

A promising way forward to the goal of systematic medicines management

By Charles D. Hepler

The advantages of a multi-level medicines management system may be fundamental and far-reaching. Beneficiaries would include patients, pharmacists, physicians and, ultimately, the entire health enterprise of a nation. The paper by Morris, Cantrill and Bate in this issue of *The Journal* (see pp682–6) describes a promising approach toward a medicines management system. The authors used medication use performance indicators, specifically indicators of preventable drug-related morbidity (PDRM), to stimulate discussion of the system factors that contributed to the PDRM.

Medicines use exists on many levels, like the health care system within which it is embedded. The levels of medicines use and health care systems differ in their scope and detail. The patient level is the most specific and detailed.

This is the level of primary experience, eg, symptoms, cures and quality of life for a single patient (or, at least, one patient at a time). Outcomes at the patient level are the pre-eminent bases for judging the appropriateness and quality of care at the other levels. At the level of professional practice, doctors, pharmacists and nurses provide care directly to many patients. At the organisational level, many practices share resources and operate within a structure, for example, a primary care organisation or a hospital. At the environmental level, many groups and organisations work within common guidelines, standards, rules, policies, etc. The clearest examples of environment would be laws, cultures, and government(s). In the UK, the National Health Service is technically a health care finance organisation but is so all-encompassing that it has some environmental attributes. The environmental level influences procedures in each of the more specific levels and, ultimately, the outcomes at the patient level.

According to the NHS, the continuous improvement of prescribing and the use of medicines is “one of the most crucial elements of health care development, in this rapidly changing environment”. This obviously refers to the organisational or environmental level. In contrast, the stated objectives of medicines management are to optimise prescribing, to identify individuals’ pharmaceutical needs and to help people to get the best out of their medicines. Medicines management (as the term is most commonly used) refers to the patient level, and is

similar to what I have called pharmaceutical care. In order for the overall medications use system to function properly, the general goal of “continuous improvement of prescribing and the use of medicines”, at an organisational level, has to connect with the specific objectives of medicines management or pharmaceutical care at the patient level.

Morris *et al* applied PDRM indicators to an electronic patient database in a general practitioner practice. The indicator “positives” identified instances of potential PDRM. These potential PDRM were then discussed by the investigators and staff of the practice. These informal discussions identified individual patient problems in medicines use and general weakness in the system of prescribing and patient follow-up care that had permitted the patient

problems to recur. They also indicated ways to strengthen the system that might prevent future problems and improve outcomes.

That exercise was a somewhat informal example of continuous quality improvement. Repeated application of the indicators within the practice would show whether selected efforts to improve the medicines use process had been successful. Data aggregated from many practices would provide essential feedback to the organisational and environmental levels about processes actually carried out, outcomes that actually occurred and how they were related to each other and to policy.

Quality improvement is familiar in medications use as drug use review (DUR). DUR is, however, limited in relevance and scope. It is relevant to the practice level but does not connect it to patient outcomes. As usually practised, DUR is limited to prescribers’ choices of therapeutic agents. Choice of therapeutic agent, however, generally accounts for relatively few adverse outcomes compared with inappropriate dose, patient non-adherence and inappropriate follow up. The PDRM indicators described by Morris *et al* encompass all steps in medicines management, not just drug

choice, and connect practice to outcome. They are medication-use-system clinical performance indicators, based on accepted clinical guidelines or expert consensus. They connect the practice level to the organisational level.

Quality improvement and pharmaceutical care/medicines management have a great deal in common. Both require similar processes of decisions and actions, one from a practice or population perspective (many patients) and the other from a patient perspective. Both quality improvement and pharmaceutical care require (i) setting objectives, (ii) assessing progress toward those objectives based on evidence, (iii) deciding when progress is not satisfactory, (iv) defining problems in terms of their basic causes, (v) identifying, evaluating and choosing alternative solutions, (vi) recommending or implementing an intervention and (vii) following up the intervention (which is actually a return to step i). This similarity is significant for two reasons.

First, PDRM indicators directly link quality improvement and patient care. In their study Morris *et al* identified patients with potential PDRM. Estimating the prevalence of PDRM is important; furthermore, the performance indicators may serve another function. The process components of PDRM indicators can be used prospectively to identify patients who are receiving potentially inappropriate processes of care, before a drug-related morbidity (DRM) has time to occur. Care of those patients could be reviewed by the pharmacist and GP and appropriate action could be taken promptly, to prevent the DRM.

Second, pharmaceutical care and quality improvement are mutually supportive. Pharmaceutical care is a patient-level quality improvement programme. Perhaps pharmacy’s past approach has been incomplete. Pharmacists have discussed pharmaceutical care as an abstract system change and then tried to make it more concrete, tried to prove its worth, etc. Perhaps pharmacists should also approach pharmaceutical care from the perspective of indicator data, as Morris *et al* have done. This makes it obvious that pharmaceutical care is an idea about the quality of patient care systems rather than merely an occupational strategy.

The opportunities represented by medicines management/pharmaceutical care (on the patient level) can be magnified and solidified by constructing data-driven medicines management systems. These should be integral parts of clinical governance programmes in the NHS. The work of Morris *et al* has shown one promising way forward to the goal of systematic medicines management.

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