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# **A chronic disease evaluation process that primarily uses administrative data**

David Berlowitz & Marnie Graco

Northern Clinical Research Centre, Northern Health  
Melbourne Australia

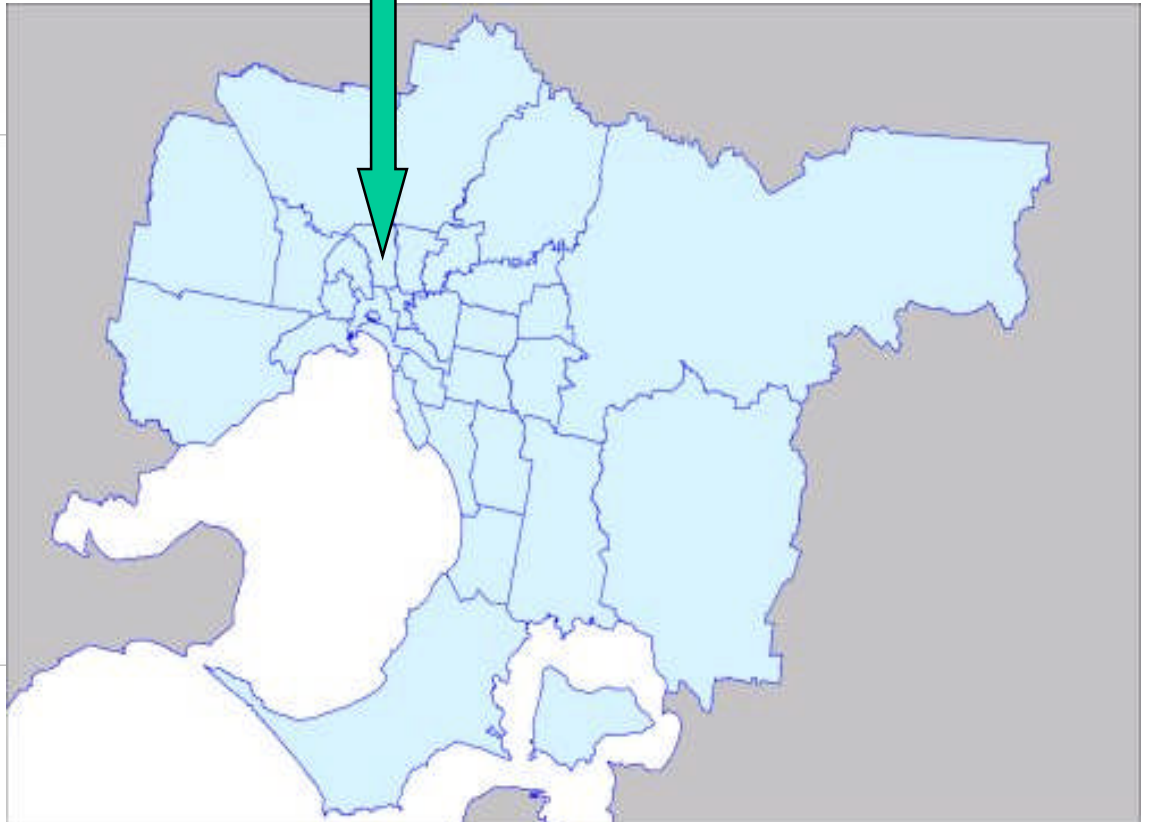
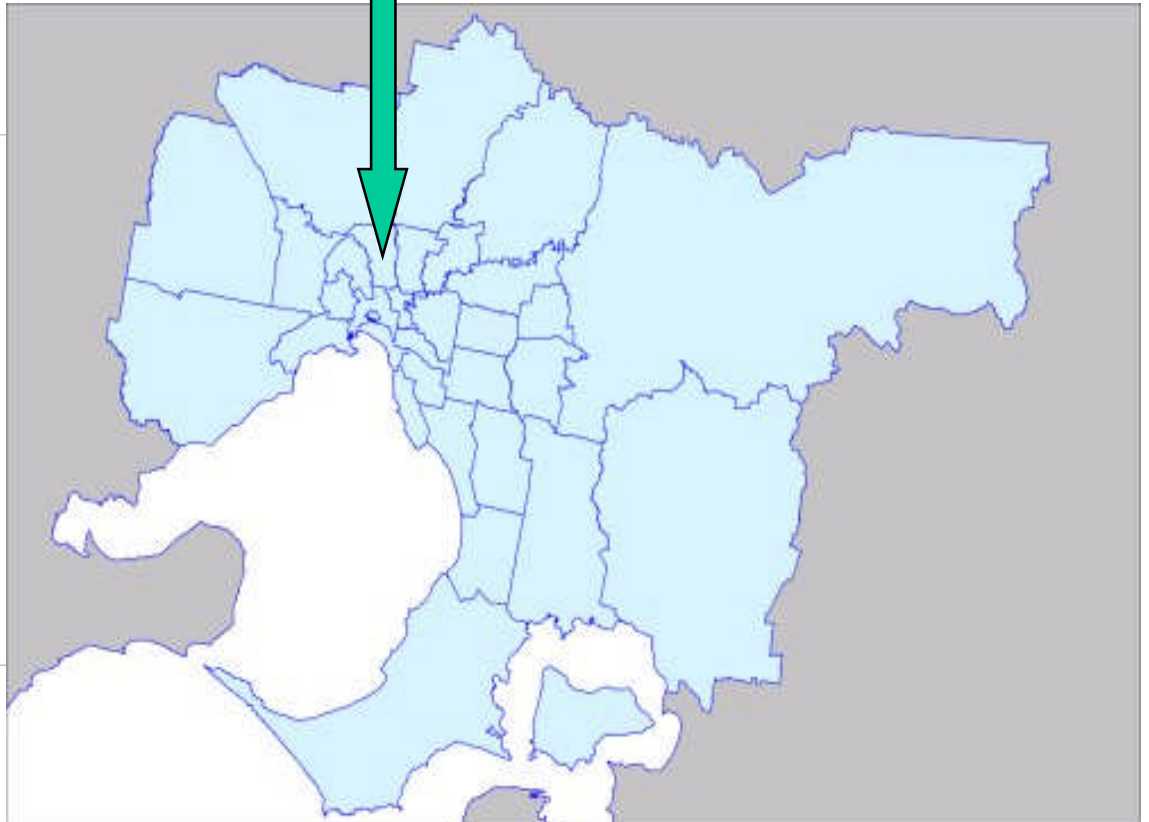
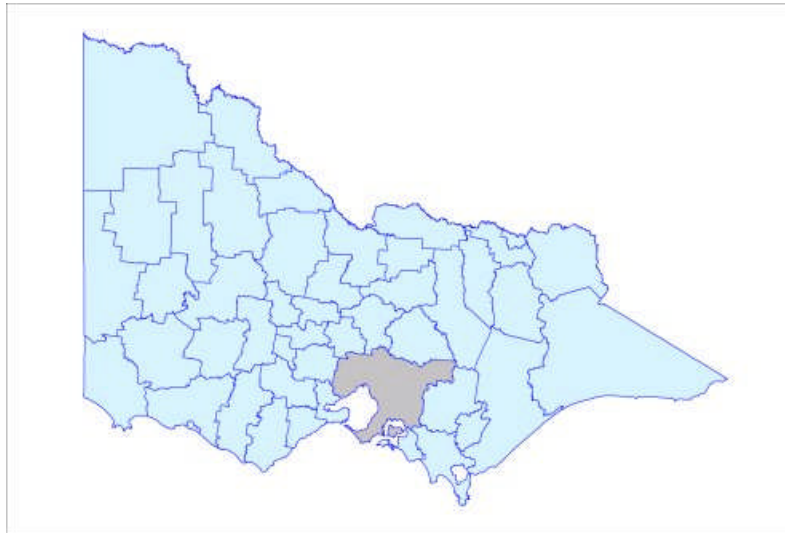


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# Have you ever wanted to know...

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- Which clients benefit most from your program?
- Which clients benefit least?
- Which components of the model are the most/ least effective?
- What are the risk factors for re-presenting to Emergency Department?
- Which services are the most effective and efficient?





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# Hospital Admission Risk Program

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- Growth in hospital demand
  - ED presentations, unplanned re-admissions
- 2001-05 over \$150 million to HARP projects
- Northern Region - 14 projects funded
  - Wealth of innovation, committed workers
  - Lots of uncertainty, limited systems



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# Initial HARP evaluation

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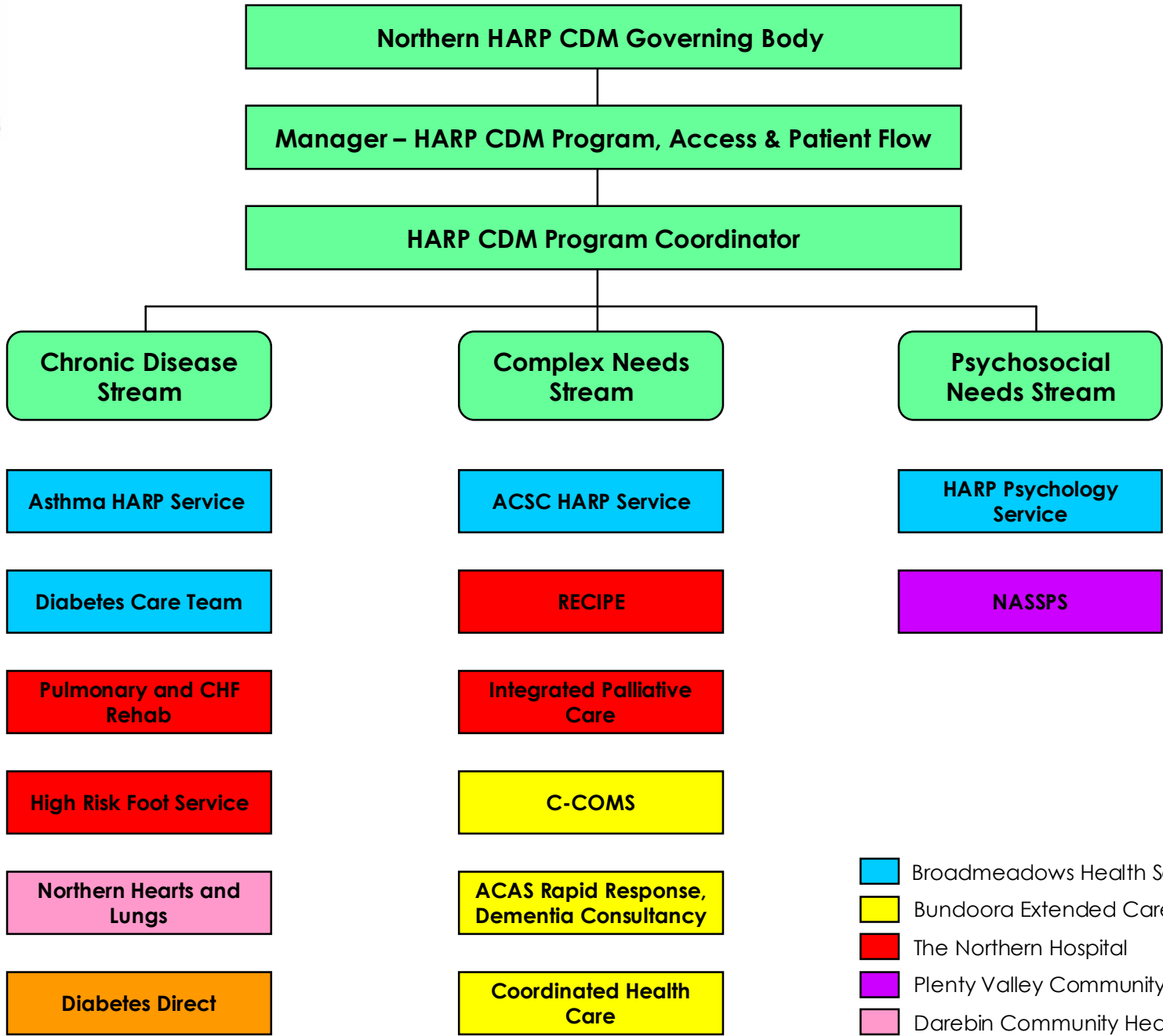
- Reduced hospital utilization
- Built relationships across the continuum of care
- Evaluation:
  - Focused strategically, not clinically
  - Contained limited comparison
  - Was time consuming & expensive





# HARP-Chronic Disease Management today

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- ‘Mainstreamed’: Project to Program
- Development of management structures
- Agreed approaches and guidelines
  - “Administrative” data reporting
  - No clinical outcome data reporting



-  Broadmeadows Health Service
-  Bundoora Extended Care
-  The Northern Hospital
-  Plenty Valley Community Health
-  Darebin Community Health
-  Northern Division of General Practice



# “Big Picture” drivers for a coordinated evaluation

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- Health department
  - HARP ‘mainstreamed’
  - Mandatory administrative reporting
    - Demographic, referral and service activity
  - HealthSmart
- Evidence based policy & planning



# Local drivers for coordinated evaluation

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- Northern HARP-CDM integration as one program
  - Unified budgeting & reporting
  - Governing body
- Excellent clinical care for our clients
  - service sustainability
  - ongoing improvements and innovations in evidence based care



# How do we efficiently evaluate Northern HARP-CDM?

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- Coordinate and streamline data collection and reporting
- Embed data collection in usual care
- Aggregate and integrate clinical & service delivery data with ED, hospital admission and financial data
- Undertake various analyses and benchmarking across the Northern HARP-CDM program

# Evaluation project plan

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1. Identified HARP-CDM objectives
2. Audited administrative data
3. Gap analysis to identify missing data



## **Northern HARP-CDM evaluation plan and dataset**

4. Audited data collected by each service
5. Developed a plan for phased introduction of dataset



# The Northern HARP-CDM minimum dataset

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- Administrative data (80%)
  - VINAH
  - Hospital utilisation (ED presentations, hospital admissions etc)
  - Financial
- Client outcome data
  - Quality of Life (AQoL)
  - Other service specific client outcome measures



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# Assessment of Quality of Life (AQoL)

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- Measures health related quality of life
- “Generic tool”, sensitive to a range of health conditions
- Clinimetric properties established
- Enables economic evaluation through utility scores
- Simple to administer

Hawthorne, Richardson & Osborne 1999

Hawthorne, Richardson & Day 2001



# Service specific client outcome measures

<b>HARP Service</b>	<b>Evaluation Question</b>	<b>Outcome Measure</b>	<b>Time of Measurement</b>
Northern Hearts & Lungs	Improvement in anxiety/ depression?	Hospital Anxiety and Depression Scale	0 & 12 months
Aged Care Shared Care	Reduction in carer stress?	Carer Reaction Assessment	0 and 3 months post discharge
Diabetes Care Team	Improvements in blood glucose control?	HbA1C	0 and 12 months



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# Data implementation

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- Phased implementation of data collection
  - Phase 1 – Subset of VINAH data
  - Phase 2 - AQoL
  - Phase 3 – Service specific client outcome data
  - Phase 4 – Remaining VINAH and integration of entire dataset within HealthSmart

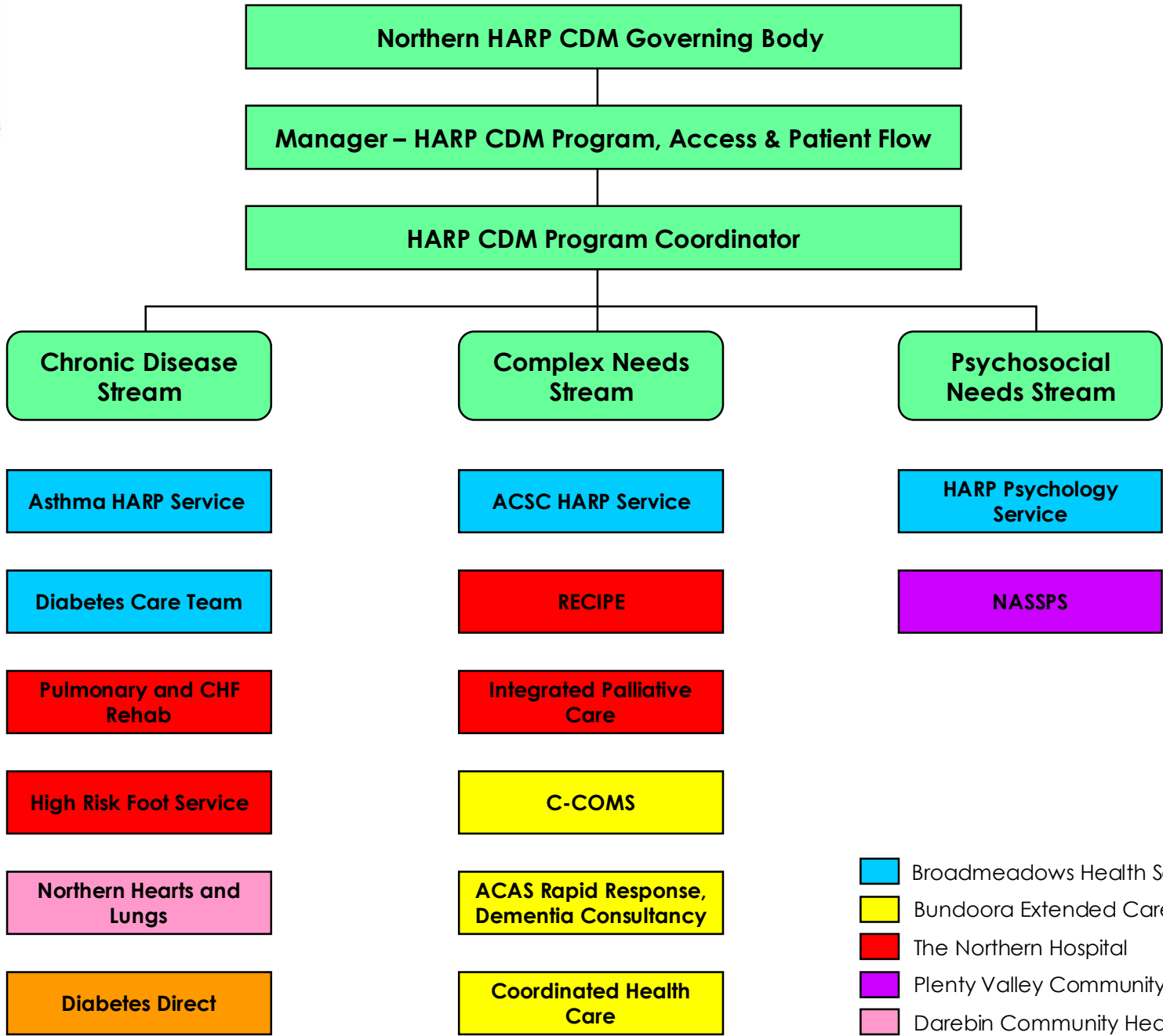





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# What will we do with the data?

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- 3 levels of reporting:



-  Broadmeadows Health Service
-  Bundoora Extended Care
-  The Northern Hospital
-  Plenty Valley Community Health
-  Darebin Community Health
-  Northern Division of General Practice



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# What will we do with the data?

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- 3 levels of reporting:
  - Northern HARP CDM Program
  - Three HARP-CDM “Streams”
  - Individual service level
- Automate detailed reporting
  - Demographic/ patient profile
  - Service activity
  - Change in client outcomes
  - Hospital utilisation



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# Reports to date

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1. Demographic profile of new clients
  - E.g. age, gender, COB, interpreter required, carer, living arrangement, ATSI

# Demographic Summary

## New clients admitted to Northern HARP-CDM Program (Jan-Mar 07)

Age		Count	Proportion %	95% CI
<b>Mean(SD) = 68 (20)</b>	0 - 5	28	3.2	2.2-4.6
	6 - 20	13	1.5	0.8-2.6
	21 - 64	217	25.1	22.2-28.1
	65 - 79	357	41.2	37.9-44.6
	80+	251	29.0	26.0-32.1
<b>Gender</b>	Male	427	49.2	45.8-52.6
<b>Country of birth</b>	Australia	361	45	41.6-48.6
<b>Indigenous status</b>	Indigenous	4	0.5	0-1.3
<b>Preferred language</b>	English	472	67	63.2-70.3
<b>Interpreter required</b>	Yes	212	26.7	23.7-29.9
<b>Local government area</b>	Banyule	15	1.7	
	Darebin	164	19.0	
	Hume	235	27.3	
	Mitchell	13	1.5	
	Moreland	93	10.8	
	Nillumbik	12	1.4	
	Whittlesea	303	35.2	
	Other	26	3.0	

n=869\*

\*excluding  
NCRC clinical  
trials and CHC  
service



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# Reports to date

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1. Demographic profile of new clients
  - E.g. age, gender, COB, interpreter required, carer, living arrangement, ATSI
2. Referral information
  - Referrer, time from referral to admission



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# Referrer summary

## New Clients admitted to Complex Needs Stream (Jan-Mar 07)

Referral source	Count	Proportion %
Public hospital	490	58.1
GP/Medical specialist	195	23.1
Other	31	3.7
Specialist aged care service	30	3.6
Family/Friend	24	2.8
Mental health service	21	2.5
RACF	15	1.8
Other HARP	12	1.4
Extended care/rehab service	11	1.3
Self	9	1.1
Community nursing facility	5	0.6
Total	843	100



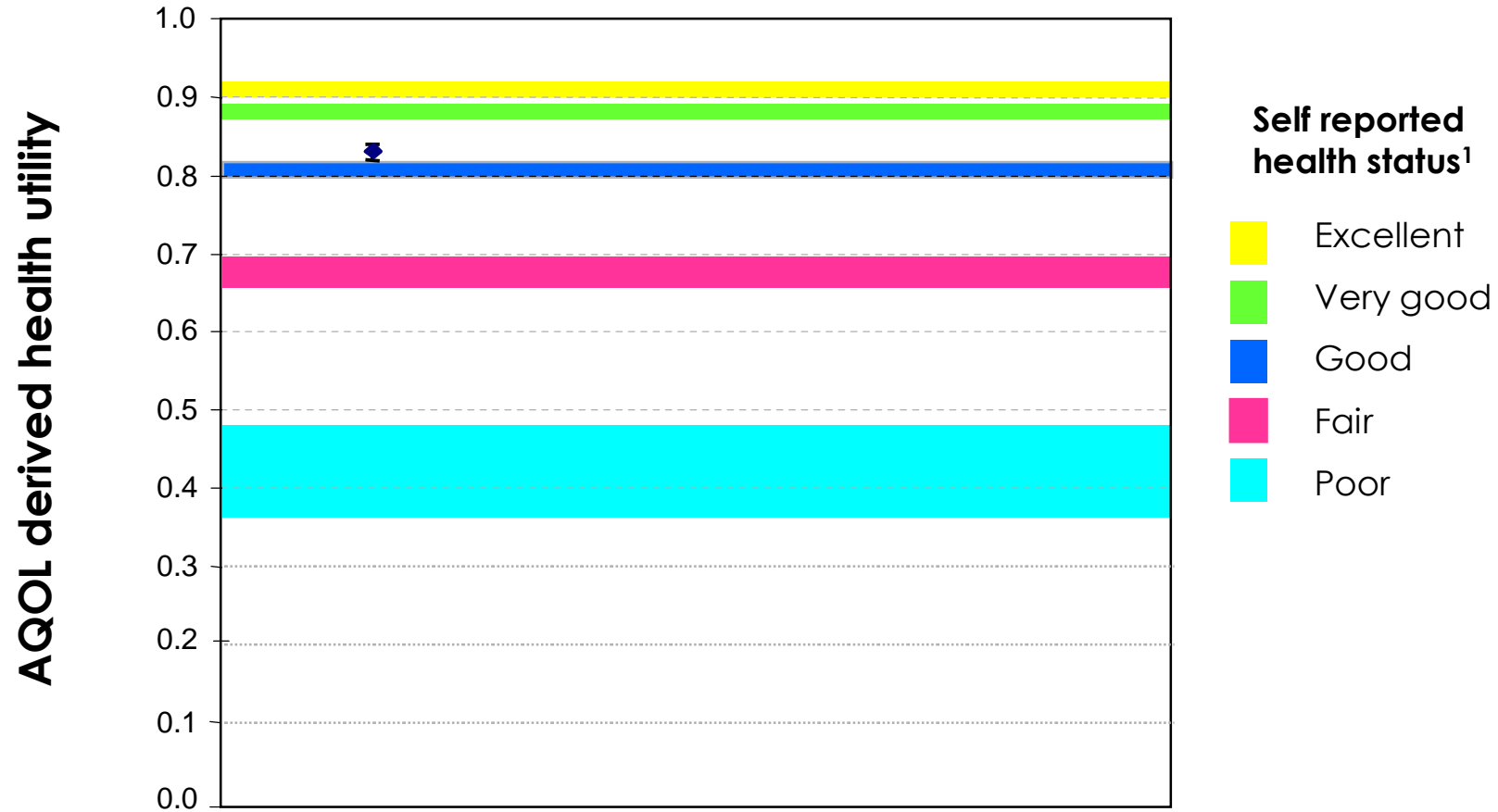
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# Reports to date

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1. Demographic profile of new clients
  - E.g. age, gender, COB, interpreter required, carer, living arrangement, ATSI
2. Referral information
  - Referrer, time from referral to admission
3. Health utility scores at baseline
  - Compared to published population norms by age and gender

# Baseline AQoL Utility Scores

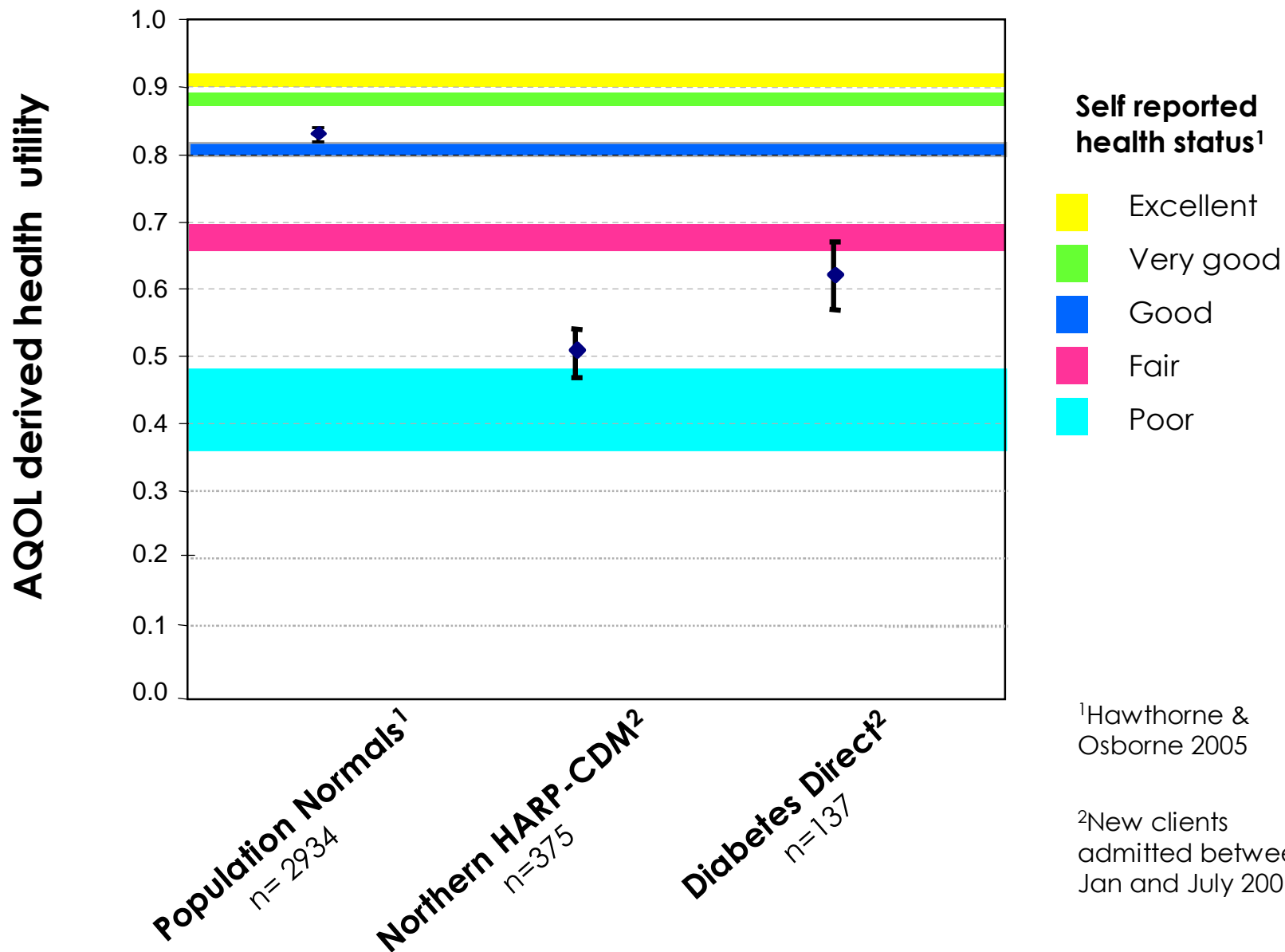


Population Normals<sup>1</sup>  
n=2934

<sup>1</sup>Hawthorne & Osborne 2005

<sup>2</sup>New clients admitted between Jan and July 2007

# Baseline AQoL Utility Scores





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# Challenges and strategies

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- Differences between the services
    - Evaluation
    - Models / clients
  - Busy clinical loads
  - Data quality and quantity
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- Flexible & personal
  - Partnership between evaluators and teams
  - Feedback and skills



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# Who watches the watchers?

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- HARP evaluation expert advisory group
  - Reports to HARP governing body
- Human ethics review and oversight for all publications



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# Conclusions

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- This methodology is an enabler
  - client outcome evaluation
  - service model comparisons
  - benchmarking & cost-utility analyses
- ‘whole of system’ evaluation is feasible





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# What else will we do with the data?

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- Which clients are benefiting most from HARP-CDM?
- Which clients are benefiting least?
- Which components of the model are the most/ least effective?
- What are the risk factors for re-presenting to ED?
- Which services are the most effective?



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# References

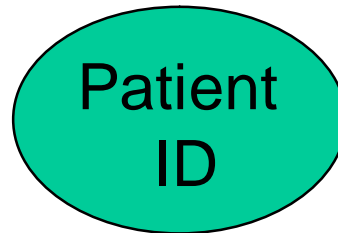
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1. Hawthorne G, Richardson J, Osborne R (1999), The Assessment of Quality of Life (AQoL) instrument: a psychometric measure of health related quality of life. *Quality of Life Research*, 8(3):209-224.
2. Hawthorne G, Richardson R, Day NA (2001), A comparison of the Assessment of Quality of Life (AQoL) with four other generic utility instruments. *Annals of Medicine*, 33(5):358-370.
3. Hawthorne G, Osborne R (2005), Population norms and meaningful differences for the Assessment of Quality of Life (AQoL) measure, *Australian and New Zealand Journal of Public Health*, 29(2):136-142.

Clinician activity  
(eg. allied health stats)

Other VINAH data items  
ie, referral data

Patient demographics,  
eg language, carer (Y/N)



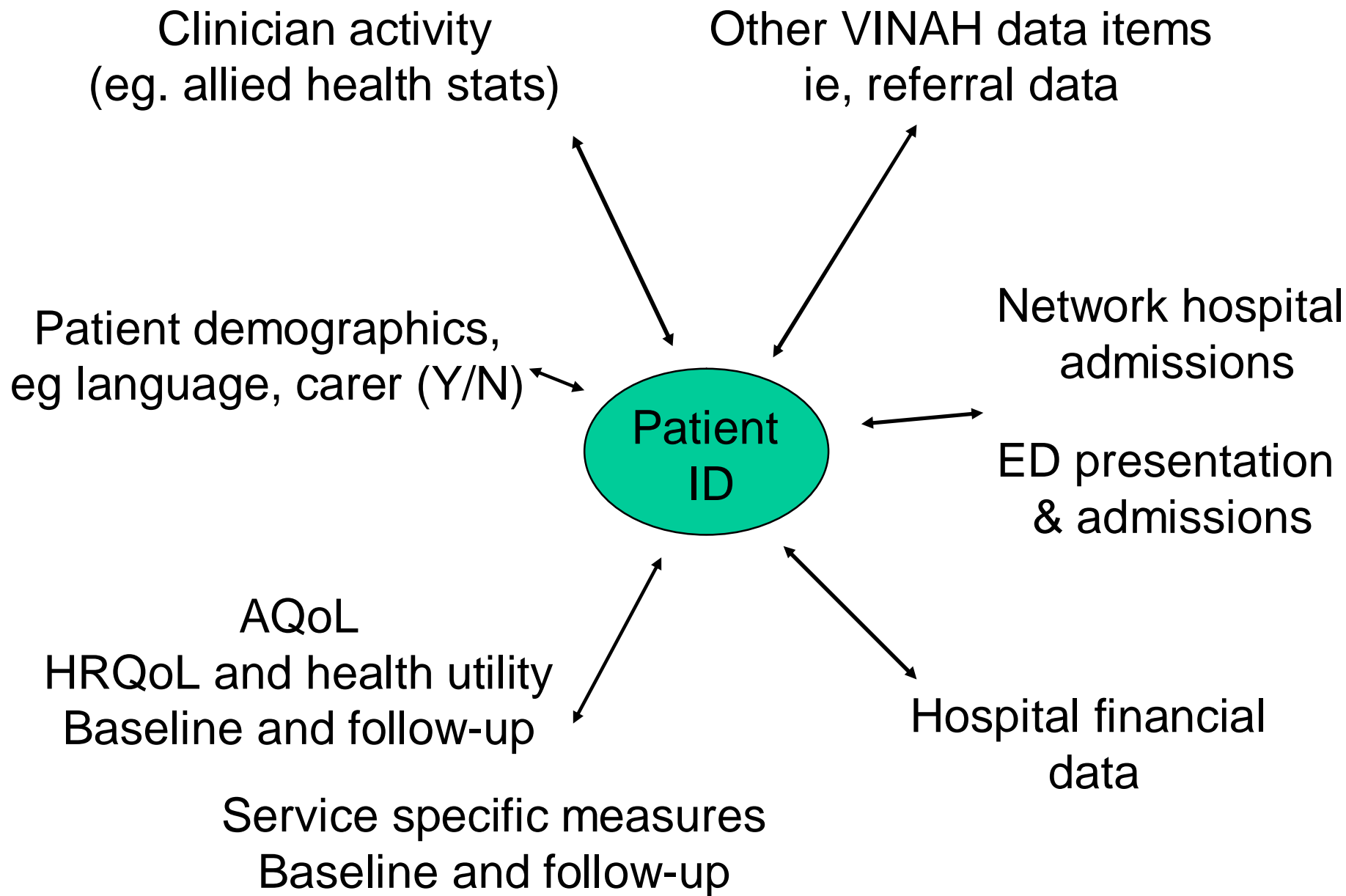
Network hospital  
admissions

ED presentation  
& admissions

AQoL  
HRQoL and health utility  
Baseline and follow-up

Service specific measures  
Baseline and follow-up

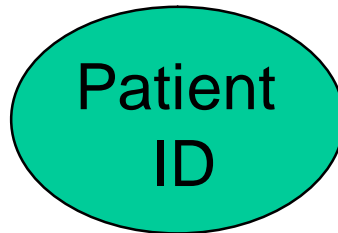
Hospital financial  
data



Clinician activity  
(eg. allied health stats)

Which HARP service clinicians  
modify emergency demand  
the most?

HARP services



ED presentation  
& admissions

AQoL  
HRQoL and health utility  
Baseline and follow-up



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# What next?

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- Automated reporting within HealthSmart
- Integrate data analysis to answer more detailed evaluation questions
- Add a qualitative component
- Work with services to help to drive efficiencies through innovation
- Publish our findings
- Assist the Northern region and DHS to maximise the information for future health planning