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# Getting the most out of your practice

## The Practice Health Atlas and business modelling opportunities

**BACKGROUND**

The Practice Health Atlas (PHA) is a decision support tool for general practice, designed by the Adelaide Western Division of General Practice (AWDGP).

**OBJECTIVE**

This article describes the features of the PHA and its potential role in enhancing health care.

**DISCUSSION**

In developing the PHA, the AWDGP utilises a range of software tools and consults with a practice to understand its clinical data management approach. The PHA comprises three sections: epidemiology, business and clinical modelling systems, access to services. The objectives include developing a professional culture around quality health data and synthesis of aggregated de-identified general practice data at both practice and divisional level (and beyond) to assist with local health needs assessment, planning, and funding. Evaluation occurs through group feedback sessions and from the general practitioners and staff. It has demonstrated its potential to fulfill the objectives in outcome areas such as data quality and management, team based care, pro-active practice population health care, and business systems development, thereby contributing to improved patient health outcomes.

**The Adelaide Western Division of General Practice (AWDGP) has established an e-health business initiative called 'Healthprophets' (Inspiration.Intelligence.Innovation) whose purpose is to ensure that the overall health of the local community will profit from the use of effective and sustainable e-health care solutions. The premise is that the health of the individual is improved, but that health professionals also profit from improved professional satisfaction and rewards for delivering quality service.**

The strategy is to inspire general practice to deliver innovative health care to patients through the use of effective and sustainable e-health solutions, including web based business and clinical support systems. Central to this strategy is the Practice Health Atlas (PHA).

**What is the Practice Health Atlas?**

The PHA is a decision support tool designed by the AWDGP for use by general practitioners, practice managers and other practice staff. It aims to inspire general practice teams to reflect on their activities and develop business models for more effective health care services/outcomes. It is based on the synthesis of relevant, high quality and timely practice health data, as well as using such data to predict future health care needs and trends. The objectives of the PHA are to:

- create vitality in general practice – a learning organisation that is both participative and reflective through continuous professional development and quality improvement (eg. 'plan, do, study, act' [PDSA])
- develop a professional culture around quality health data in the general practice setting with a focus

on up-to-date and complete health summaries (including comorbidities)

- integrate health data with other relevant data sources (eg. census and bio-informatics data) – population health informatics and spatial mapping (geographical information systems [GIS])
- synthesise aggregated de-identified data at practice and divisional level (and beyond) to assist with local health needs assessment, planning, and funding
- use quality data to reflect on practice clinical and business performance through nonthreatening quality peer review processes and self audit
- use quality data to develop business models and drive innovation in general practice in areas such as practice business systems, infrastructure/workforce development, and the effectiveness of health care delivered by health care providers/multidisciplinary teams.

### How is the PHA developed for each practice?

The PHA is based on the analysis of the practice's current patient population data and is provided as a service to all general practices in the AWDGP. While previous attempts have been made to use GIS techniques to study population health within divisions, the use of general practice based data has been limited.<sup>1</sup>

The approach at AWDGP has been to obtain practice consent to analyse and synthesise general practice clinical and business data that has been de-identified and aggregated. This involves utilising a range of software tools (GIS, clinical, billing, and statistical software). We consult with each practice to understand how their clinical data is coded and the extent to which they use their clinical software. How are diabetes patients coded? Is there a data 'cleaning' routine already in place? Is the clinical software used consistently within the practice?

Other data sources include the 2001 Census of Population and Housing, the Socio Economic Index of Areas (SEIFA) – Index of Advantage/Disadvantage, reports on regional health inequality status, spatial practice locations and boundaries (for mapping).

We then provide a completed PHA to the practice and encourage them to undertake the active learning module (qualifying for 30 Category 1 points in the RACGP QA&CPD Program) developed by the division using the PDSA methodology, and thereby stimulating a cycle of action research to further the project's aims and objectives. This has been widely used with National Primary Care Collaboratives initiatives in the United Kingdom and in Australia.<sup>2</sup>

### What does the PHA look like?

The PHA comprises three sections:

- epidemiology
- business and clinical modelling, and
- access to services and networks.

Each component has been constructed as a decision support tool to assist general practice in day-

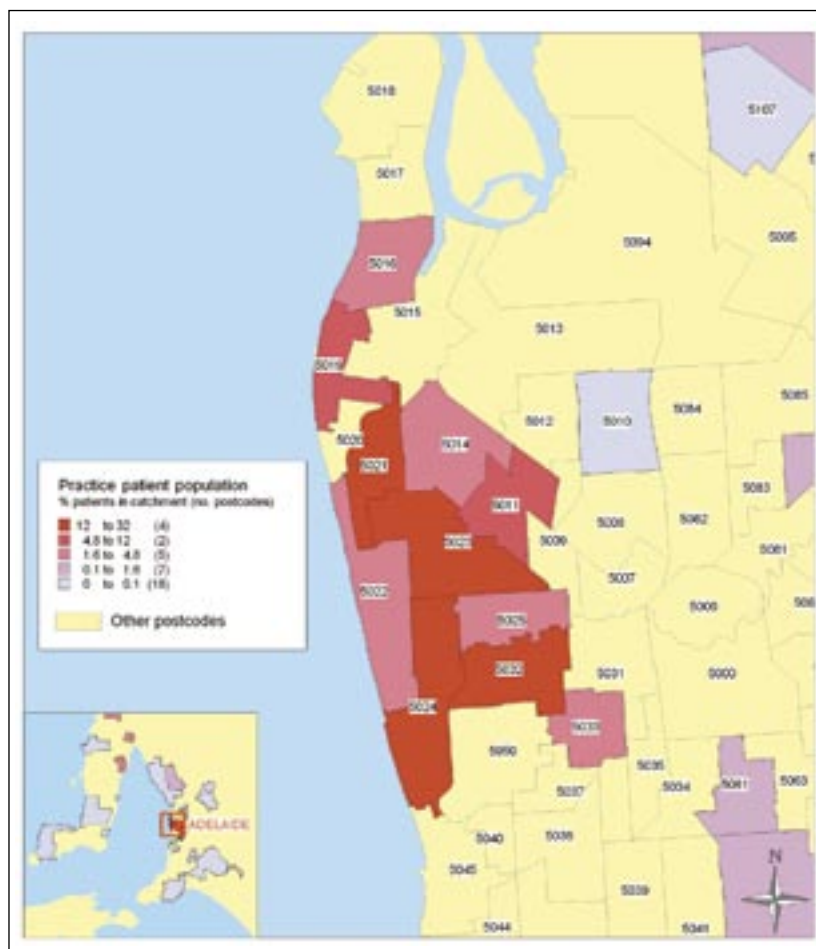


Figure 1. Practice patient population (percentage catchment by postal area)

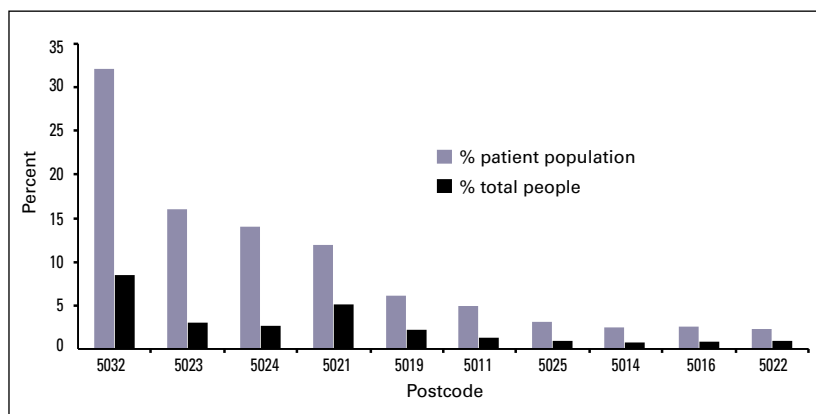


Figure 2. Number of patients seen as percentage of the practice's population compared with percentage of total persons in the top 10 postal codes

to-day operations. It provides for a continual quality improvement cycle to be established in the practice to monitor clinical and business performance. Hence over the long term, the aim is to build on clinical and business systems so as to improve health outcomes and develop innovative services for people through general practices in the western area of Adelaide, South Australia.

### Epidemiology

This section provides a baseline snapshot of the practice's patient population demographics. It can act as a guide to answering the following questions:

- where do the practice's patients live?
- what is their age/sex distribution?
- how does this compare to wider population demographics including total population (market share) and measures of advantage/disadvantage in the community?
- how many have chronic diseases?
- what does this all look like on a map?

The analysis concentrates on patients seen in the previous 15 months (referred to as the 'patient

population'), as well as the 'top' postcodes from which the patients come (usually the 'top 10'). The rationale is that most regular patients would see their doctor at least once in this period, and in particular patients receiving cycles of care (eg. diabetes SIP) would also be seen at least once every 12 months.

The patient population is displayed using mapping techniques (Figure 1). The top postcodes in which the majority of patients live are also placed in context of the broader community profile, making use of 2001 Census of Population and Housing data.<sup>3</sup> These include an indication of market share of the practice (Figure 2) and a measure of socioeconomic advantage/disadvantage.<sup>4</sup> Patient profiles are derived (Table 1) and mapped (Figure 3) which visually depicts the spatial distribution of subsets of the patient population.

### Clinical and business systems modelling

As the business case for action, this section links the characteristics of the practice's patient population with business opportunities to improve health outcomes. It summarises business case potential based on (selected) current and potential Medicare Benefits Schedule (MBS) item number utilisation for the identified patient profiles.<sup>5</sup> Table 1 lists the patient profiles derived for the practice, Table 2 shows the estimated potential income based on applying MBS items numbers to these patients (taking into account the amount already earned by the practice). It can act as a guide to answering the following questions:

- How much utilisation is the practice currently making of Enhanced Primary Care (EPC) item numbers, Service Incentive Payments (SIP) and Practice Incentive Payments (PIP)?
- How could the practice provide additional services to patients in a way that makes good practical and business sense?
- What is the relationship between health need profiles (eg. asthma patients, those on more than five medications) and the practice's potential business income?

Other additional information about service provision is presented in the form of a medication analysis and diabetes statistics. This provides a basis from which the practice can examine its current service delivery profile and explore other potential service delivery models or redesign of services, with the aim of improving patient health outcomes. Often, team care business models are discussed as a way to harness this potential through the use of EPC and SIP items targeting patients with chronic diseases.

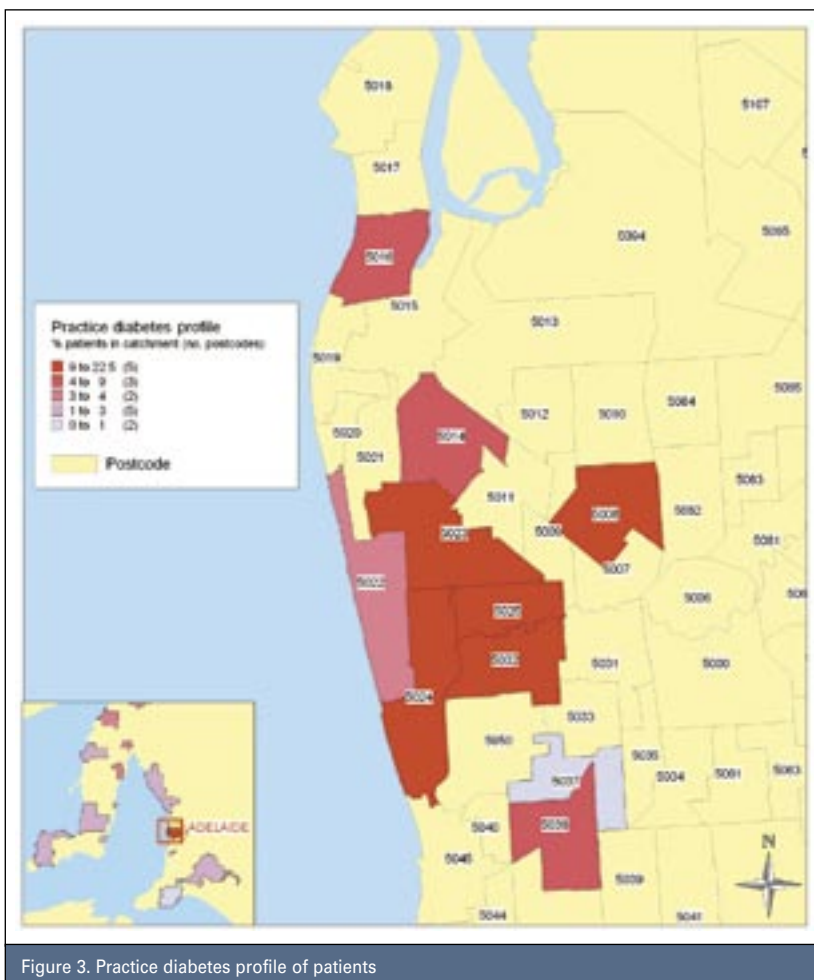


Figure 3. Practice diabetes profile of patients

**Table 1. Practice patient population profiles (numbers of patients obtained from the clinical data)**

Patient population profiles	Number of patients identified	% your patient population <sup>#</sup>	Benchmark*		Difference
			% general population	Expected number of patients	Number of patients
Aged 75+ years	200	8.0			
Diabetes	200	8.0	6.4	160	40
Asthma	250	10.0	12.0	300	-50
Mental health	250	10.0	18.0	450	-200
Aboriginal people aged 15–55 years	25	1.0			
Multiple medications (>=5)**	480	19.2			
Cervical screening <sup>†</sup>	15	0.6			

# Seen in the past 15 months n=2500

† Cervical screening number calculated on number of women who have not had a Pap test in more than 4 years (regardless of when last seen)

\* Figures derived from national standards

\*\* Note: there are multiple criteria for patients eligible for medication management review item numbers (number derived only by number of current medication of patients seen in past 15 months)

### Access to services

Building on the concept of examining service provision to patients, this section provides one model for improving access to services for patients via the Human Services Finder (HSF) online directory at [www.hsfinder.sa.gov.au](http://www.hsfinder.sa.gov.au). This tool allows people to search for health and community services, drilling down to a level where the service's eligibility, cost and access details are displayed. Dynamically generated maps display service locations, including transport routes and timetables. Case studies and options for using such a service directory are presented to the practice in the context of their business processes. It can provide a guide to answering some of the following questions:

- How do I currently locate service information for referrals?
- How do my patients find out about services?
- What about patients with multiple needs for services?
- What are the common enquiries practice staff receive regarding services?
- How could the HSF be incorporated into our existing business processes?
- What relationship does this have to the business and clinical improvement opportunities?

### Evaluation

The PHA project has been evaluated through group sessions with GPs and practice staff from participating practices and will be further evaluated by those who choose to enrol in the active learning module. This structure will not only evaluate the PHA as a tool, but will also enable practices to measure and benchmark their own business and clinical performance. Feedback from the seven practices who have received their PHA to date indicates the tool has assisted them in a range of areas such as providing the business case to hire an additional practice nurse to conduct health assessments 1 day a week or care plans for the practice diabetic population.

We also aim to evaluate the effect of the PDSA intervention at the practice level from several perspectives. For example, the extent of use of clinical software; the extent and consistency of disease coding; establishment of ongoing data maintenance routine; increased capacity (and innovation) of service provision; and long term, improved management of chronic disease among the practice's patient population.

Additionally, the PHA will evolve with time to align with current health trends in the region and keep pace with changes at a regional, state and federal level (eg. new MBS item numbers). This will help ensure the tool remains relevant and current for practices over time.

**Table 2. Overall estimated potential income (business potential summarised based on matching patient profiles with MBS item numbers)**

Item	Actual dollars earned (A)	Estimated total value (B)	Estimated potential new income (B–A)
EPC health assessment items	13 164	42 041	28 877
EPC CDM items			
GPMP and TCA*	13 689	113 313	99 624
Medication management review	3898	59 931	56 033
PIP and SIP items	4568	29 619	25 051
Total	35 319	244 904	209 585

\* Based on applying item numbers to the asthma and diabetes profiles. Other patient cohorts with chronic diseases and complex care needs would also be eligible

### Challenges

The key issue faced by the AWDGP when compiling a PHA was the accuracy of the data as they have been entered and/or stored within the practice. This necessitates a thorough 'cleansing' process of the data initially, and is based upon consultation with the practice about their data management approach.

Once data have been validated, they can be used to assist the practice in its modelling. A key benefit in the PHA is that if complete health data have been collected about each patient, then the power of modelling is greatly improved. If only partial data have been collected, then the power of the modelling, whether it is for business purposes or for clinical improvement, is diminished.

A technical challenge is the need to adapt the model to different clinical systems. The AWDGP's approach is to refine the model with the most common software used by practices in our region, and thereafter to extend it to other software. Interest has been shown by practices that are not computerised, but the PHA can only be efficiently done for practices that have clinical software.

### Conclusion

The PHA is an evolving general practice decision support tool with multiple potential uses. Among the GPs and staff engaged to date, it has demonstrated its potential to develop a professional culture around quality health data, the utility of integrating and synthesising data with various other sources, and as a driver of innovation in health care service delivery.

Conflict of interest: none declared.

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