

Using big data to understand patterns of care for musculoskeletal conditions in general practice

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Background

Outcome Health's Population Level Analysis and Reporting (POLAR) system extracts longitudinal patient-related data from electronic medical records of 302 general practices (GP) within the Primary Health Networks of Eastern Melbourne, South Eastern Melbourne and Gippsland.

Objectives

This study aims to explore the utility of POLAR to understand patterns of care for GP patients with musculoskeletal conditions.

Method

Eligible records were active patients with low back, neck, shoulder and/or knee conditions diagnosed during 2014-2018. We excluded duplicate records or if activity, diagnosis and/or birth dates were implausible. Individual practices with inconsistent reporting of patient activity during the study period were also excluded.

Results

The database contains 166,000 providers, 10.5million patients, 27million diagnoses, 84million activity records, 30.5million referrals, 131.5million tests and 103.9million prescriptions since 1997 in separate tables. 284 practices provided data on at least one year of activity during 2014-2018. Following deduplication, we have identified 71,794 GP providers; 3.5million active patients; and 140,875, 38,687, 62,298 and 82,591 diagnoses of low back, neck, shoulder and knee conditions respectively during 2014-2018.

Discussion

We are currently linking separate tables to create a single merged database from which to investigate frequency and timing of radiological requests, referrals to other healthcare practitioners and medication prescriptions by GPs managing low back, neck, shoulder and knee conditions. This information will be used to compare the GP management of musculoskeletal conditions with evidence-based practice and to collaboratively develop interventions to improve care