

Figure 1. The Hunter New England Health Area of New South Wales, Australia



Hunter Alliance: Is this the Diabetes Model for the future?

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Background

- Hunter New England has 873 000 residents across 131,785km area
- 440+ GP practices
- 70 000 people with diabetes (7000 type 1)
- 2.5 FTE diabetes specialists in public, 2.5 FTE in private
- Secondary care clinics provide diabetes services to 4000 people annually with around 6-7000 consultations for diabetes
- No systematic data collected on diabetes related outcomes
- No standardisation of care and no integration of services leading to either under or over servicing
- Often limited 2 way communication

Hunter Alliance: 2013 onwards

- An alliance between Medicare local or Primary Health Network, Calvary Mater and Hunter New England Health
- Diabetes identified as a priority work
- 3 clinical leads and a full time project manager
- Consumer engagement through forums
- Regular working party meetings to identify priority, scoping, planning, implementation and evaluation

What we intend to do?

Diabetes Registry

- Based on Swedish model
- GP Practice based registry
- Performance feedback
- Bench mark against loco –regional and desired standards

GP practice capacity building intervention

- Specialist teams in primary care
- 3 days of intensive case conference style consultations with patients and GPs and practice nurses

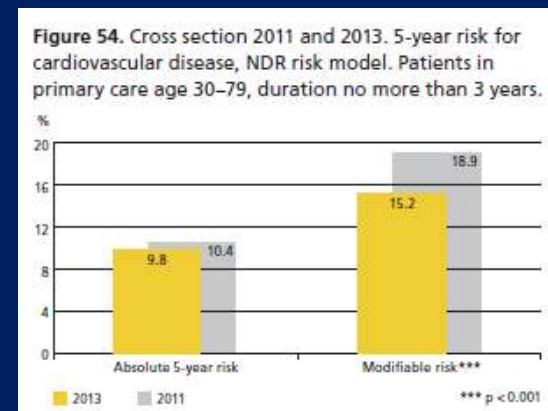
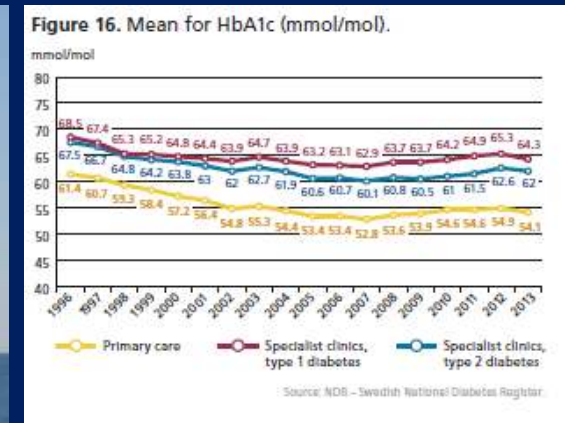
Evaluation and Translational research

- Evaluation of effectiveness
- Registry based future intervention studies



Diabetes Registry, our inspiration from Sweden

- GP practices to consent
- Practice data to be extracted with tools such as PENCAT or GRHANITE
- Practice data will be matched against HNE record number
- Data then linked and housed under Hunter Medical Research institute in the registry
- De identified practice data to be available on web
- Individual practices will know where they stand on performance but will not be able to identify other practices
- Patient confidentiality is maintained
- Data harmonisation



Diabetes Registry

- Registry data is ineffective unless regular feedback and assistance provided to improve performance and hence our intervention designed simultaneously
- Main barriers for Registry : legal aspects, consenting, confidentiality, data accuracy, integrity, reporting and cost
- Estimated cost is around \$ 60000 to build + \$300 to 800 per practice to install IT software and maintenance fee, in addition to workforce salary
- IT solutions are encouraging
- Currently building the registry for 8 practices who had intervention this year to test user acceptance and iron out any teething issues
- Hope to get it live by 2017-2018 if funding granted

What is the intervention?

- **GP surgeries were invited** to participate in the pilot project.
- **15 GP** practices expressed interest and **8 were randomly selected** for the first phase of the project.
- Baseline data for **all patients with Type 2 diabetes** in the practice was analysed using the PEN Clinical Audit Tool.
- Patients were **stratified** according to risk.
- This information was delivered back to the GPs and the GPs would then **invite patients who were high-risk** and patients the GPs felt would most **benefit** from the intervention.
- Ethics approval and Informed consent was obtained.

The intervention

- Each practice was offered **three full day** consultations followed by **two Telehealth** sessions (half-day).
- Each consultation was in the form of a **40-minute case conference** involving the patient, the patient's GP, PN, Diabetes educator and Endocrinologist
 - Equates to 10 patients per full consultation day
- The surgery administrative staff were responsible for making the bookings and obtaining all the required data for the consultation
- **Cost neutral based on medicare case conference item number**

Intervention patient details completed



Diabetes Register

Clinic Date:

Name:	ATSI: Yes <input type="checkbox"/> No <input type="checkbox"/>
Date of Birth:	Country of Birth if outside Australia:
Age:	
Gender:	
Year First Diagnosed with Diabetes:	Current Diabetic Care Plan: Yes <input type="checkbox"/> No <input type="checkbox"/>

Diabetes Treatment:

Diet only Insulin Oral **Oral & insulin** Oral & **SynDA**

Cholesterol Management:

(please choose if the patient is taking any of the following)

statin fibrate Other _____

Antihypertensive Management:

(please choose if the patient is taking any of the following)

ACE inhibitor ARB Other _____

General Observations:

Height:	Weight:	Waist Circ :	BMI:	Blood pressure:
Smoking habits: Never smoked <input type="checkbox"/>		Physical Activity: <30mins/day <input type="checkbox"/>		
Current smoker <input type="checkbox"/>		30-60 mins/day <input type="checkbox"/>		
Ex-smoker <input type="checkbox"/>		>60mins/day <input type="checkbox"/>		

Pathology Results:

Cholesterol:	Triglycerides:	HDL:	LDL:
Serum Creatinine:	Albuminuria ACR:	HbA1c :	HbA1c:

Has the patient received diabetes education with a Diabetes Educator?

In the last 12 months In the last 2 years > than 2 years Never

Has the patient seen a Dietitian?

In the last 12 months In the last 2 years > than 2 years Never

Does the patient have a history of other diabetes related complications?

- | | |
|--|---|
| <input type="checkbox"/> Peripheral vascular disease | <input type="checkbox"/> Cerebrovascular disease |
| <input type="checkbox"/> Vision impairment | <input type="checkbox"/> IHD/MI |
| <input type="checkbox"/> Cardiovascular disease | <input type="checkbox"/> CKD |
| <input type="checkbox"/> Minor amputation | <input type="checkbox"/> Major amputation |

Has the patient had a hospitalisation for a diabetes related complication?

- Yes No
- History of admission for hypoglycaemia related event
- History of admission for hypoglycaemia related event

Has the patient had retinal screening attended? *Please print report

In the last 12 months In the last 2 years Greater than 2 years Never

Results of retinal screen:

No evidence of retinopathy Mild retinopathy Moderate retinopathy Severe retinopathy

Has laser treatment been attended to in the past?

Yes No

Has the patient had foot screening attended? * Please print report

In the last 12 months In the last 2 years Greater than 2 years Never

Results:

- Healthy foot
- Neuropathy and/or **apical**
- Previous diabetic foot ulcer
- Serious ongoing foot disease

Summary of changes made during case conference:

Referrals made at time of case conference:

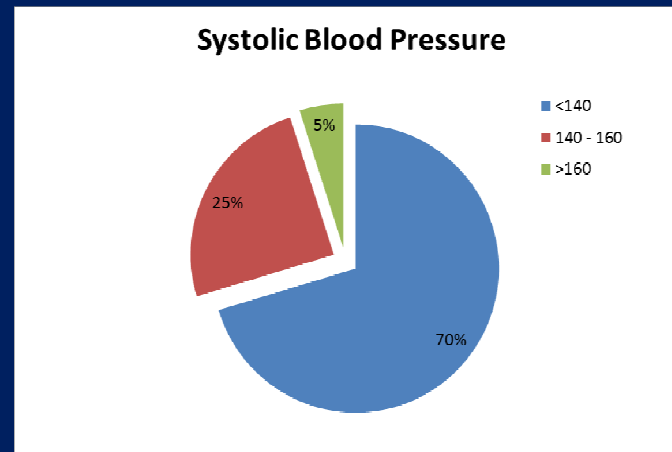
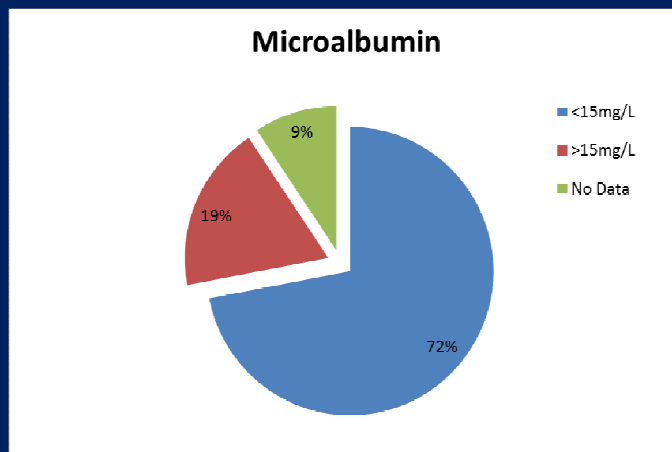
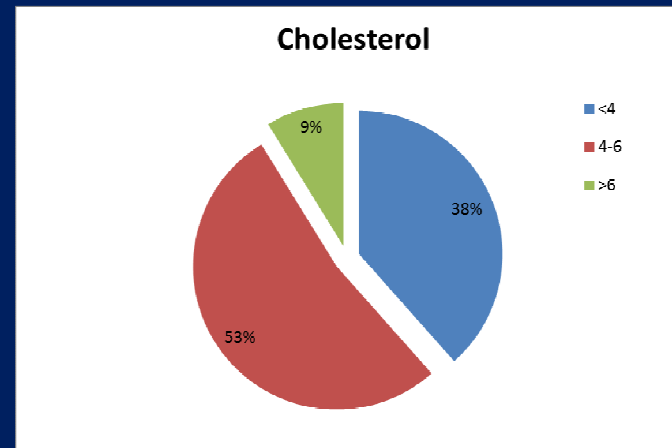
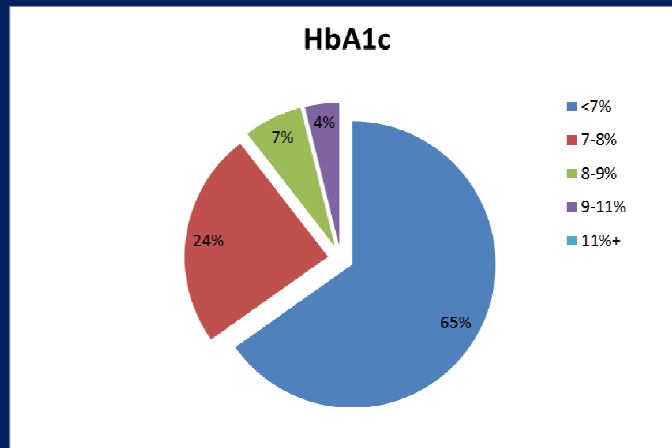


GP Practice Integration Days

- Intervention has been completed in **4 practices.**
- There were a total of **993 patients** with Type 2 diabetes.
- Face-to-face case conferences occurred with **126 patients.**
- 18 GPs
- 7 practice nurses
- 2 Endocrinologists
- 2 Diabetes educators



Data example from one practice



% of patients with elevated microalbumin (>15mg/L) on ACE / ARB: 47%
% of all Type 2 diabetics on statins: 72%

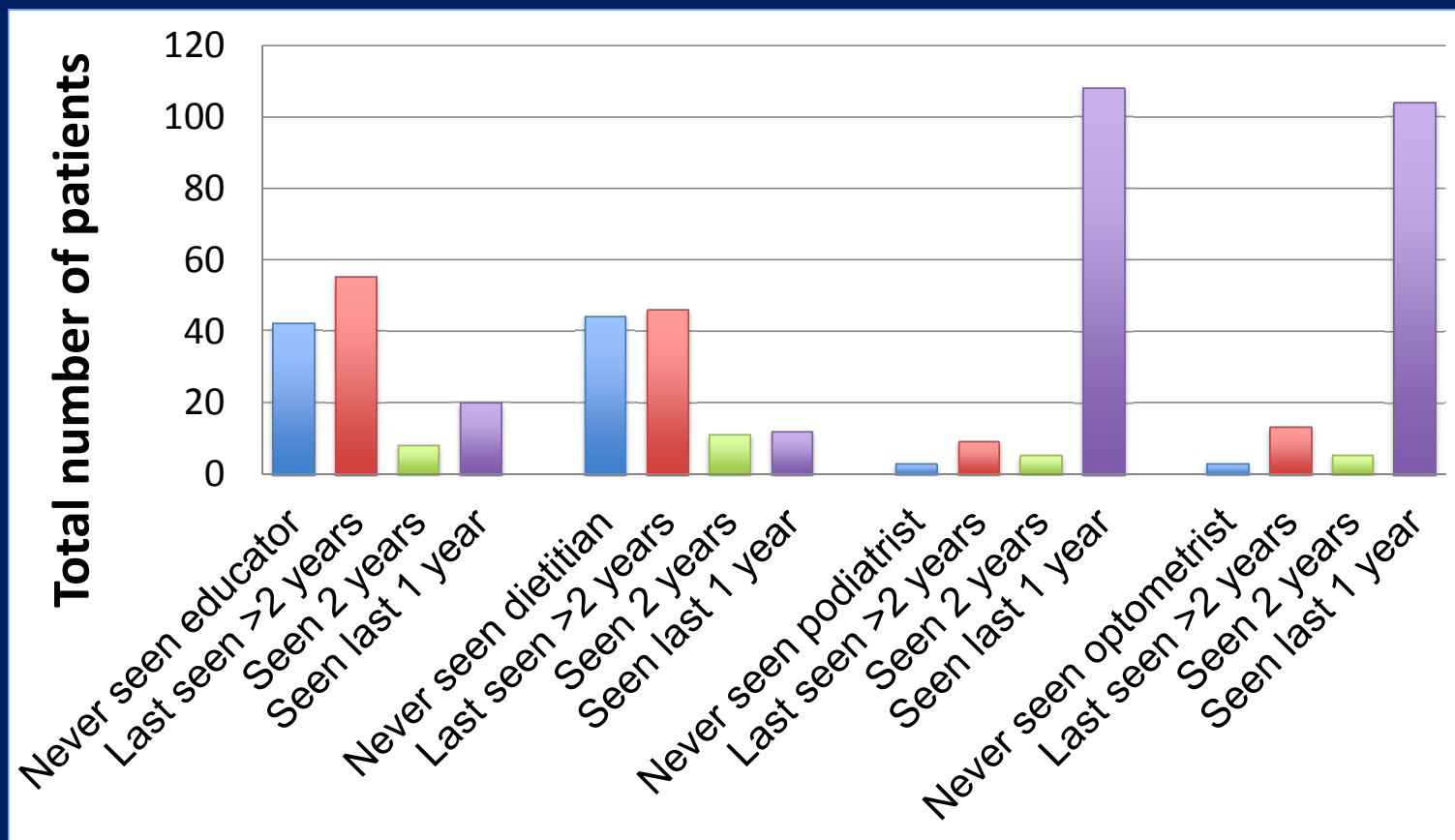
PRACTICE		1	2	3	4	5	6	7	8	9
no. patients		190	270	294	250	255	130	350	32	130
HbA1c (%)	<7	65	52		56	66	41	62	50	69
	7-8	24	24		25	18	26	22	23	15
	8-9	7	12		11	7	9	9	18	9
	9-11	4	9		8	6	19	4	4	4
	11	0	3		0	3	5	3	5	3
Cholesterol (mmol/L)	<4	38	34		40	39	27	30	32	36
	4-6	53	53		51	50	53	60	45	49
	>6	9	13		9	11	20	10	23	15
Albuminuria (mg/L)	<15	72	66		63	33	30	50	35	48
	>15	19	34		37	24	23	26	9	25
	no data	9	0		0	43	47	24	56	27
SBP (mmHg)	<140	70	63		58	61	39	55	75	68
	140-160	25	28		31	31	46	38	25	26
	>160	5	9		11	8	15	7	0	6
Ace/ARB	%	47	71		75	76	74	78	100	69
statin	%	72	68		72	66	40	52	25	67

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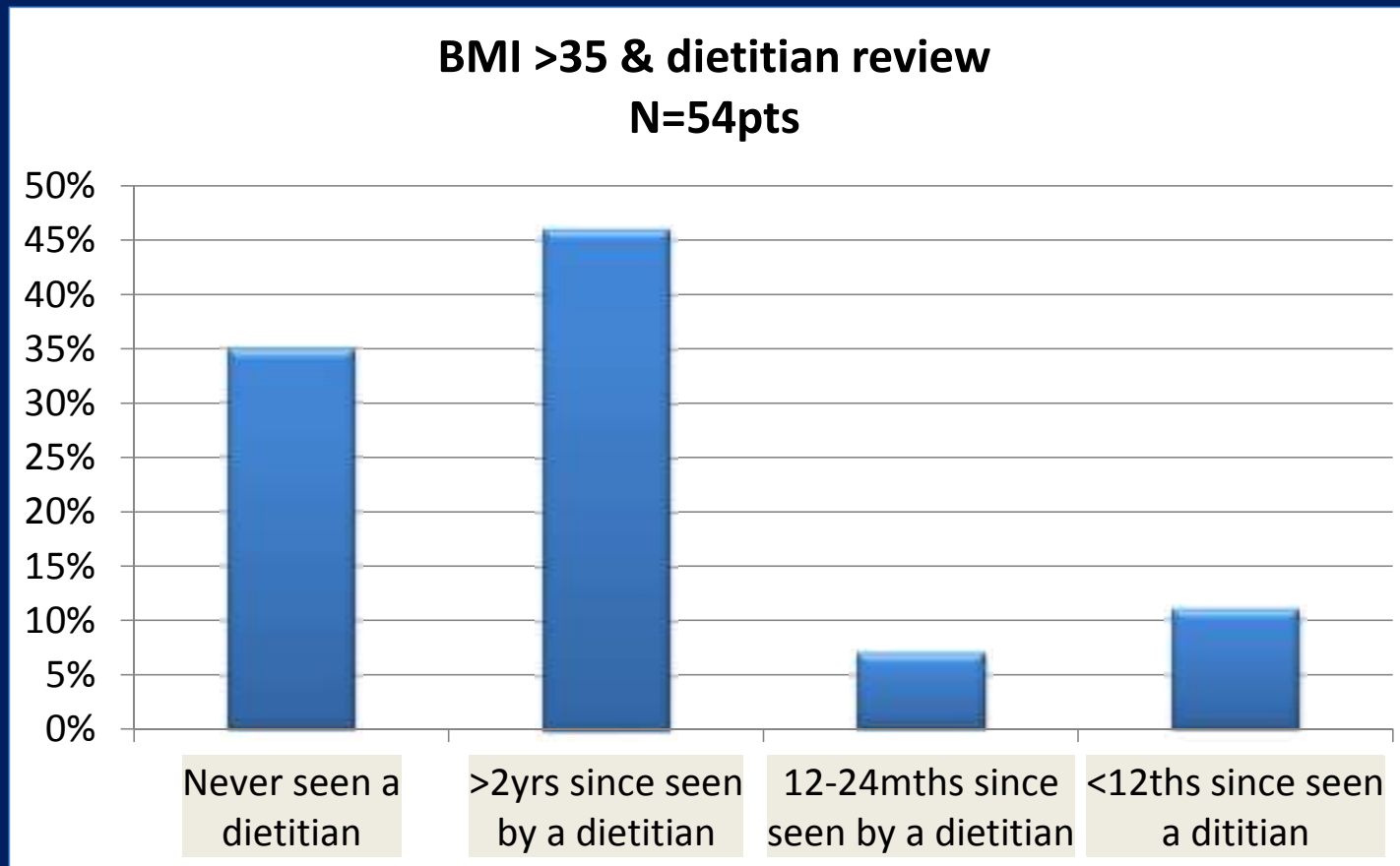
Baseline data of patients from the 4 practices who have participated in the intervention

	Range	Mean \pm SD
Patients consulted: total 126	24-41 (per practice)	
Age (years)	26-88	62.4 \pm 11.5
Male (no. patients)	10-21	63
Diabetes duration (years) mean \pm SD	0-34	9 \pm 8
BMI (kg/m²)	23-57	35.0 \pm 6.8
HbA1c (%)	5.2-13.1	7.8 \pm 1.5
Systolic BP (mmHg)	92-195	139 \pm 20
Total Cholesterol (mmol/L)	2.4-8.8	4.5 \pm 1.3
Smoking (no. of patients)	2-5	14
5 year absolute cardiovascular risk (%)	1.2-59.1	15.1 \pm 11.1
5 year modifiable cardiovascular risk (%)	0-15.3	5.5 \pm 5.1

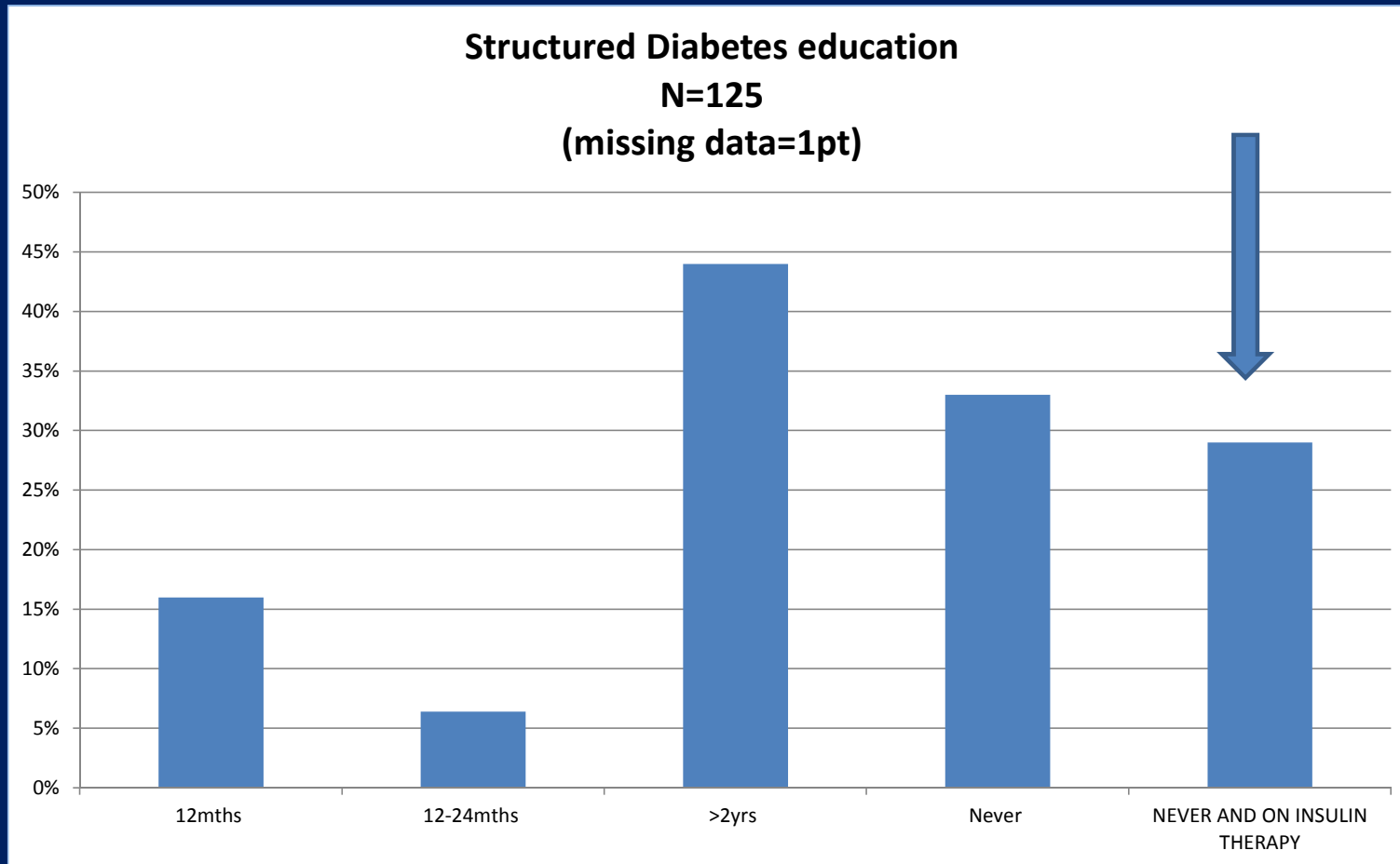
Baseline number of allied health attendances by patients in the intervention



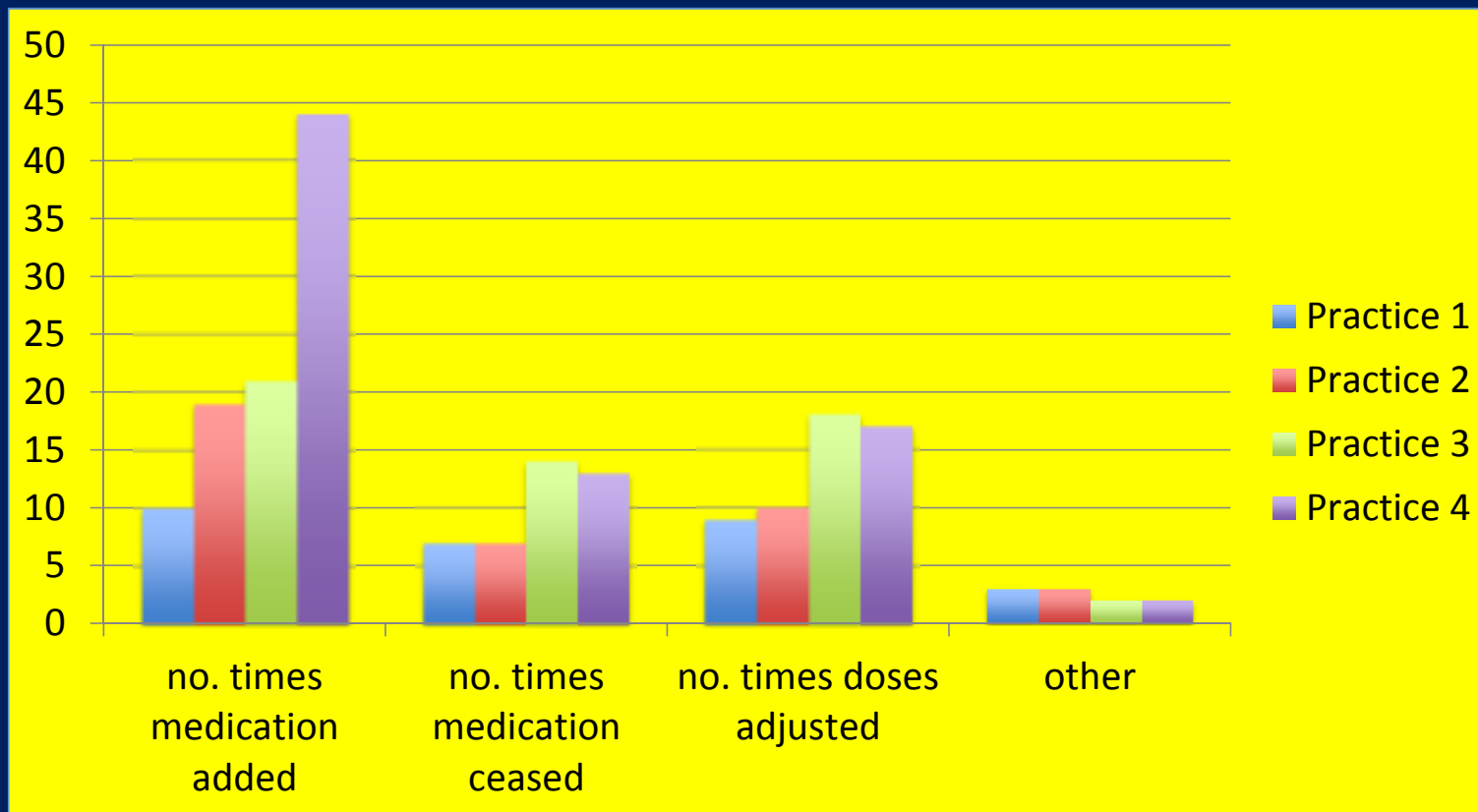
Results



Results



Pharmacological intervention rates



Outcomes

- Appropriate **referrals** were made during the consultation.
- **Pharmacological changes** were made in 95/126 (75%) of patients.
 - Good general medicine also practised....
- This integrated model, tied in with the development of a diabetes registry, will allow health providers to identify gaps in the standards of diabetes care and institute **intervention in a timely manner**.
- Improvement in **patient confidence and experience**.
- Increased levels of **knowledge in GPs and PNs**.

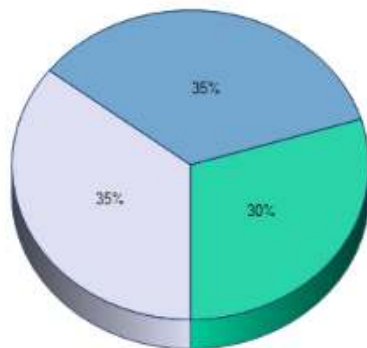
Progress

- Intervention in **next 4 practices** (Stage 2) will be completed by end 2015
- **Evaluation of outcomes on intervention patients as well as whole practice patients**
- **Establish the registry by 2017**
- **Intervention will be for those who need help based performance status**
- **Hand over diabetes clinic patients from intervention practices back to their GPs**

3 Practice nurse education days

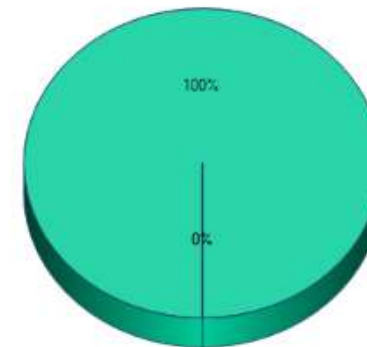
72 nurses attended from as far as Scone, Forster and Barrington Tops

1. Reason for attending this workshop



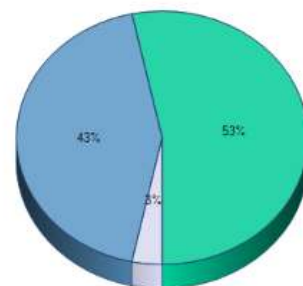
Response	Response Total	Response Percent
I needed to know more on this subject	26	83%
I enjoyed the concept of practice education	26	83%
I feel it is important to discuss issues and meet with colleagues	18	70%
(skipped this question)	60	5

6. As a result of this workshop: Have you acquired useful knowledge or skills?



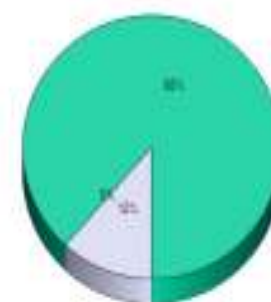
Response	Percentage
Unsure	0%
Disagree	0%
Agree	100%

4. How well was the learning expectation met? To provide clinicians more confidence in starting patients on insulin therapy



Response	Response Total	Response Percent
Not met	2	3%
Partially met	26	43%
Entirely met	32	53%
(skipped this question)	60	5

8. As a result of attending this workshop, have you been stimulated to chase further information?



Response	Response Total	Response Percent
Unsure	7	13%
Disagree	0	0%
Agree	33	88%
(skipped this question)	60	5