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Hunter Alliance Diabetes Integration Project

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NSW GOVERNMENT Health Hunter New England Local Health District | phn HUNTER NEW ENGLAND AND CENTRAL COAST An Australian Government Initiative | Calvary | Hunter PRIMARYCARE | HMRI Hunter Medical Research Institute

Hunter Alliance Diabetes Integration Project: Background

- HNE – higher than average T2DM prevalence & complication rate
- Variation in care
- Potential for improvement in rate of completion of Diabetes Annual Cycle of Care

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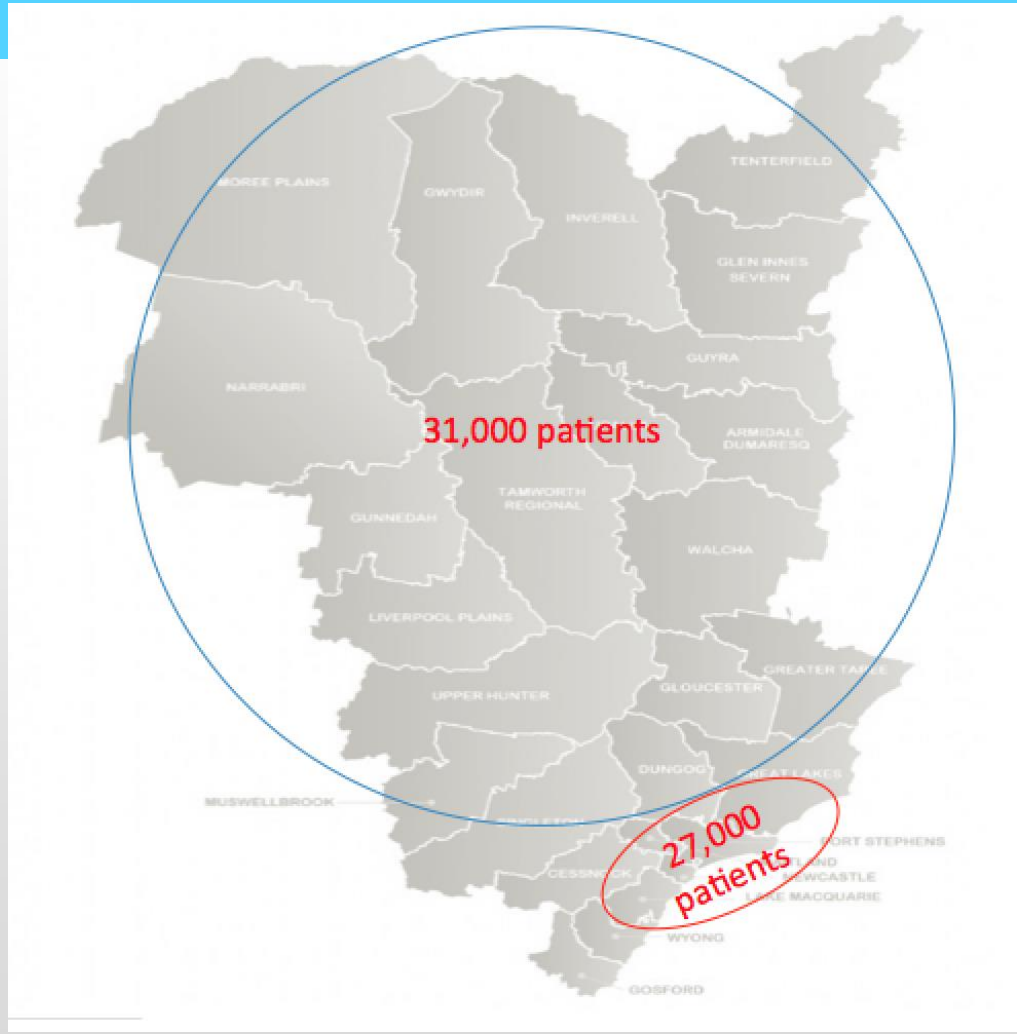
Hunter Alliance Diabetes Integration Project: Background

- Specialist workforce:
  - 85% endocrinologists and diabetes educators located within the Newcastle area
  - 3 FTE endocrinologists – seeing 1000 “new” patients per year (John Hunter Hospital)
  - 3000 follow up appointments then generated
  - 3 FTE private endocrinologists in Newcastle
  - 1 FTE private endocrinologist in Tamworth
  - Fly in fly out specialist service in Moree 1 day every 3 months
  - 12 diabetes educators employed across HNE LHD

- GP workforce:
  - 297 practices
  - 1032 GPs



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Hunter Alliance Diabetes Integration Project: Aims

- Improve diabetes control
- Enhance patient self-management
- Support appropriate prescribing and monitoring
- Improve patient experience
- Increase GP team diabetes knowledge and skills
- Address recognised barriers to implementation of best practice diabetes management
- Reduce time taken by clinicians and patients to initiate or intensify treatment.

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Hunter Alliance Diabetes Integration Project: Implementation

- GP patients with T2DM identified, and risk stratified, within practices.
- High risk patients x 30 per practice invited to a case conference at GP practice.
- Practice Nurses collect baseline data

Table 1. Diabetes Mellitus Disease Severity Index

	Very High Risk	High Risk	Moderate Risk	Low Risk
Glycemic control	HbA_{1c} ≥10% Hypoglycemia: severe/unconscious Frequent DKA (≥2/y)	HbA_{1c} ≥9% Hypoglycemic >3 times per week DKA <2/y	HbA_{1c} <9% and >7%	HbA_{1c} ≤7%
Cardiovascular disease	CHF: new or a change in treatment CABG or PTCA: recent/≤6 mo New MI/other CVD event: recent/≤6 mo Angina: unstable	CHF: stable, no change in treatment >6 mo CABG: History of (>6 mo) MI: History of (>6 mo) Angina: stable CAD CVA	Use of HTN, lipid medications Any 1 of the following risk factors (current/Hx): current smoker; BMI >27/obesity; triglycerides >400 mg/dL; LDL >130 mg/dL; HTN/BP >130/85 mm Hg; microalbuminuria/proteinuria; PVD (levels 2, 3, and 4); LVH; autonomicneuropathy	No risk factors, signs and symptoms, or evidence of cardiac disease
PVD/peripheral neuropathy	Amputation: <1 y ago Ulcer/infection: recent/current Bypass: recent, <1 y Gangrene: current Charcot foot: active Acute ischemic foot	Amputation: >1 y ago Ulceration/infection: History of >1 y ago Bypass for PVD >1 y Gangrene: History of >1 y ago Charcot: chronic	Peripheral neuropathy PVD Sensation: diminished or absent Ischemic changes Intermittent claudication Abnormal NIVS	Intact sensation (pinprick ≥2) and pulses or vibratory sense
Eye disease	PDR: high risk Retinal detachment Vitreous hemorrhage CSME	PDR: early NPDR: severe/very severe Early macular edema Pregnancy	PDR: quiescent NPDR: moderate Cataract: visually significant	No retinopathy NPDR: mild Cataract: not visually significant

- Rosenzweig JL et al; Use of a Disease Severity Index for Evaluation of Healthcare Costs and Management of Comorbidities of Patients with Diabetes Mellitus; The American Journal of Managed Care:8(11):950-8; December 2002 [https://www.researchgate.net/publication/11031214_Use_of_a_Disease_Severity_Index_for_Evaluation_of_Healthcare_Costs_and_Management_of_Comorbidities_of_Patients_with_Diabetes_Mellitus]

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Hunter Alliance Diabetes Integration Project: Implementation

Integrated Clinics in GP rooms with primary care staff-Upskilling

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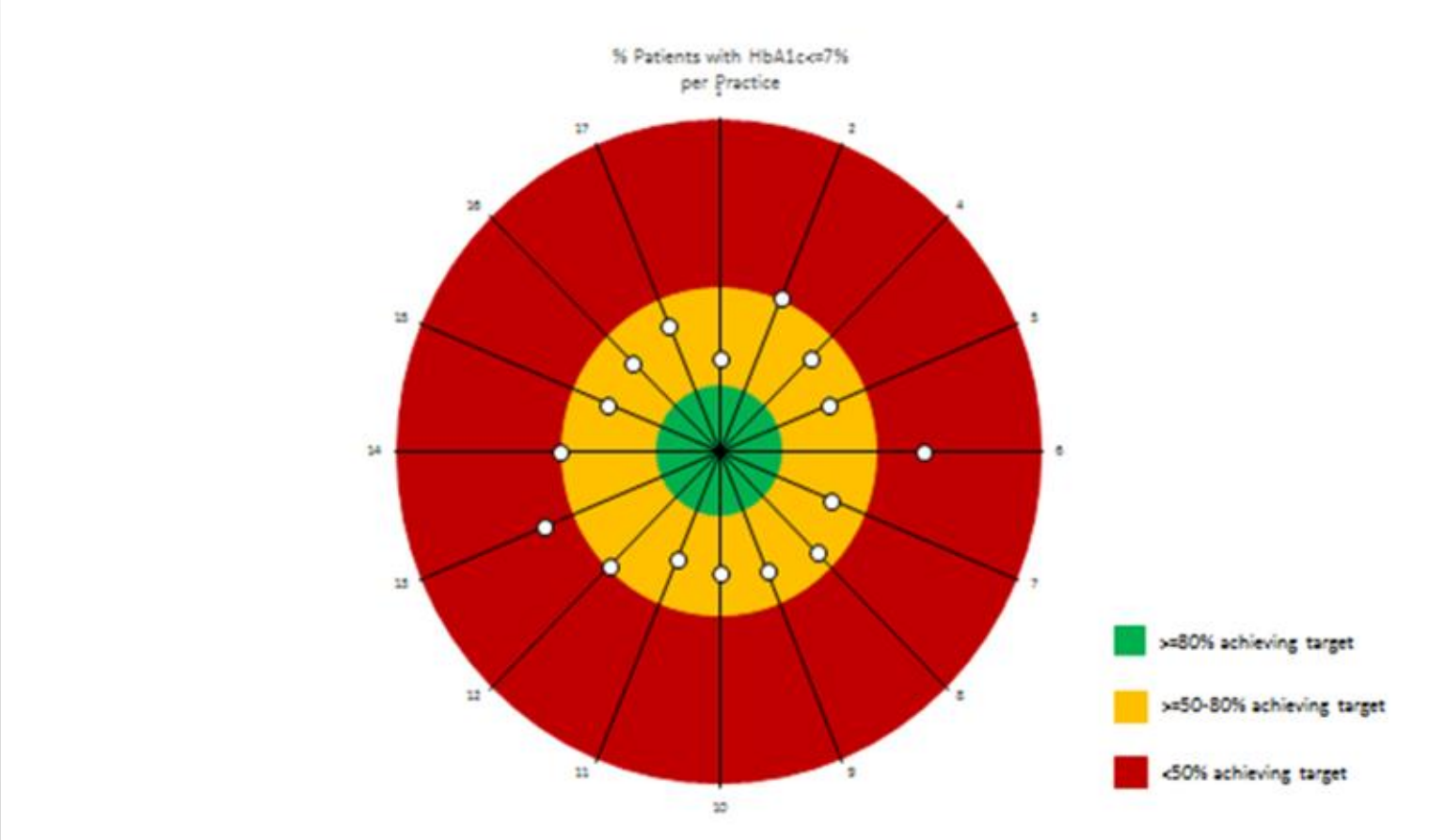
Hunter Alliance Diabetes Integration Project: Implementation

- Data collected populates a database which generates feedback reports to the practice.



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Hunter Alliance Diabetes Integration Project: Results

456 patients with Type 2 diabetes were seen over 14 months:

- mean age 63.5 ±11.7yrs.
- duration of diabetes 11 ±8yrs.
- mean HbA1c 63.3 ±16.2mmol/mol (7.9%)

- 29% of patients with a BMI>35kg/m^2 had not seen a dietitian.
- 12.5% had no HbA1c level checked in the preceding 12 months
- 33% had no record of testing for urine microalbuminuria

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Hunter Alliance Diabetes Integration Project: Results

- During case conference, 92% had medication changes recommended

- At 6 months, interim follow-up across 147 patients showed significant improvement in clinical parameters:
  - HbA1c improved from 59.3 ±14.4 mmol/mol (or 7.6%) to 54.0±12.3mmol/mol (or 7.1%) (p=0.0006).
  - weight improved from 98.3 ±20.8 to 97.0 ±21.3kg (p=0.015).
  - total cholesterol 4.5 ±1.2 to 4.4 ±1.2mmol/l (p=0.04).
  - systolic BP 136 ±18 to 133 ±17mmHg (p=0.015).

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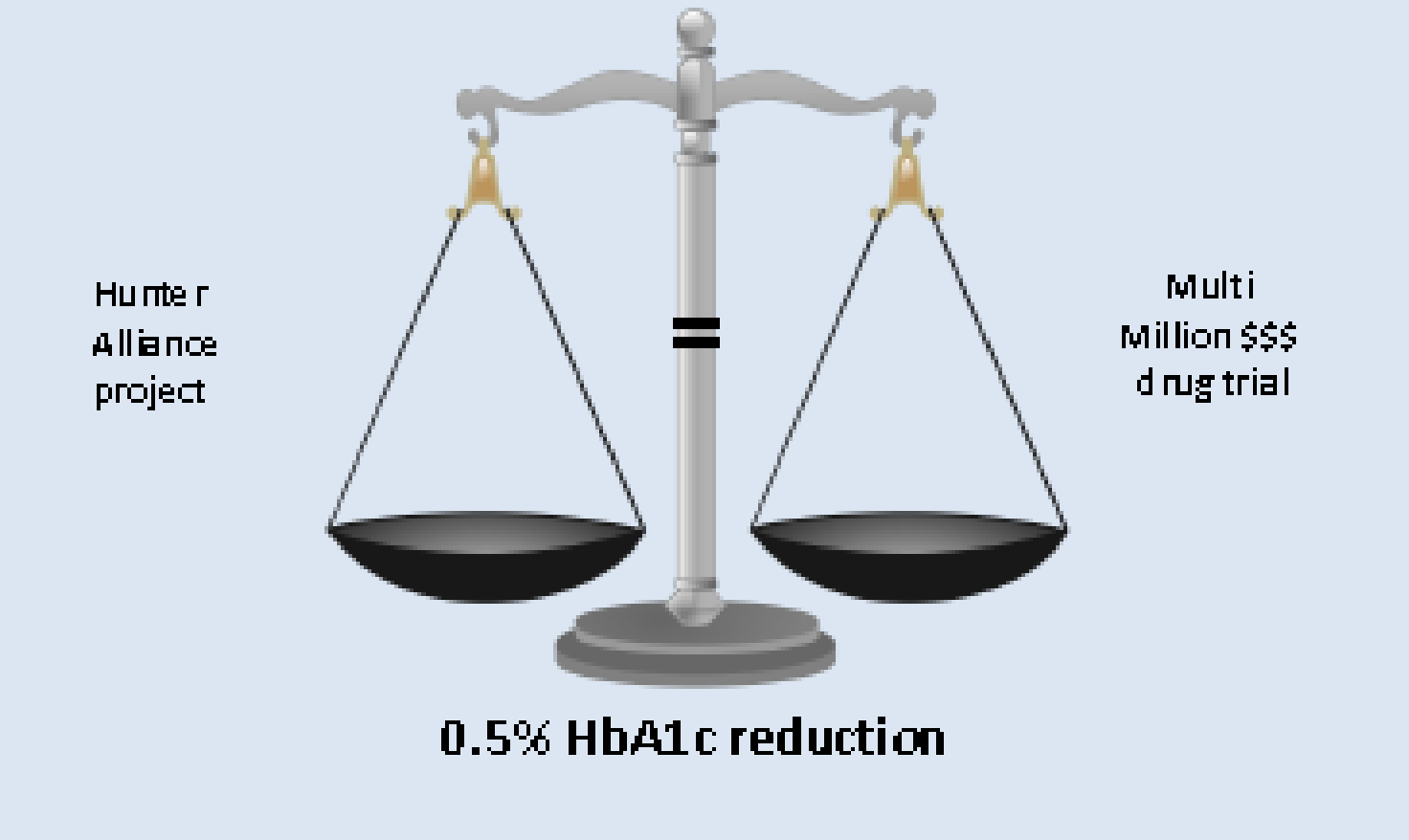
Hunter Alliance Diabetes Integration Project: Results



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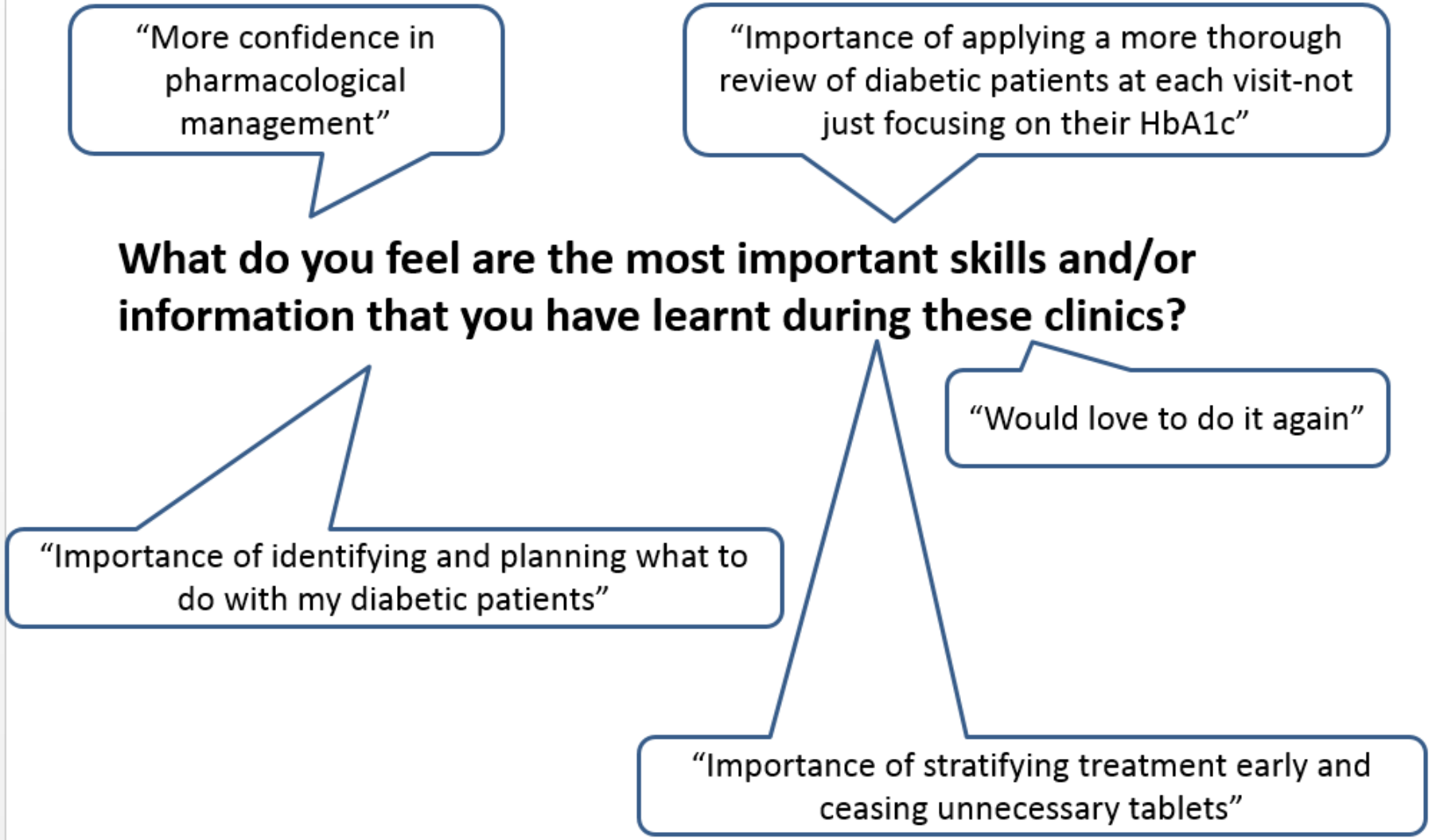
Hunter Alliance Diabetes Integration Project: Results



- 100% of involved clinicians felt the experience was "satisfying or very satisfying".

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Hunter Alliance Diabetes Integration Project: Results

Clinic appointment experience

"Really good 2 Drs together with Nurses talking about my case and I could hear it, ***felt involved.***"

"I thought I was going to get in trouble"

I need LISTS, menu plans looking forward to seeing Dietician to get these.

"Thought I may be attacked (not physically) ***bit of conflict within consulting team*** in regards to medication change etc."

"***Couldn't wait to get there*** family history didn't know how to manage"

"Cost issue - diabetes management with medication / insulin. Happy to reduce tablet number for cost issues"

- **37% of patients reported improved knowledge and confidence in diabetes management using the validated Patient Activation Measure™ (PAM).**

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Hunter Alliance Diabetes Integration Project: Results

Table 1. Comparison of existing diabetes model of care to the new integrated Hunter Alliance model.	
Current model	**Alliance model**
Consultations at hospitals	Consultations close to patients at their GP practices
Recommendations made to GPs, may not be implemented by GPs (various factors)	During case-conference, GP takes ownership of recommendations and implements it
Little upskilling for primary care team (letters only)	Intense upskilling including practice nurses, 'live demonstrations'
Limited information for specialists, consultations slowed down for data collections (across multiple labs)	Full comprehensive information available with GP data base, saves time
Requires multiple follow-ups and develops dependency on specialist teams 'I have been coming for years' **More referrals to outpatients**	No routine follow-up from specialists, all follow-ups at GP practice from primary care team, liaise with specialist if any concerns **Less referrals to outpatients**
Limited partnership value	Excellent partnership, integration and communication
Limited follow-on effects	Potential to improve entire practice cohort

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Hunter Alliance Diabetes Integration Project: Results

Table 2. Cost-benefits of new model of care compared to the existing model.		
	Current model	**Alliance model**
Cost (Endo, educator, + dietitian)	$2016	$1608
Revenue	$1620	$2335
$$ difference	-$396	+$726
Space	3 hospital clinic rooms	1 GP consulting room
DNA rate	22%	2%
New/Review	25%	100% new
Follow-up appointments	2-3/patient	0

GP billing
Item 743: Organise and coordinate a case conference of **at least 40 minutes.**
Fee: $201.65 **Benefit:** 75% = $151.25 100% = $201.65

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Hunter Alliance Diabetes Integration Project: What we don't know yet

- Will the entire cohort of T2DM patients in a general practice benefit from this model?
- Will the positive outcomes to date be maintained over time?
- Will we start to see reduction in time taken by clinicians and patients to initiate or intensify treatment?

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Hunter Alliance Diabetes Integration Project: What's next?

- Develop regional diabetes registry of 290 GP practices with 60000 patients (gradually) partnership with NPS MedicineInsight
- 35-40 GP practices to receive intervention per year
- Each practice will get 3 days intervention with 30 new patients (moderate to high risk)
- Local GP practices will also 'take back' their stable patients who are attending JHH

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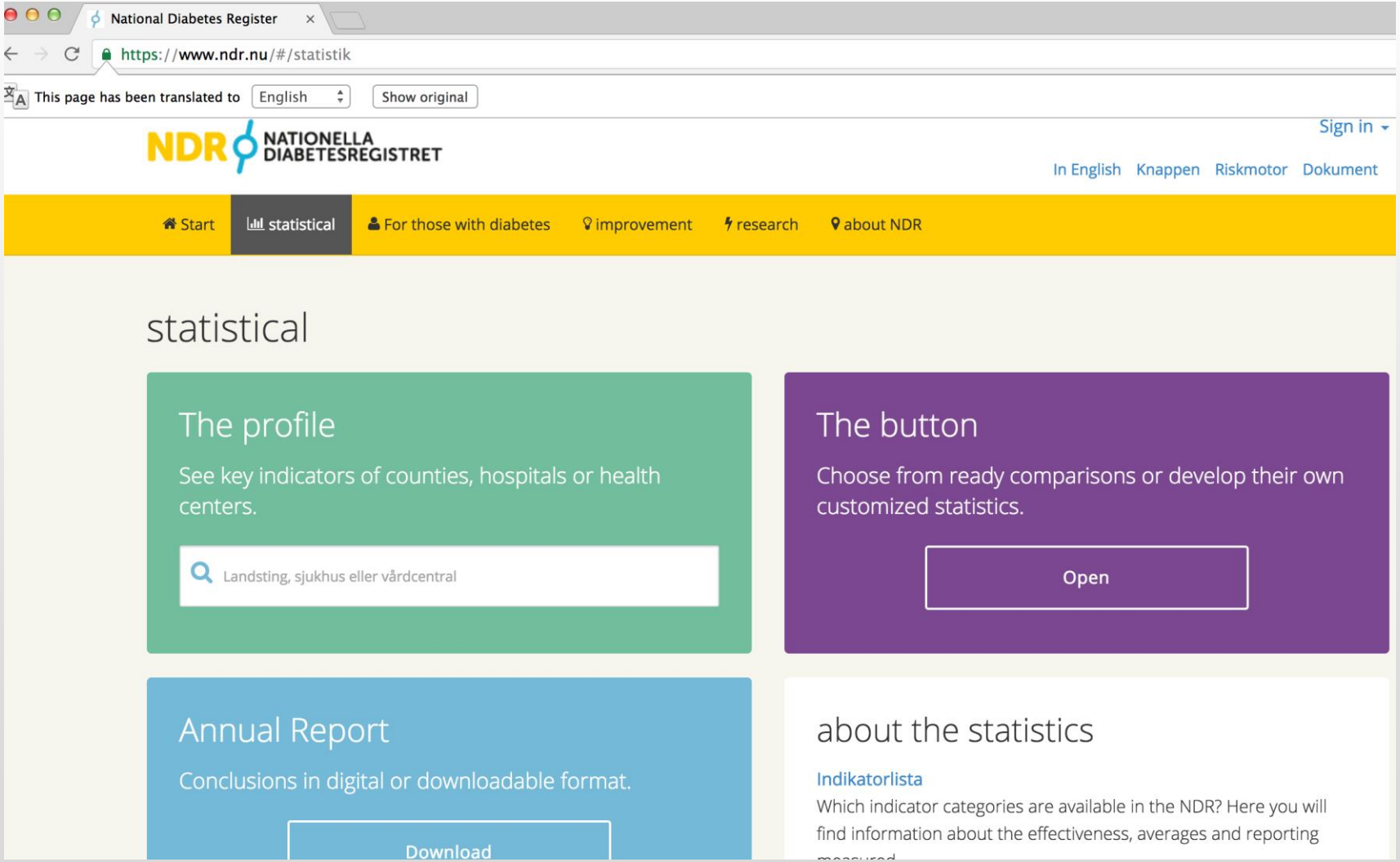
Hunter Alliance Diabetes Integration Project: What's next?



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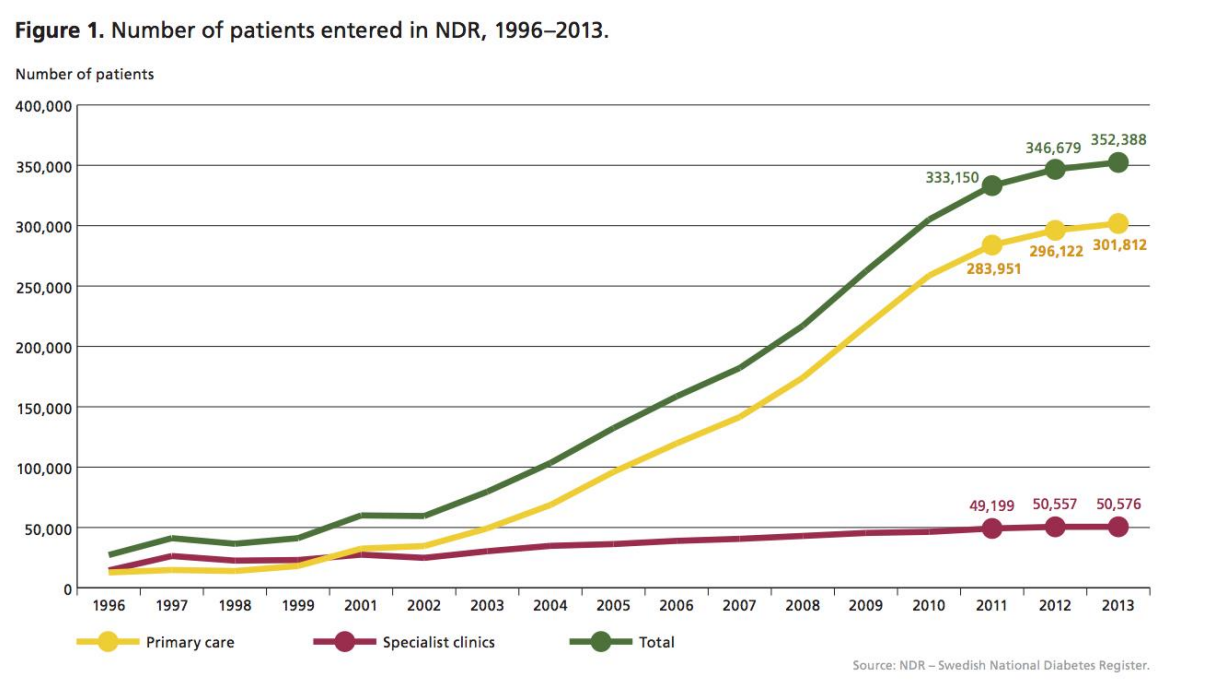
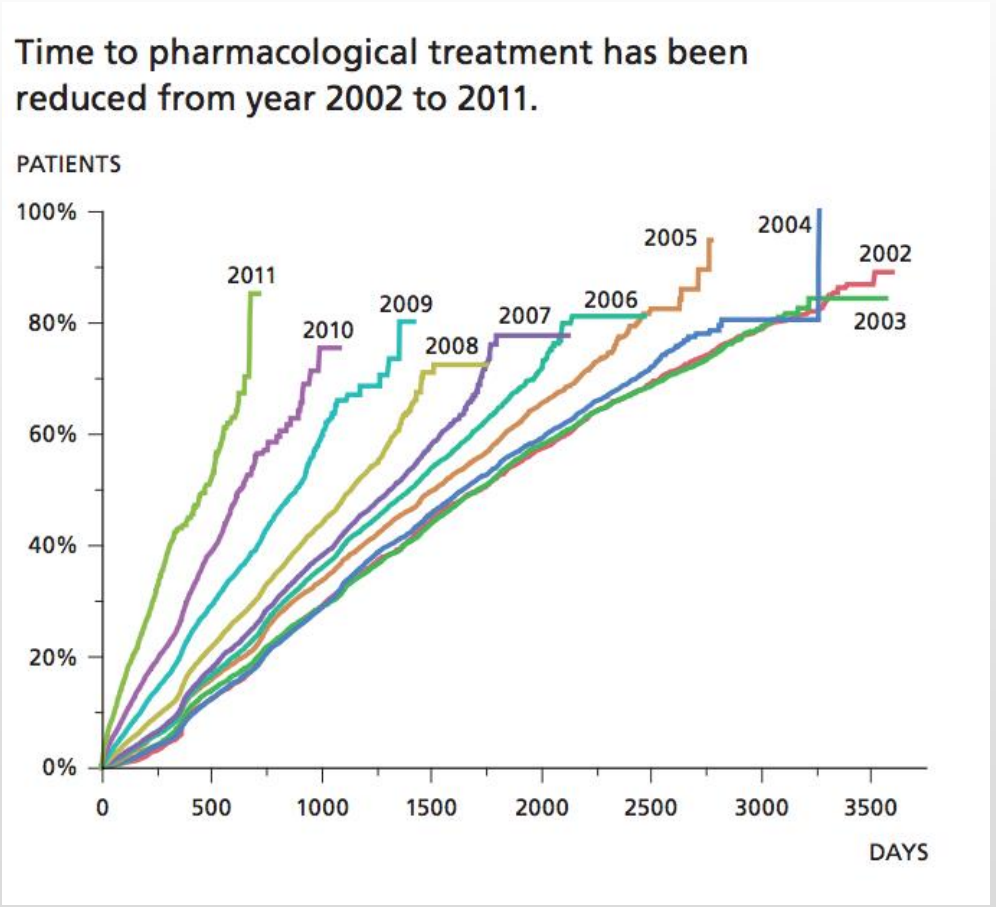
Hunter Alliance Diabetes Integration Project: What's next?





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