MedicineInsight – big data in primary healthcare

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Introduction

MedicineInsight is a large-scale Australian general practice program that aims to advance understanding of medicines use to inform and improve clinical practice, medicines policy and research. Developed and managed by NPS MedicineWise, MedicineInsight collects data from GP clinical software, provides reports back to participating general practices and policy makers, and develops practice-based educational interventions to help GPs identify actionable areas for improvement. This presentation will outline the progress of the program to date, program growth and potential new use cases.

Technology Brief

MedicineInsight has more than 500 participating practices, which represents more than 3,000 GPs and longitudinal records for more than 3.5 million active patients. The largely representative de-identified dataset includes demographic, clinical and prescribing data collected from general practice clinical information systems using the Grhanite extraction tool. Insights are enriched through selected free text data. Data is aggregated in a flexible data warehouse solution enabling powerful and flexible analytics and insights.

Implementation Processes

Participating practices receive the MedicineInsight Practice Report which offers topic based insights into medication use, peer benchmarking and aggregated comparison as well as opportunities for improved data quality. These quality improvement reports are delivered via practice meetings where clinical service specialists facilitate data interpretation and development of action plans to support identified interventions. Lists of patients, re-identified in the practice, are also supplied.

A new secure web-based visualisation tool will enhance MedicineInsight, delivering reports and richer insights into medication use, chronic disease management and targeted cohort management, through interactive filterable drill down reports. The portal will enable general practice and Primary Health Networks to benchmark against national and regional averages and with appropriate consent compare outcomes and performance indicators.

Aggregated MedicineInsight data enables production of post market surveillance reports on medicine utilisation and the safe, appropriate and effective use of medicines.

MedicineInsight is subject to rigorous privacy, security and governance processes. NPS MedicineWise has established a robust data governance framework overseen by an independent external governance committee.

Carefully selected demonstration projects are underway to demonstrate capability of MedicineInsight as a valuable source of data for research and other activities such as risk management plans.

Conclusion

MedicineInsight, now established as a large national longitudinal dataset, has the potential to transform primary healthcare practice and support national policy. Furthermore, opportunities are emerging to use MedicineInsight for public good, contribute actively to research and other use cases such as risk management plans.

Keywords

MedicineInsight, quality improvement, research, medicines, outcomes, governance, primary care, big data