practice

Conclusions:

- > In order to achieve your centre's goals outline your aims
- > Know your business – stop, take stock, and reflect
- > Learn from others
- > Be aware of potential limitations of Comparative data
- > In order to succeed we must focus on the patient, be led by our clinical staff and be driven by data



SA Health