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Perceptions Of Primary Care Staff On A Regional Data Quality Intervention In General Practice

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Abstract

Background: *Recent advancements in clinical data systems have enabled disease surveillance and population health planning using primary care administrative data. However, concerns persist regarding the accuracy and comprehensiveness of these health records.*

Methods: *This study explores the views and experiences of general practice personnel regarding the maintenance of accurate patient health data in c[1]linical software used in regional primary care settings . Focus groups were conducted with general practitioners, practice nurses, and administrative staff from 17 practices in the Illawarra-Shoalhaven region participating in the Sentinel Practices Data Sourcing (SPDS) project.*

Results: *Thematic analysis revealed five key themes:* ***Resourcing Data Management:*** *Challenges included time constraints, lack of dedicated data management roles, and the need for multidisciplinary involvement and a data champion.* ***Incentives and Motivation:*** *Importance was placed on incentives to ensure ongoing commitment to data quality.* ***Software Quality:*** *Issues such as coding problems, software limitations, and IT skills were identified as barriers.* ***Lessons Learned:*** *The project increased awareness of data quality importance among practice staff.* ***Human Factors:*** *Emphasized the role of human factors in maintaining accurate datasets.*

Conclusion: *Electronic health record systems offer substantial benefits but require addressing barriers faced by clinicians and staff to ensure accurate primary care patient data for optimal patient care and population health planning.*

Introduction

Background

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The increasing prevalence of chronic diseases alongside an aging population presents a significant public health challenge globally. While national and state-level preventive health policies have been established, effective population health planning requires local data on disease prevalence and health risks. Monitoring the health status of regional populations is crucial for health planning departments, but obtaining accurate data requires continuous efforts and innovative data collection methods. (Ghosh et al., 2014)

A study in the Illawarra Shoalhaven region of NSW, demonstrated the feasibility of using data from general practice software for local population health surveillance and chronic disease planning. This involved training practice staff in data cleansing activities, such as linking free-text medical history to coded items, marking inactive patients, ensuring complete demographic and health records, and improving data accuracy and completeness. These efforts aimed to enhance patient outcomes and service quality. (Ngulube, 2015)

Despite improvements, common data entry errors persisted, highlighting the need for further enhancing data accuracy and quality. Understanding barriers and workflows affecting data quality in general practices is crucial for addressing these issues effectively within regional contexts. (Schattner et al., 2011)

Methods

In this study, we aimed to investigate the perspectives and experiences of general practice staff during the implementation of an intervention focused on enhancing the quality of electronic patient health records in primary care databases. This intervention aimed to gather comprehensive population health information on chronic diseases and lifestyle risk factors. The specific outcomes related to disease and risk factor prevalence are detailed in other publications.

We selected 17 regional practices involved in the Sentinel Practices Data Sourcing (SPDS) project, a study focusing on chronic disease surveillance and data quality improvement in the Illawarra Shoalhaven region of NSW since 2012–13. These practices were chosen because they had undergone intensive data cleansing and accuracy enhancement phases as part of the SPDS project, providing them with relevant experience for this study. All clinical (general practitioners and practice nurses) and non-clinical (practice managers and administrative staff) personnel from these 17 practices were invited to participate via email.

A total of 25 respondents, including 12 GPs and 13 practice staff, participated in six focus groups, selected for geographic diversity, conducted over two months. We used qualitative inquiry methods, including semi-structured focus groups and follow-up individual interviews. The discussions were audio-recorded, transcribed verbatim, and reviewed by participants during feedback sessions. Thematic analysis was conducted independently by two researchers, using manual and NVivo software methods, with results discussed among the research team to achieve consensus on themes and content. To protect participant anonymity, generic texts were used in reporting the findings.

Ethical approval for the study was obtained from the Human Research Ethics Committee and written informed consent was obtained from all participants.

Results

The results of the study revealed five key themes:

Resourcing Data Management: Participants acknowledged the importance of data quality for patient care and community well-being but noted inadequate resources for data management.

Time constraints and the perception of data management as an additional task rather than a dedicated role led to conflicts in priorities and workload.

Need for Incentives: Participants highlighted the potential for incentives, such as additional funding and accreditation benefits, to motivate engagement in data management activities.

Software Quality Issues: Participants identified coding challenges and software limitations as barriers to data management. They suggested improvements in software functionality, such as allowing both coding and free-text input, to enhance data quality.

Information Technology Skills: The importance of IT skills was emphasized, with younger staff recognized for their computer proficiency. However, challenges were noted with older staff members and the transient nature of some practice staff, affecting skill development and training.

Lessons Learned: Participants learned valuable lessons from the project, including the need for ongoing commitment to data cleansing and quality assurance, as well as the importance of developing strategies to support data quality activities within practices.

Discussion

Our study sheds light on the challenges of maintaining accurate data in general practice settings. While our qualitative study focused on a specific geographic region as part of a broader effort to enhance data quality, the themes identified are relevant to general practices nationwide. It's clear that a standardized approach won't suit the diverse needs of different practices due to variations in practice models, clinician preferences, and expertise levels. However, several key factors emerged that can be broadly applied. (Wang et al., 2008)

Firstly, engaging a multidisciplinary team in critical reflection on current practices is crucial for establishing agreed work practices. Adequate resources must be allocated for data management activities, with clear roles and appropriate remuneration. Having a designated "champion" responsible for data management can drive engagement and ensure continuity in maintaining data quality. (Majeed et al., 2008)

Participants expressed a desire for incentives, especially financial ones, to encourage involvement in data cleansing. While monetary incentives exist under programs like the e-PIP, their impact varies depending on practice size and business models, potentially influencing data entry and accuracy. (Middleton et al., 2013)

Software quality and coding structures were identified as areas needing improvement. Medical terminologies and coding systems in primary care software lack standardization and may not reflect current diagnostic criteria. This can hinder data sharing and meaningful use for planning purposes. The preference for free-text entry over pre-coded options poses challenges in data auditing, hazard alerts generation, and overall data accuracy. (Chan et al., 2004)

The study also highlighted the impact of information technology skills and staff turnover on data quality. Older clinicians may lack confidence in using IT compared to younger colleagues, emphasizing the need for effective training models tailored to primary care clinicians' needs. (Alpay and Russell, 2002)

Conclusion

In conclusion, addressing these challenges requires a multifaceted approach, including improving software functionality, providing relevant training, incentivizing data management, and fostering a culture of data quality within general practices.

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