

Reforming Pre-service Curriculum as a Sustainable Low-Cost Intervention to Address Antimicrobial Resistance

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Background

Antimicrobial resistance (AMR) is an extremely serious public health problem that requires urgent action. Management Sciences for Health's U. S. Agency for International Development-supported Strengthening Pharmaceutical Systems Program (SPS) and its predecessor, Rational Pharmaceutical Management (RPM) Plus, collaborated with in-country stakeholders in Zambia to jump-start an AMR advocacy and containment initiative. The effort led to the formation of a local AMR advocacy working group that built coalitions with other local players to—

- Generate public awareness about AMR
- Revise national standard treatment guidelines
- Improve the regulatory authority's product quality control activities
- Reform pre-service curriculum used to train health professionals

Curriculum Reform

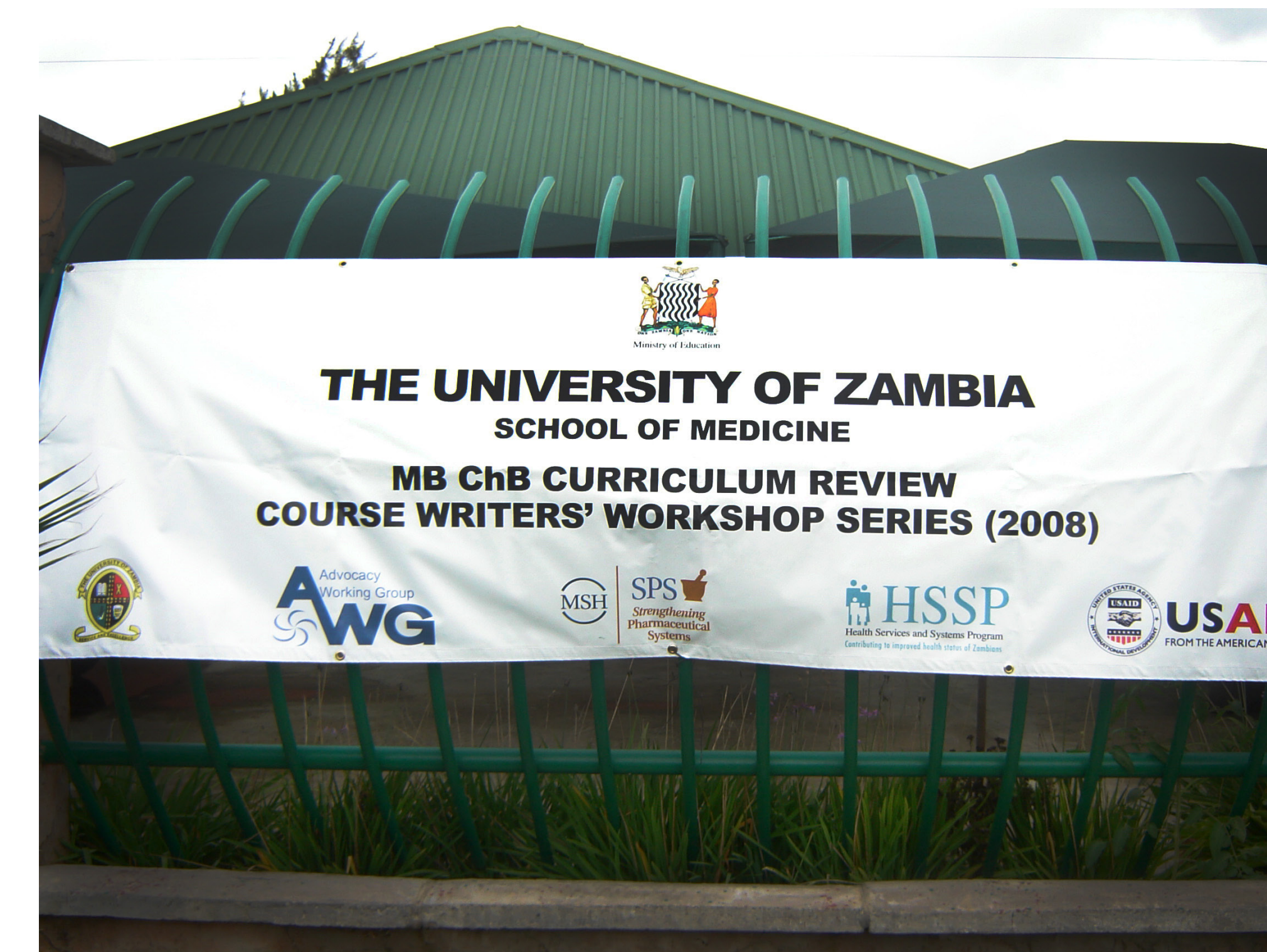
To address curriculum reform, RPM Plus/SPS and the advocacy working group helped University of Zambia (UNZA) stakeholders analyze gaps in the curriculum and recommended relevant AMR and rational medicine use topics to fill gaps. University stakeholders embraced the recommendations and included them in the new curriculum for today's undergraduate-level medical students.



Key Topics and Recommended Readings Incorporated into UNZA Medical Curriculum

Key Topics

- Factors contributing to AMR
- Impact of AMR on individuals and public health
- Examples/case stories of AMR
- Multidrug resistance in tuberculosis, malaria, HIV/AIDS, nosocomial infections, and sexually transmitted infections
- The role of effective immunization programs in reducing infectious disease burden and AMR
- The role of prescribers in judicious antimicrobial prescribing, hospital infection control activities, and use of AMR surveillance information to guide prescribing
- The role of prescribers as agents for advocacy on issues such as substandard/ counterfeit medicines and use of antimicrobials to promote growth in animals
- Factors influencing prescribing
- Patient counseling, including adherence
- Critical analysis of promotional literature
- Rapid diagnostic tests
- Evidence-based medicine
- Zambian Standard Treatment Guidelines, Essential Medicines List, Formulary
- Pharmacovigilance, including adverse drug reactions, medication errors, and medicine quality problems
- Role of prescribers in promoting medicine safety



Recommended Readings

- World Health Organization's (WHO) *Guide to Good Prescribing*
- WHO *Global Strategy for Containment of Antimicrobial Resistance*

Capacity-Building for Curriculum Reform: Lessons Learned

- Promote curriculum reform as a sustainable, low-cost intervention to contain AMR. Pre-service training can have an early and lasting influence on students' competencies for practice.
- Use the opportunity provided by cross-cutting and practical topics such as AMR, rational medicine use, and pharmacovigilance to promote application of basic science for public health and clinical disciplines.
- Remember that technical assistance for curriculum reform is often a multiyear commitment, which affects action and funding plans.
- Do not end support immediately after the curriculum has been reformed. For full capacity-building, continue technical assistance for at least an initial round of implementing the new curriculum.
- Provide technical assistance in a step-wise manner to secure stakeholders' commitment and to help them make informed decisions. (Box 1)

Box 1. Step-by-Step Approach to Strengthening Capacity for Curriculum Reform

1. Enlist the support of local opinion leaders
2. Help local players become owners of the process
3. Help review curriculum
4. Facilitate meetings to orient stakeholders and build advocacy
5. Assist in identifying gaps and desired competencies
6. Provide assistance for developing technical contents—focus on key areas and avoid overambitious recommendations
7. Continue follow-up with key stakeholders throughout the process

Conclusion

Typically, AMR is approached in health curricula from a biomedical and microbiological perspective. Bringing in social, cultural, and economic viewpoints along with public health and programmatic considerations assures that graduates enter clinical practice with the right skills and attitudes to be both effective practitioners and committed stewards of AMR containment. Therefore, experts have identified pre-service curriculum reform as an important AMR intervention. Zambia's successful example serves as a model that other resource-constrained countries can use to implement this sustainable, low-cost intervention to address the growing public health threat posed by AMR.

Key Steps in Integrating AMR and Rational Medicine Use Topics during Revision of UNZA Curriculum

