



## **Technical Brief Series - Brief No 3**

### **ACHIEVING BETTER HEALTH OUTCOMES AND EFFICIENCY GAINS THROUGH RATIONAL USE OF MEDICINE**

#### **WHAT IS RATIONAL USE OF MEDICINE?**

Rational use of medicines requires that patients receive medications appropriate to their clinical needs, in doses that meet their own individual requirements, for an adequate period of time, and at the lowest cost to them and their community. The irrational use of medicines, that is to say misuse, under-use or over-use of medicines clearly has a negative impact on health outcomes. It can also result in a huge waste of resources.

Irrational use of medicines is a major problem worldwide. WHO estimates that more than 50% of all medicines are prescribed, dispensed or sold inappropriately, and that half of all patients fail to take them correctly. Examples of irrational use of medicines include: use of too many medicines per patient ("polypharmacy"); inappropriate use of antimicrobials, often in inadequate dosage, for non-bacterial infections; over-use of injections when oral formulations would be more appropriate; failure to prescribe in accordance with clinical guidelines; inappropriate self-medication, often of prescription-only medicines; non-adherence to dosing regimes.

For example, the all-too-common problem of acute diarrhoea in children requires oral rehydration therapy, yet studies show that only 60% children receive it. Some 40%, however, receive unnecessary (and expensive) antibiotics.

#### **WHAT CAN BE ACHIEVED THROUGH RATIONAL USE OF MEDICINE?**

A large share of countries do not implement basic policies to promote rational use of medicines. This can be due to (i) inadequate political support and commitment; (ii) non-existing or ineffective regulation; or (iii) insufficient funds, structures and staff for information gathering, enforcement and coordination. There might also be a lack of awareness about the negative impacts on health and about the inefficiencies caused by irrational use of medicines.

There is thus a lot of room for improvement in many countries. In addition, taken into account the fact that globally medicine expenditure accounts for 20-30% of total health expenditure and taken into account that the possible efficiency gains can be substantial, that actions and interventions that increase rational use of medicine are potentially highly cost-effective. It is more than possible for ministries, especially in low- and middle-income countries - but also in high-income countries, to succeed in improving the use of medicines, partly because so little has been done so far; the initial activities have the potential to produce a large return.

The Ministries of Health in Bhutan and Oman have kept their medicines cost to between 7% to 10% of the Ministry expenditure, largely due to an active Rational Use of Medicines program.

Oman for example has a separate directorate for rational use of medicines. This directorate oversees training on rational use of medicines in the health institutes. It has also introduced rational use as a specific topic in examinations for licensing physicians from abroad. Information technology is used to monitor medicine consumption and to design corrective measures in almost real-time.

#### **WHAT THE POLICY MAKERS NEED TO THINK ABOUT?**

Countering irrational drug use requires action on a number of fronts. The key to successful action is to combine interventions: any single intervention has limited impact. This is why it is important to have a **multidisciplinary national body that can coordinate policies on medicines use**. Improvements in high-income countries have come about through coordinated actions by Ministries of Health and other institutions such as health insurance organizations.

Effective **regulation** has often proved to be the key element. For example, improving medicine use in private sector health care is important but is often complicated by ministries having insufficient regulatory powers over private service providers.

Evidence based treatment **guidelines** for common conditions in primary care must be developed; the medicines in the guidelines must be from the Essential Medicines List and it is these medicines that must be supplied by the health care system. An updated and relevant **National Essential Medicines List** is a prerequisite.

Rational use of medicine can be encourage also by introducing **financial incentives**. The incentives can relate to larger health financing questions; for example incentives to prescribe and sell more and pricier medicines are produced when medicines are mainly purchased through direct payments. When a third party payer (insurance company, government) takes on the main responsibility of paying for medicines they will have a strong bargaining power to negotiate payment arrangements that introduce positive incentives for rational use of medicines and decreases and removes perverse incentives.

**Audits** and **information gathering** on medicines consumption and regular reports are essential. Monitoring provides important **feedback** to initiate action, and should provoke questions such as "why is consumption higher in one area or during a particular season?" The information should be freely available, the ministry website is the logical portal for disseminating information. In countries with strong Information Technology, the Ministry website should be the first port of call for reliable information on health and medicines in the country.

For health professionals to recognize the importance of rational use from the outset, it will be critical to include **problem-based pharmacotherapy training in under-graduate curricula**. To ensure that they continue to treat it is a priority, **continuing in-service medical education** should be made a licensure requirement.