

# Investigating the use of medicines to improve quality of therapy

**A medicines indicator study elucidated strengths & weaknesses in the utilization of medicines**

## Results

### Positive findings

- Generic names used in most prescriptions
- Low use of injections
- Majority of medicines prescribed from national essential medicines list

### Concerns

- Very high use of antibiotics
- Limited time for patient consultation
- Inadequate dispensing practice of medicines to patients

Inadequate access to medicines is a major problem in any health system, but access is of little advantage if the medicines are not used correctly. The availability of essential medicines, equipment and supplies, together with rational use by prescribers, dispensers and patients are two important indicators for the quality of health care services and positive health outcomes. Irrational use of medicines is a serious global problem that is wasteful and harmful.

To improve the use of medicines, a two-pronged approach is needed: addressing perceptions and behaviours on the community end; and on the health providers' side, addressing the professional knowledge, skills and practices needed for effective use of medicines through rational prescribing and dispensing.



A patient receiving prescribed medicine  
(T. Schuppisser)

## Medicines use study

A baseline study on medicine use - also called rational use of medicines study (RUM), based on the WHO/INRUD standard methodology - was conducted by the HPSS project in 2012, serving to explore the current situation and to identify potential areas for planning interventions. Of the 270 public facilities in the six districts of Dodoma, a random sample of 120 facilities was included. Data of 3510 patient encounters were collected and recorded retrospectively. Data on 1397 encounters were collected and recorded prospectively.

This comprehensive study allowed an insight in the use of medicines in Dodoma region. It can be used to understand gaps and define priority activities for further investigation and action. It can also be used as a baseline for measuring the impact of interventions. Positive findings include good prescribing of generics and medicines from the National Essential Medicines List of Tanzania (NEDLIT) and low use of injections. These indicators compare favourably, i.e. are better than found in other international studies in low income countries. Other findings are comparable with many developing countries, such as patient care indicators and dispensing practice that seem to be persistent in similar settings and are rarely addressed sufficiently.

Among the findings requiring attention, the most critical is the high use of antibiotics (66%). While there may be more need for antibiotic treatment in hospital settings, antibiotics are rarely required in more than 20% of cases in primary health care when following treatment guidelines.



Patients outside a dispensary in  
Dodoma Region (K. Wiedenmayer)

**Table 1: Prescribing indicators, by type of health facility**

Indicator	Total	Dis-pensary	Health centre	Hospital
Average number of medicines prescribed per encounter	1.9	1.9	2.0	2.0
Percentage of medicines prescribed by generic names	97	97	95	94
Percentage of encounters with an antibiotic prescribed	66	66	69	63
Percentage of encounters with an injection prescribed	9	9	12	10
Percentage of medicines prescribed on essential drug list	98	99	97	96

**Table 2: General patient care indicators, by type of health facility**

Indicator	Total	Dis-pensary	Health centre	Hospital
Average consultation time in minutes	4.2	4.3	3.8	4.7
Average dispensing time in seconds	39	38	42	39
Percentage of patients unable to obtain medicines as out of stock	17	16	19	21
Percentage of patients adequately informed about their medicine	49	50	50	43
Percentage of prescriptions adequately labeled	1	2	0	0

Irrational use of medicines is compounded by stock-outs of key medicines in the health facilities. Unavailability of required medicines hampers appropriate prescribing and use of medicines.

**The most critical finding is the high use of antibiotics.**

### Promoting rational use of medicines

Both in developing and developed countries, numerous intervention studies have been performed to improve the use of medicines. However, changing behaviour is challenging. Effective interventions are generally multi-faceted. They include provider and consumer education with supervision, problem-based training in medical schools, use of clinical guidelines and regular supply of essential medicines.

Printed materials alone have little effect and for guidelines to be effective, they need to be accompanied by reminders, educational outreach and feedback.

From this study, the finding that needs most and urgent attention is foremost the high use of antibiotics (66%). For Dodoma Region, follow-up activities include:

- A survey conducted on perceptions about antibiotics in the community and among health staff
- A survey of hand hygiene practice by health workers
- Campaigns in the community on antibiotic use and antimicrobial resistance
- Clinical training of health workers in most common diseases based on new Standard Treatment Guidelines (STG)
- Regular supportive supervision and feedback.

### Dodoma Health Project Tanzania - Background

*Health Promotion and System Strengthening (HPSS) or Tuimarisha Afya Project is part of the development cooperation between Tanzania and Switzerland. The HPSS project was launched in 2011 and supports Dodoma Region in the areas of health insurance, community health promotion, pharmaceutical management and management of maintenance and repair services for a period of 10 years. The project is funded by the Swiss Agency for Development and Cooperation (SDC) and implemented by the Swiss Tropical and Public Health Institute (Swiss TPH).*

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