White Paper
Medicines Optimisation & Procurement

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Overview

It is not unreasonable to have concerns about the cost of medicines and their use. The tendering and procurement processes can sometimes lead to unacceptable consequences, such as unexpected product substitution by suppliers, patient and clinician confusion as medicines change appearance, and complications in medicines management or pharmacists. Achieving improved cost control, value for money and improved health outcomes arise from better management of medicines procurement, patient adherence, dispensing and waste reduction and reduction in variations in prescribing practices.

This White Paper outlines the process of conducting a medicines optimisation review, comprising a Scoping Study of medicines use and cost to identify the potential, followed by a full and detailed Study and Implementation Roadmap. The process engages all stakeholders (payers, pharmacists, prescribers, and patients).

The process is designed to enable improved professional practice through hospital formulary controls and best practice in medicines logistics. These enable the ability to reduce prescribing variance, strengthen quality systems and improve patient acceptability whilst strengthening the foundations of professional practice.

Experience in reviewing over 60 hospitals suggests savings from 5% to 37% of medicines expenditure, with some areas, such as oncology, benefiting in particular. Whilst some savings can be released quickly, sustainable savings persist in subsequent years through programmatic release.

Figure 1 illustrates the logic map summarising the purpose, activities and outcomes.

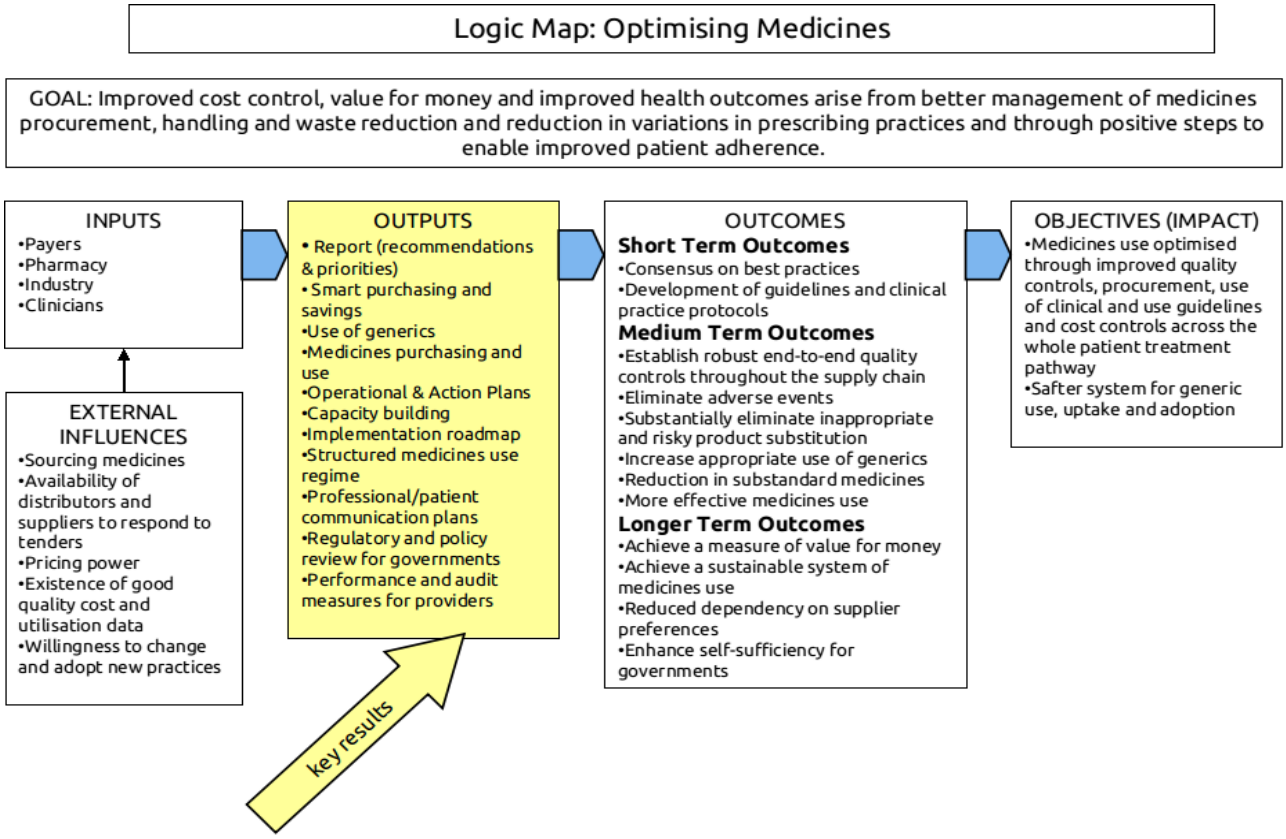

Figure 1– the process of Optimising medicine use (logic map)

What are the challenges of medicines optimisation?

A central feature of any high-performing healthcare system or organisation includes best-practice in medicines use and management. As all aspects of healthcare are under varying degrees of financial stress, cost controls and appropriate use of medicines must support the highest standards of clinical practice and safe patient care.

Medicines optimisation is one strategy as the use of medicines influences the quality of healthcare across the whole patient treatment pathway.

Failure to optimise the use of medicines across this pathway may arise from:

- misuse of medicines (failure to prescribe when appropriate, prescribing when not appropriate, prescribing the wrong medicine, failure to reconcile medicines use across clinical hand-offs
- "clinical inertia" and failure to manage patients to goal (e.g. management of diabetes, and hypertension post aMI)
  [O'Connor PJ, Sperl-Hillen JM, Johnson PE, Rush WA, Blitz WAR, Clinical inertia and outpatient medical errors, in Henriksen K, Battles JB, Marks ES et al, editors, Advances in Patient Safety: From Research to Implementation Vol 2: Concepts and Methodology), Agency for Healthcare Research and Quality, 2005]
- failure to use or follow best-practice and rational prescribing guidance
- lack of synchronisation between the use of medicines (demand) and procurement (supply), with an impact on inventory management and
- loss of cost control of the medicines budget.

The essential challenge is ensuring that the healthcare system and its constituent parts are fit for purpose to address and avoid these failures or at least minimise their negative impact.

What Do We Know About Medicines Optimisation?

The cost of drug mortality was described in 1995 [Johnson JA, Bootman JL. Drug-related morbidity and mortality; a cost of illness model. Arch Int Med. 1995;155:1949/56] showing the cost of drug mortality and morbidity in the USA and costed the impact at $76.6 billion per year (greater than the cost of diabetes).

The study was repeated five years later [Ernst FR, Grizzle A, Drug-related morbidity and mortality: updating the cost of illness model, J Am Pharm Assoc. 2001;41(2)] and the costs had doubled.

Evidence from a variety of jurisdictions suggests that drugs within the total cost of illness can be substantial, for instance:

- Atrial fibrillation: drugs accounted for 20% of expenditure [Wolowacz SE, Samuel M, Brennan VK, Jasso-Mosqueda J-G, Van Gelder IC, The cost of illness of atrial fibrillation: a systematic review of the recent literature, EP Eurospace (2011)13 (10):1375-1385]
- Pulmonary arterial hypertension: drugs accounted for 15% in a US study [Kirson NY, et al, Pulmonary arterial hypertension (PAH): direct costs of illness in the US privately insured population, Chest, 2010; 138.]

More generally, medicines costs are the fastest growing areas of expenditure and at the

same time comprising a major constituent of patient treatment and recovery.

Upward pressure on the medicines budget include:

- medicines with new indications
- changes in clinical practice which has an uplift effect on medicines use
- increasing the number of prescribers
- medicines for previously untreated conditions
- therapeutic improvements over existing medicines, and
- price increases.

Downward pressures include:

- effective procurement methods
- use of drug and therapeutic committees and drug review processes
- use of prescribing and substitution guidelines e.g. generic substitution
- positive and negative hospital formularies, and
- pro-active clinical pharmacy services engaged in both business and professional domains
- reduction of waste

Additional sources of pressure in either direction come from:

- population case-mix
- changing prevalence and incidence over time
- performance and efficiency of clinical workflow across the patient pathway
- medicines payment and reimbursement practices including patient co-payments where they exist and the structure of hospital budgets or financing, and
- healthcare system regulations.

Many of the drivers of problems can be addressed through a combination of professional staff development, better use of information, particularly within decision-support systems to support guidelines and prescribing compliance, and organisational interventions.

What Can Be Done?

The possible solutions fall across of spectrum of interventions:

1. development of drug use policies
2. development of clinical policies, guidelines, and clinical decision-support algorithms
3. drug-use evaluation studies
4. clinical and medical audit
5. cost-benefit studies
6. professional development
7. procurement effectiveness performance review

8. patient treatment pathway analysis
9. analysis of waste reduction opportunities
10. management/organisational improvements to support appropriate behaviours.

Any or all of these are good starting points.

The first step is to assess the current state of them, and determine any gaps with national or organisational policy, or evidence-informed best practice. As a proxy measure of the necessary changes, measurement of this gap becomes the focus, and requires evidence of current practice against the desired goal. In many cases, where systems are weak or poorly performing a comprehensive root-and-branch review may be needed, with a corresponding impact on existing managerial, organisational and professional practice.

An interventional strategy to optimise medicines use should encompass a structured review of at least these factors, taken within national or organisational settings.

What Benefits are Possible?

All healthcare systems and organisations are different and whilst it is impossible to precisely quantify the outcomes in advance, organisations undertaking a sustained process of medicines review and optimisation should be able to release more than 10% of existing drug expenditure and possibly considerably more.

In organisations with a less-well developed clinical pharmacy, where medicines information systems are not well developed, and where clinical guidance is not proceduralised, greater savings are likely, perhaps to 25% or more, reflecting the possibility that the lack of information conceals upward drivers of costs, masks inefficient medicines management or evidence of misuse and waste.

In the longer run, healthcare organisations will need to ensure sustainability of any medicines optimisation review, by ensuring strong organisational structures, practices and behaviours. Development of these frameworks is an important by-product of medicines optimisation interventions, with a corresponding improvement in medicines safety.

How is it done?

Structure

An appropriate review should comprise a framework for improved professional practice through focussed prescribing and dispensing guidelines, and hospital formulary controls. These enable the ability to reduce prescribing variance. Hospital pharmacies are likely to benefit from best practice development in quality assurance and utilisation review.

Whilst some savings are likely to be released quickly and within an annual budgetary cycle, sustainable savings that would persist in future years are more likely through programmatic release.

Such a review should also produce insights and associated actions on reduction of product substitution within supply, simplification of procurement, the appropriate use of generic medicines, and the potential for a reduced formulary. Changes will need to involve clinical professionals in order to build trust and compliance. Special considerations reflecting national preferences, e.g. treatment considerations, demographic and epidemiological priorities or supply/procurement practices, are also relevant.

Overall, such a review should lead to improved national or organisational practices.

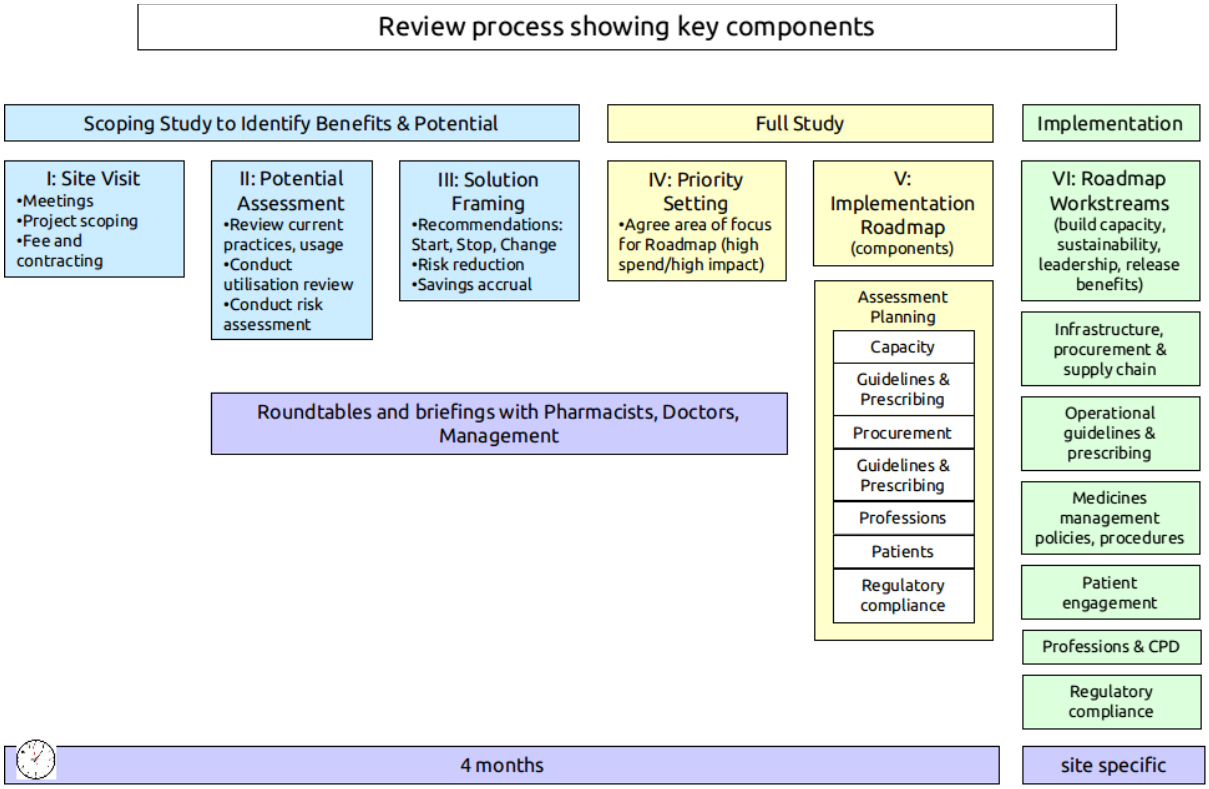

Figure 2– Key components of a structured review