**Quantifying Medicines Use Using Hospital Prescribing and Administration Data, What Should We Count?**

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Introduction. Hospital prescribing systems hold rich data on medicines use both for research and to inform health policy and practice. Using these data well is challenging, a minor definitional change can affect results. What is a prescription, a medicine, a change in a medicine, and a hospital admission are not consistently defined. When these terms are used in the literature studies seldom provide definitions sufficient for replication. When used clinically, heterogeneity in definitions makes comparisons between institutions unreliable. We have encountered this challenge and wish to raise this issue for discussion.

Aims. To describe the complexity of using tertiary hospital medicines prescribing and administration data for research.

Methods. We have tested and refined definitions relating to medicines use using data from a large hospital prescribing and administration system (MedChart™) over several years. Prescribing data were extracted from the prescribing system into tables in the regional data warehouse. Reports have been developed for clinical use using different software tools and a series of research project undertaken. These projects have a range of requirements for numerators and denominators defined by their subjects, for example: patient treatment, medicines use, and prescribing activity,

Results: A ‘medicine’ is defined in law in New Zealand (and elsewhere) and standardised via the INN, but some are combination products. A medicine may be regular (long or short term) or PRN, and systemic or non-systemic. A ‘medicine change’ is initiation, cessation, change in dose rate (amount or frequency), or a change in route of administration. A ‘prescription’ is an order which has been administrated to the patient at least once, or for a PRN medicine ‘live’ for at least one hour. Additionally some queries pertaining to staff decisions/actions extend to all orders recorded in the system. A ‘hospital admission’ has two levels and which definition is used depends on the question. The time from admission to hospital until discharge to the community is a ‘stay’ and being under a ‘service’ is an ‘event’.

Discussion. Medicine use in hospital is complex and commonly used descriptors of medicine use are insufficient for valid and reliable numerators and denominators of medicines. Standardised detailed definitions are needed to use medicines data consistently in research and clinical practice.