Translating Drug Development into Patient Wellness: Access and Responsible Use of New Medicines

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Increasing Access to Products and Services

Source: Management Sciences for Health (2011)

Balance between Safety and Access

ACCESS
- Good efficacy
- Convenience
- Shorter regimen
- Simpler regimen

SAFETY
- No or few serious adverse effects
- Good tolerance

Example:
Approach to Introducing New TB Drugs

Background

- Newly developed and re-purposed drugs are being investigated in clinical trials for TB and MDR-TB
- Bedaquiline and delamanid granted regulatory approval by USFDA and EMA under accelerated and conditional procedures based on results of Phase IIb clinical trials
- Opportunities, but also challenges - particularly in resource-constrained countries

KEY ELEMENTS OF ROADMAP

1. Minimum requirements for country preparedness and planning
2. National implementation plan for introduction of new TB drugs and/or regimens
3. Monitoring and evaluation of new drugs and regimens, including pharmacoefficacy and drug resistance surveillance
4. Private sector engagement
5. Systems approach for ensuring uninterrupted supply of quality-assured drugs
6. Operational research
1. Minimum Requirements for Country Preparedness

- Health and regulatory environment
- Laboratory capacity
- Drug Supply and Procurement system
- Case management
- Monitoring and evaluation
- Pharmacovigilance
- Financial resources and country support

2. National Implementation Plan

- Rationale for introduction of new TB medicines
- Development and/or update of clinical guidelines
- Recording and reporting
- Monitoring and evaluation
- Pharmacovigilance
- Ethical issues
- Training of managers and staff
- Human resources development
- Timeline
- Budget

3. Monitoring and Evaluation

- Documenting the way patients respond to treatment is essential to country decision-making about implementation and scale-up of new drugs and regimens
  - Individual patient level
  - Programmatic level
- Two areas of particular importance:
  - Pharmacovigilance
  - Drug Resistance Surveillance

Pharmacovigilance

- Informs risk-benefit analysis, which in turn informs policy decisions, clinical guidelines and treatment recommendations
- Limited data and conditional regulatory approval (e.g. Bedaquiline based on Phase IIb trial results) necessitate ACTIVE surveillance
- Cohort event monitoring most appropriate method of pharmacovigilance for introduction of new medicines and regimens
- Acts as an early warning system
- Reduces likelihood of bias in selection of patients or measurements of events
- Allows for preliminary conclusions about the potential association of an event with the given exposure
- Provides denominators and baseline data for analysis
- How prepared are LMICs to implement active surveillance/CEM?

Drug Resistance Surveillance

- Crucial to the protection of new medications and their rational use
- Reliable drug susceptibility testing for new classes of drugs that have not been in wide use usually lags behind the release of the drugs themselves
- Two different but complementary surveillance approaches:
  - Population-representative drug resistance surveys
  - Continuous surveillance of drug resistance in patients piloting the new regimen

4. Private Sector Engagement

- Crucial to engage with the private sector to ensure responsible use of new drug or regimen, particularly in countries where this sector is serving a significant proportion of the general population
- Effective regulation and enforcement of regulatory authority are key
  - Licensing
  - Restrictions on the sale and marketing of TB drugs in the private sector
  - Mandatory case notification
5. Systems approach to ensure uninterrupted supply of medicines

- A functional procurement and supply chain management (PSCM) system is key for ensuring sustainable access

- Essential components/functions of PSCM

- What do we mean by “systems approach”?

6. Operational Research

- Useful to assess the effectiveness, acceptability, feasibility and affordability of interventions under routine, real world programme conditions

- Seeks to understand setting-specific factors relevant for successful introduction, as well as those applicable across different settings

- Especially important during pilot phase to inform implementation and scale-up

- Allows the evaluation of patient, programme and population level impact of new TB drugs or regimens, including the cost-effectiveness and impact on TB transmission

- Considerations:
  - Capacity to conduct OR
  - Relevant study designs
  - Identification of problems or questions

How successful has the introduction of new TB medicines been to date?

How introducing TB drugs may differ from other drugs

- The overall threat of TB infection

- Stewardship of global TB community and national TB programs

- Safety profile

- The threat of resistance

- Already received regulatory approval from stringent regulatory authorities

- Approved based on phase II trial data