

CASE STUDY

WA Primary Health Alliance

scales up a powerful cloud hosted application that extracts and analyses de-identified general practice data to deliver valuable insights to general practice staff and Primary Health Networks across the country



Role of Primary Health Networks

WA Primary Health Alliance (WAPHA) operates all three of Western Australia's Primary Health Networks (PHNs), making it unique among the 31-strong national PHN network. It aims to shape, strengthen and sustain primary health care through strategies that improve access to care and public health outcomes.

PHNs deliver national primary health care reforms by creating tailored, local and innovative solutions for metropolitan, regional and rural and remote communities. Across the breadth of Australia, PHNs commission and partner with service providers to deliver the right care to patients, where and when they need it.

The valuable work that PHNs do involves planning, guiding and directing investment towards vital primary health care services. As part of the PHN Program, PHNs are required to collect and analyse a range of population health data, especially de-identified general practice data, to look system-wide at gaps and population health priorities.

That's where Primary Sense comes in. This solution – a cloud-hosted application communicating with locally installed desktop clients – extracts de-identified general practice data and provides general practice staff and PHNs with on-demand reports to help with population health management. It also provides GPs with real time medication alerts and patient care prompts at the point of care.

The solution's specific benefits include:

- protecting patient privacy by collecting only de-identified data. This way, patient information remains anonymous, while still giving PHNs access to valuable healthcare insights
- providing GPs with real-time medication alerts and patient care prompts to inform their clinical decisions
- proactively monitoring risk levels of individual patients by analysing their data against the in-built Johns Hopkins ACG® System risk stratification model
- allowing PHNs greater reporting and analytical capabilities across a larger pool of data to improve health policy decision making and service delivery.

Primary Sense's first iteration, or Primary Sense 1.0, was developed by the Gold Coast PHN as a purely local capability. Following its success, a group of PHNs across the country collaborated with the Gold Coast PHN and WAPHA to bring about a nationwide version in the form of Primary Sense 2.0.

Insight stepped in to play a key role in the delivery of this national capability, working with WAPHA from planning through to implementation.

"This project was a massive undertaking, and we needed a partner who'd give us the greatest confidence in their ability to support it. Part of why we chose Insight was because of its national presence, which we needed to be able to build something that could scale quickly and efficiently."

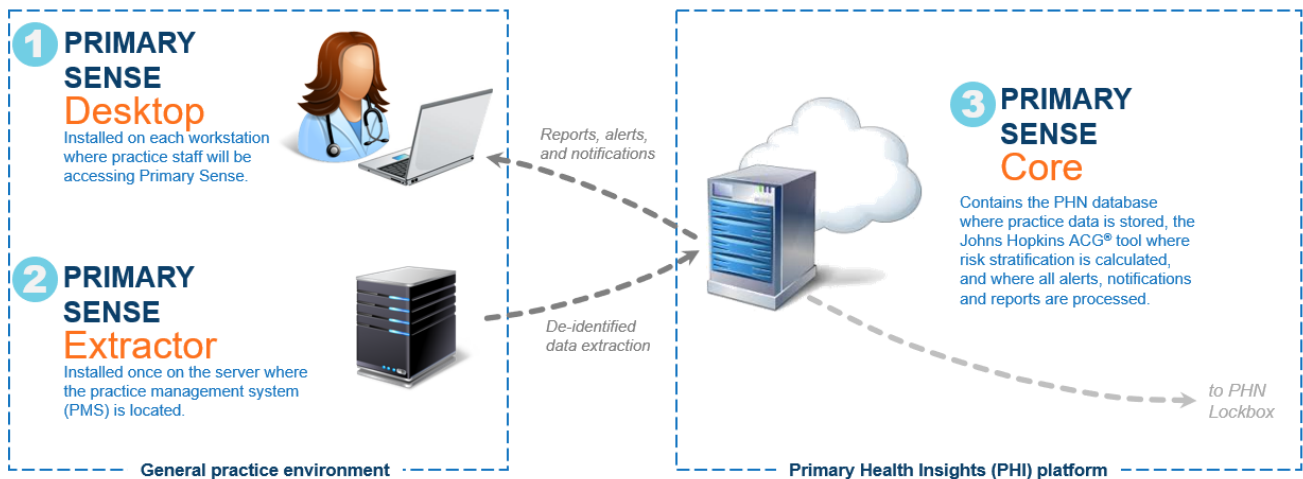
Stuart Gibbon,
National Primary Health Insights
Manager, WAPHA



How Primary Sense works

Primary Sense consists of three components – two installed within the general practice and one located within the Primary Sense cloud environment.

Primary Sense uses a centralised API to communicate with desktop software and a data extractor, which is hosted on a general practice’s server, to extract de-identified data from a general practice’s clinical information management system into the Primary Sense Core. From this central cloud-hosted core platform, the data is processed and analysed with evidence-based algorithms to provide alerts, prompts and reports back to the practice via a desktop app. Copies of the de-identified data from general practices within the same PHN is also migrated to secure storage spaces for population health analysis by PHNs.



The application was built using Azure Platform-as-a-Service, Software-as-a-Service and custom code. Azure Data Factory pipelines are deployed regularly to transform each individual PHN’s securely siloed raw data into operational and analytical data that the PHNs can access via a ‘single source of truth’. This eliminates the need for individual PHNs to collect and analyse data independently and makes it easy for them to create reports and run large-scale research projects using analytics tools.

GPs that have the Primary Sense software have insights into their de-identified patient data fed back to them through helpful alerting and reporting features. For example, a GP prescribing a certain medication to a patient may not recall that their pathology results from several months back had indicated a potentially adverse reaction. At the point of care, Primary Sense picks up on issues like these and alerts the GP to the potential risk, supporting informed clinical decision making. The tool also prompts GPs when their patients are due for check ups, tests or new prescriptions, improving primary health care for patients.

All Primary Sense reports, alerts and prompts are carefully reviewed by a national Clinical Advisory Group to assess the suitability of the clinical evidence base, the algorithm used to implement it, and for suitability of presentation within a general practice environment. The Group’s membership is drawn from general practitioners, clinical specialists and several primary care professional and industry peak bodies.

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“Primary Sense allows us to target clinical concerns at a very discrete patient level. And the volume of system use, combined with user feedback is telling us that the prompts and alerts are valuable in providing visibility over critical elements of the patient record, and improved clinical decision making.”

Deborah Davies,
National GP & Clinical Services Lead, WAPHA

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"Primary Sense is a perfect example of how technology can transform patient interactions and improve public health outcomes, while also protecting patient privacy. With the ability to analyse de-identified data and use it to provide real-time patient care notifications and prompts, Primary Sense is truly a game-changer in the field of primary healthcare."

Veli Matti Vanamo,
CTO - Insight APAC



Transforming Australia's primary care

Before a national version of Primary Sense was developed, a key concern for PHNs was that they lacked the ability to influence what data was being extracted from individual general practices. They also couldn't control how this data arrived on their own platforms. Primary Sense gives them an end-to-end capability to improve the extraction, analyses and management of this data.

At this stage of the rollout, almost a third of Australia's general practices are using the tool and more are signing on to Primary Sense every week.

Primary Sense is also the first application built to sit within Primary Health Insights – a PHN-owned and operated national secure storage and analytics platform. This opens the door to building other data-driven applications and software to potentially introduce AI and transform patient care.

