

“There will be an explanation”: understanding anomalies in routinely-collected prescribing and dispensing data through a qualitative study in Scotland

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BACKGROUND

- Routinely-collected prescribing and dispensing data is invaluable for studying medication-related patient outcomes, e.g. medication adherence and polypharmacy
- However, apparently anomalous patterns, such as duplicate prescriptions, limit the use of these rich databases in research
- In this study, we aimed to explore the reasons for such patterns in individual patient prescribing data

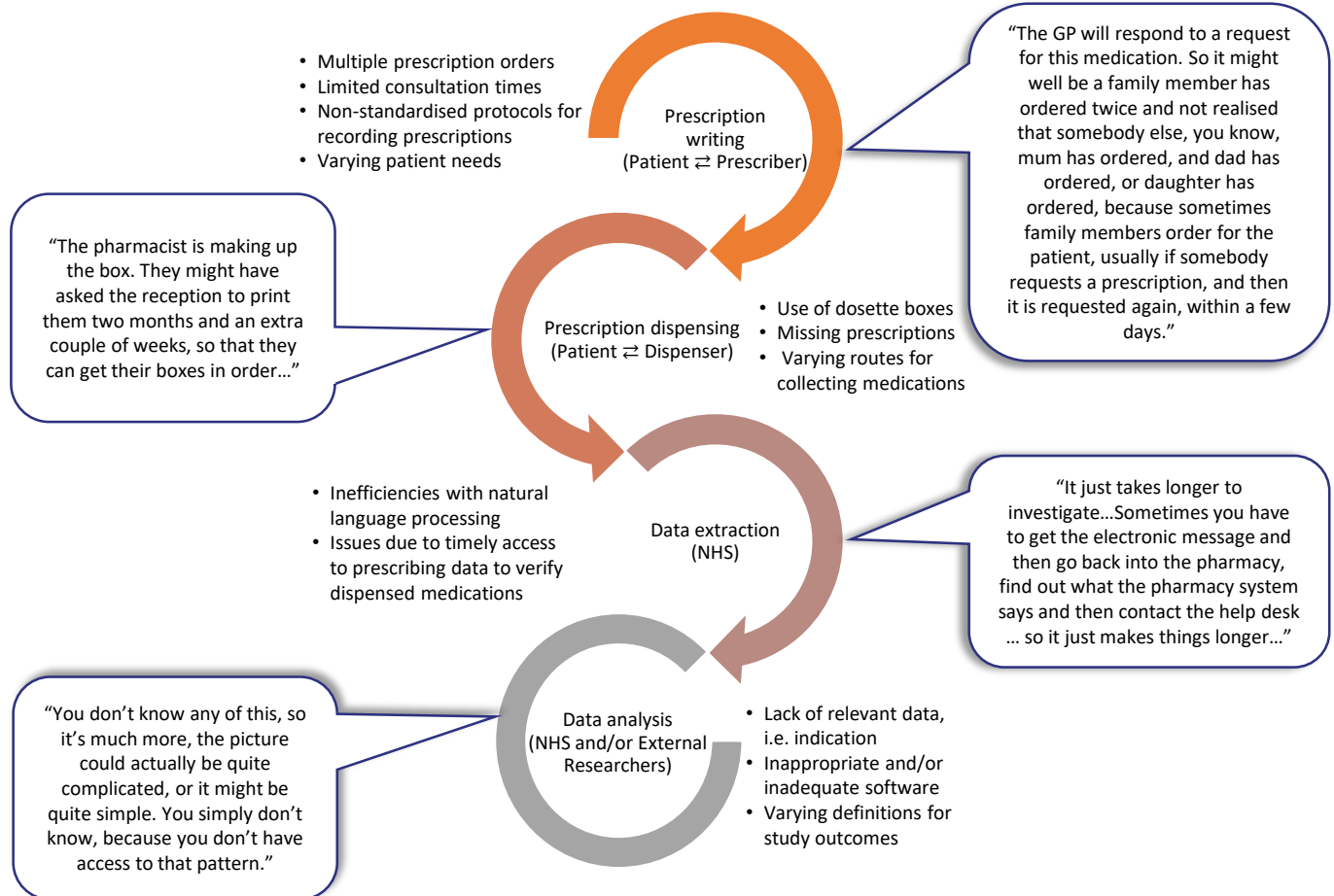
METHODS

- Semi-structured face-to-face or video interviews were held with stakeholders involved with prescribing or dispensing data (prescribers, dispensers, data processors, analysts/researchers)
- Purposive sampling was used to attain maximum variation in role, length of experience, patient population served, and software used
- Interviews were recorded, transcribed, and analysed using content analysis in NVivo

RESULTS

- Of the 18 stakeholders approached, 15 participated in the study representing all stakeholder groups
- Four main factors, each corresponding to a stage of prescribing and dispensing data generation, were identified as putative factors for apparent anomalies in the data: (i)prescription writing, (ii)prescription dispensing, (iii)data extraction, and (iv)data analysis (**Figure 1**).

Figure 1. Putative factors for apparent anomalies in routinely-collected prescribing or dispensing data



DISCUSSION/CONCLUSIONS

- Many of the apparent anomalies in the data could be explained by a good understanding of the process for prescribing and dispensing data generation
- To increase the validity and reproducibility of research using such data, the following actions could be taken:
 - Standardise prescription recording
 - Include data on medication indication to allow for relevant decisions based on dosing instructions
 - Provide a clear description of observed anomalies and relevant analytical decisions made to address these issues

ETHICS AND ACKNOWLEDGEMENTS

- This study was approved by London-West London & GRAC Research Ethics Committee (18/LO/0187)
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