SOUTH CENTRE

Webinar Report:

Advancing Antimicrobial Stewardship Policies: Lessons from the COVID-19 Pandemic and Priorities for Future Health Emergencies

Dr Rasha Abdelsalam Elshenawy

Consultant on Antimicrobial Resistance, South Centre

WEBINAR REPORT

Strengthening Antimicrobial Stewardship: Policy Insights from COVID-19 and Future Pandemic Preparedness

Date: April 14, 2025
Time: 12:00 PM – 1:00 PM CEST | 6:00 AM – 7:00 AM EDT | 3:30 PM – 4:30 PM IST
Format: Virtual Event
Organizer: South Centre

Executive Summary

- The South Centre organized a timely webinar to examine the critical intersection of antimicrobial resistance (AMR) and pandemic preparedness through the lens of COVID-19 experiences. The session was particularly relevant in the context of World Health Organization (WHO) negotiations for an agreement on pandemic preparedness, prevention, and response, which includes provisions for addressing antimicrobial resistance.
- The webinar provided an evidence-based analysis of how the COVID-19 pandemic impacted antimicrobial stewardship (AMS) practices globally, with particular attention to challenges faced by low and middle-income countries (LMICs). Through expert presentations and panel discussions, the event highlighted essential policy insights and actionable recommendations for strengthening AMS frameworks to combat the growing threat of AMR while enhancing future pandemic preparedness.

Context and Relevance

- The webinar was conducted at a critical juncture as WHO member states were finalizing a Pandemic Agreement that is expected to commit Parties to "progressively strengthen measures and capacities for pandemic prevention and coordinated multi-sectoral surveillance" including "measures to address public health risks associated with the emergence and spread of pathogens that are resistant to antimicrobial agents, facilitating

affordable and equitable access to antimicrobials and promoting appropriate, prudent, and responsible use across relevant sectors."

- This alignment underscores the webinar's relevance to current global health governance frameworks and policy development.

Key Presentations

⇒ Opening Remarks

Dr. Viviana Muñoz Tellez, South Centre

Dr. Viviana Muñoz Tellez, Coordinator of the Health, Intellectual Property and Biodiversity Programme at the South Centre, opened the webinar by warmly welcoming participants from around the world. The session, titled *"Strengthening Antimicrobial Stewardship: Policy Insights from COVID-19 and Future Pandemic Preparedness"*, was introduced as a timely and urgent dialogue on advancing antimicrobial stewardship (AMS) within global health governance.

Dr. Viviana highlighted the relevance of this webinar in the current context of global negotiations. She noted that World Health Organization (WHO) member states were nearing the conclusion of an international agreement on pandemic prevention, preparedness, and response, which notably includes explicit commitments related to antimicrobial stewardship. Among the key provisions, the agreement commits countries to:

- Address the emergence and spread of antimicrobial resistance (AMR);
- Facilitate affordable and equitable access to antimicrobials;
- Promote the appropriate, prudent, and responsible use of antimicrobial agents.

Framing the webinar within this high-level policy development, Viviana underscored the event's role in supporting policymakers, researchers, and technical experts in shaping strategies for effective AMS implementation. By aligning policy, practice, and evidence, she stressed, the international community can make meaningful progress in confronting the AMR crisis and strengthening pandemic preparedness.

"This is a timely opportunity," she remarked, "to inform ongoing global processes and support implementation efforts that address AMR as part of broader pandemic preparedness."

⇒ Main Presentation: Leveraging Lessons from COVID-19 to Strengthen Antimicrobial Stewardship and Combat AMR

Dr. Rasha Abdelsalam-Elshenawy, South Centre Consultant on AMR and Director of the FADIC Antimicrobial Stewardship School, University of Hertfordshire, UK

Dr. Rasha Abdelsalam Elshenawy is a leading expert in antimicrobial resistance (AMR) and a consultant at the South Centre in Geneva, Switzerland. Since 2018, she has also served as the Director of the FADIC Antimicrobial Stewardship School in the United Kingdom. In addition, Dr. Elshenawy holds an academic role at the University of Hertfordshire within the School of Health, Medicine and Life Sciences.

With over 20 years of experience in clinical pharmacy practice, Dr. Elshenawy is internationally recognised for her contributions to advancing antimicrobial stewardship (AMS). Her research primarily focuses on the intersection of AMR, COVID-19, and public health systems, and she has authored more than 150 publications and conference presentations. Her work reflects a deep commitment to global health equity and to building resilient AMS frameworks across diverse healthcare settings.

Dr. Rasha Abdelsalam-Elshenawy opened her presentation by underscoring the urgent need to enhance global emergency preparedness and reflect on the lessons learned from the COVID-19 pandemic, particularly regarding its disruptive impact on antimicrobial stewardship. Her talk centred around the South Centre's Policy Brief No. 136, which she co-authored, offering a comprehensive exploration of the pandemic's implications for AMS and antibiotic resistance, especially in low- and middle-income countries (LMICs).

1. Impact of COVID-19 on Antimicrobial Stewardship

Dr. Rasha framed the pandemic as a "dual crisis": the COVID-19 outbreak coincided with the escalating global threat of antimicrobial resistance. She emphasised that while COVID-19 claimed over 6 million lives globally, it also significantly disrupted AMS activities across hospitals and healthcare systems. Key challenges included:

- Disruption of hospital-wide AMS programmes and prescription audits.
- Fatigue among prescribers and increased empirical antibiotic prescribing.
- A surge in multidrug-resistant infections, with 35–75% of hospitalised COVID-19 patients receiving antibiotics despite low bacterial co-infection rates.
- Weakened infection prevention and control (IPC) measures, leading to more healthcare-associated infections.

This environment contributed to the misuse of antibiotics, especially in the absence of structured AMS frameworks or diagnostic support, exacerbating resistance trends in LMICs.

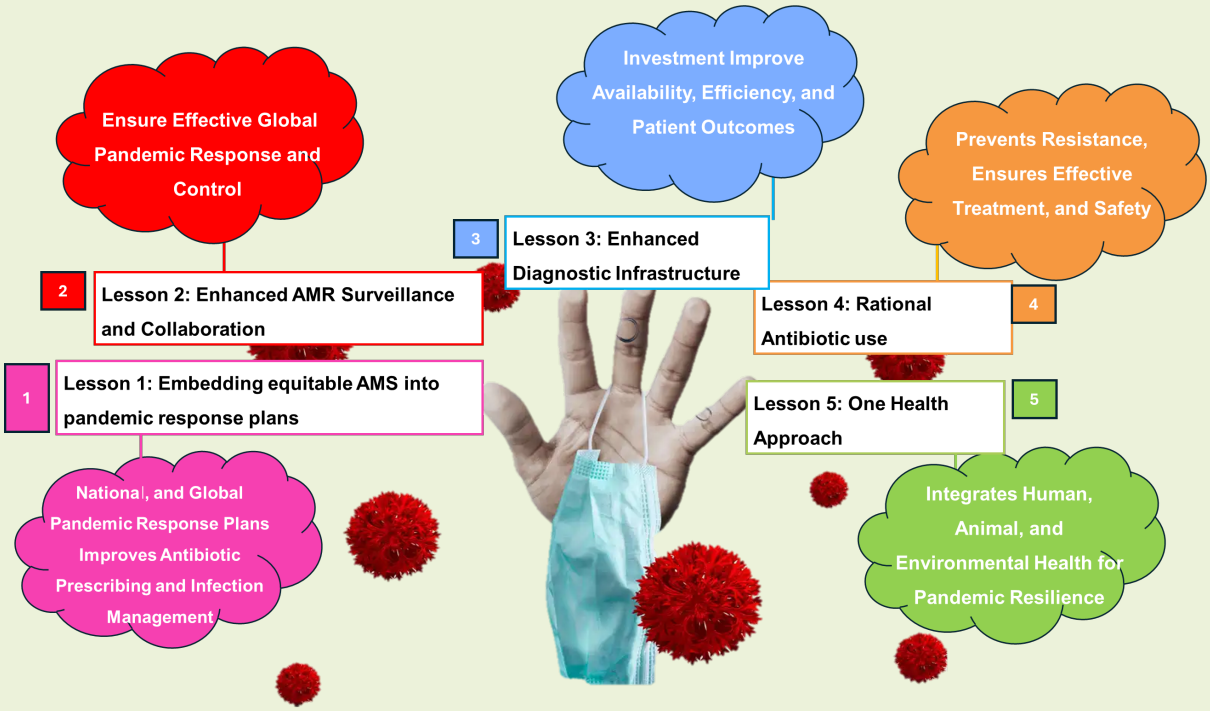
Figure 1. COVID-19 pandemic and antimicrobial resistance silent pandemic (Photo credit: Dr. Rasha Abdelsalam Elshenawy).

2. Lessons Learned from the Pandemic for AMS Implementation

Dr. Rasha outlined five critical lessons derived from the pandemic experience:

1. **Embed AMS into Pandemic Preparedness Plans**
   AMS must be integrated into national and global emergency response strategies. Training for healthcare workers should be aligned with pandemic frameworks to promote rational prescribing and antibiotic preservation.
2. **Strengthen AMR Surveillance Systems**
   Data gaps remain a major barrier. Enhanced investment in **real-time AMR surveillance**, including the use of digital dashboards (e.g., WHO GLASS), is essential for tracking resistance patterns and guiding interventions.
3. **Promote Diagnostic Stewardship**
   Widespread implementation of **antibiograms** and point-of-care testing is critical to distinguishing bacterial from viral infections. Improved diagnostics will directly support clinical decision-making and reduce inappropriate antibiotic use.
4. **Rationalise Antibiotic Use and Enhance Prescriber Training**
   Hospitals must ensure regular updates to AMS guidelines, tied to surveillance data. Continuous **professional training** and **public education** are vital to reinforce evidence-based practices.
5. **Apply a One Health Approach**
   A holistic strategy is required—spanning human, animal, and environmental health sectors. This includes antimicrobial use in agriculture, pharmaceutical waste management, and equitable AMS resources across health systems.

Figure 2. Summary of lessons learned from the COVID-19 pandemic (Photo credit: Dr. Rasha Abdelsalam Elshenawy)



3. Policy Recommendations and Call to Action

Dr. Rasha concluded her presentation with six policy recommendations from the South Centre policy brief:

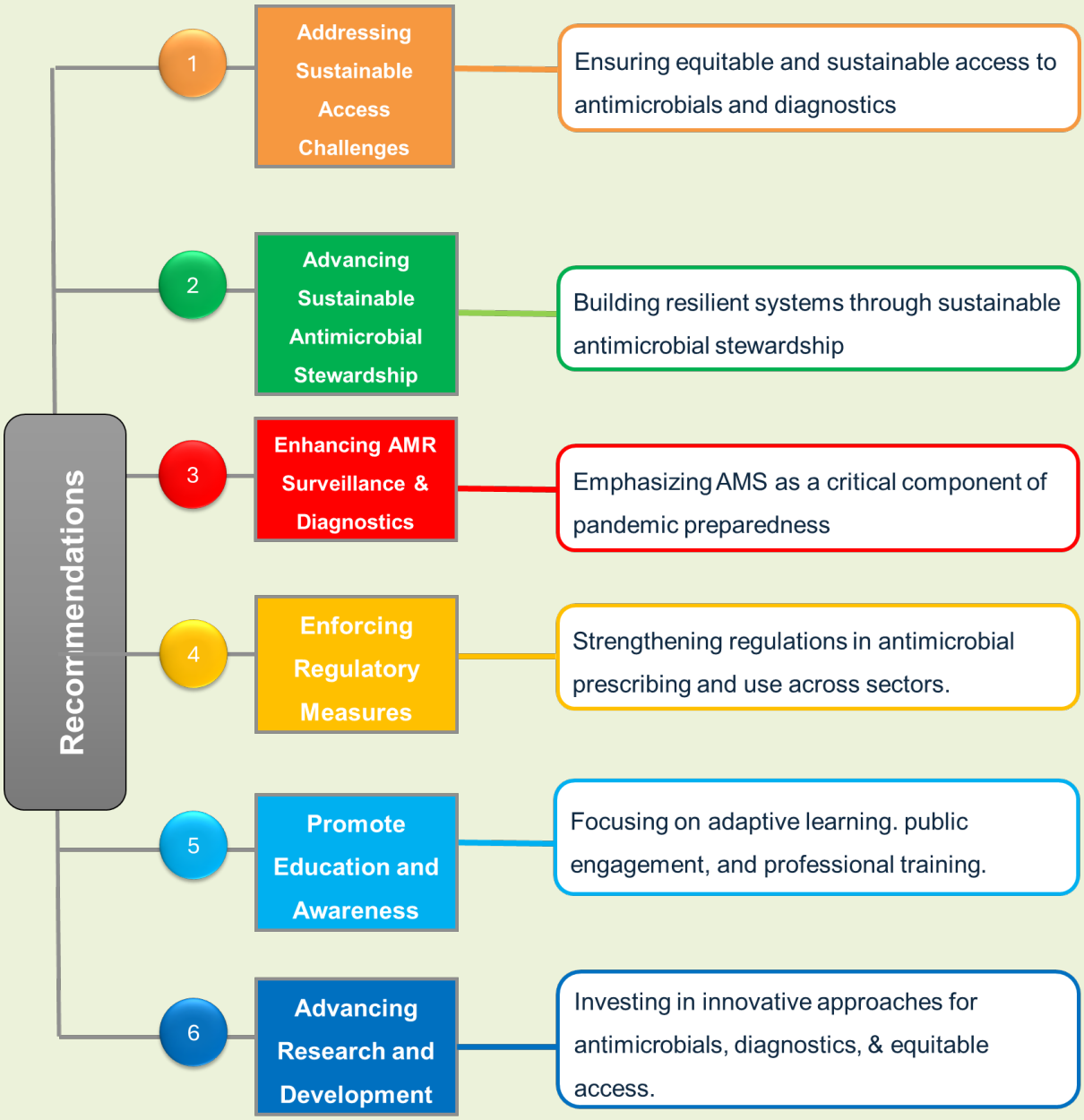
1. **Ensure Sustainable and Equitable Access to Antibiotics and Diagnostics**
   Especially in LMICs, access must be balanced with stewardship to avoid overuse.
2. **Integrate AMS into Global and National Health Policies**
   AMS should be central to Universal Health Coverage (UHC) efforts and embedded into health worker education.
3. **Invest in Surveillance and Diagnostic Capacity**
   Without measurable data, AMR cannot be effectively managed. Investments in diagnostics and surveillance infrastructure are essential.

4. **Enforce Regulatory Measures**
   Strengthen policy to curb over-the-counter antibiotic sales and ensure compliance with structured prescribing guidelines.
5. **Promote Continuous Education and Awareness Campaigns**
   Beyond World Antimicrobial Awareness Week, there must be ongoing public and professional engagement.
6. **Advance Research and Innovation**
   Support for novel antibiotics, alternative therapies, and digital tools for AMR data analysis is critical for sustainable progress.

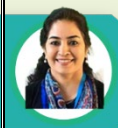
Dr. Rasha emphasised that COVID-19 exposed critical gaps in AMS systems and highlighted the necessity of resilient, evidence-based frameworks to prepare for future pandemics. “We may not be able to prevent the next pandemic,” she stated, “but we can be better prepared.” She urged policymakers, healthcare professionals, and global health institutions to act collaboratively and urgently to embed AMS into emergency preparedness planning.

She closed by directing participants to the full South Centre policy brief, available online, and welcomed further questions and discussion in the Q&A session and panel discussion that followed.

Figure 3. Policy Recommendations: Lessons from COVID-19 - Strengthening Antimicrobial Stewardship Before and During Pandemics (Photo Credit: Dr. Rasha Abdelsalam Elshenawy)



Panel Discussion



Dr. Kamini Walia, Senior Scientist, Indian Council of Medical Research

The South Centre antimicrobial stewardship and lessons from COVID-19 pandemic ongoing policy dialogue on antimicrobial resistance (AMR) featured Dr. Kamini Walia, a global leader in AMR surveillance and antimicrobial stewardship at the Indian Council of Medical Research (ICMR). Drawing on more than 20 years of public health and infectious disease research experience, Dr. Walia offered a critical commentary on the South Centre's Policy Brief No. 136. Her insights focused on policy lessons from the COVID-19 pandemic and strategies to strengthen antimicrobial stewardship (AMS) and health system preparedness in low- and middle-income countries (LMICs).

1. AMS During COVID-19: A Setback and a Learning Opportunity

Dr. Walia opened by acknowledging that the COVID-19 pandemic led to the deprioritization of AMS across many health systems, including in India. During the pandemic:

- Routine AMS meetings were suspended.
- Prescription audits and data recording efforts were significantly compromised.
- Limited hospital access and reallocation of staff made stewardship activities unsustainable.

This disruption emphasised the need for pre-established AMS frameworks and integrated processes within universal health coverage (UHC) systems—mechanisms that should be in place before a crisis to ensure continuity during emergencies.

"You cannot build AMS frameworks during a pandemic. They must already exist within your health system," Dr. Walia stressed.

2. Policy and Governance: Central to AMS Success

Dr. Walia highlighted that sustainable AMS requires:

- Strong governance and leadership, ideally at the highest political level.
- Adequate funding and ownership for implementing National Action Plans on AMR.
- Multisectoral collaboration across ministries, including health, agriculture, sanitation, and environment.

Countries with effective government coordination—such as Thailand—managed to maintain progress on AMR even during COVID-19. She noted that without high-level political will, many LMICs struggle with fragmented implementation.

3. Diagnostics, Data, and Digital Infrastructure

Another key lesson was the importance of diagnostic capacity:

- Rapid deployment of point-of-care testing during COVID-19 underscored the value of diagnostic stewardship.
- Well-equipped labs are critical to support AMS, yet many LMICs lack the infrastructure.
- Digital tools and real-time data systems were instrumental during the pandemic and should be integrated into AMS programmes.

Annual or six-monthly antibiograms, even if real-time surveillance is not feasible, are essential to guide action and inform prescribing patterns.

4. Strengthening AMS in LMICs: Practical Steps Forward

For LMICs that have not yet implemented AMS, Dr. Walia suggested:

- Start small: Even a single hospital or motivated team can initiate a pilot.
- Build internal leadership by identifying AMS champions—physicians, paediatricians, or intensivists.

- Focus first on process indicators such as AMS committee formation, meeting regularity, and data analysis.
- Over time, evolve towards outcome monitoring (e.g., adherence to formularies, prescription trends, resistance rates).

Public-private partnerships, particularly in India, have also enabled scalable stewardship models adaptable to resource-constrained settings.

“Our AMS model involves both public and private hospitals—collaboration is key to long-term sustainability,” she explained.

Dr. Walia’s commentary offered practical, policy-relevant insights that align with the South Centre’s call for global coordination on AMR. Her key message was clear: AMS must be embedded into health systems now—not later—if we are to prepare for future pandemics.

Investments in labs, leadership, and learning systems are vital. AMS implementation in LMICs is possible through incremental steps, network-building, and government commitment. Her recommendations provide a powerful extension to the policy brief and serve as an urgent call to action for global health actors.

Panel Discussion

Dr. Nusrat Shafiq, Professor, Clinical Pharmacology Unit, PGIMER, India

Dr. Nusrat Shafiq is a Professor at the Clinical Pharmacology Unit of the Postgraduate Institute of Medical Education and Research (PGIMER), Chandigarh, India. A former President of the Society for Antimicrobial Stewardship Practices in India, Dr. Shafiq is a leading voice in antimicrobial optimisation and clinical pharmacology. She currently serves as the Principal Investigator for the India Hub of the Consortium of Antimicrobial Optimization Network, a global initiative supported by the Wellcome Trust. Her work focuses on strengthening evidence-based antimicrobial stewardship practices and advancing research capacity in resource-constrained settings.

Dr. Shafiq, a leading expert in infectious disease management and antimicrobial use, offered a grounded perspective on the practical challenges, lessons, and strategic actions relevant for low- and middle-income countries (LMICs).

Her reflections provided a powerful complement to the South Centre's Policy Brief No. 136, particularly regarding preparedness, resilience, and AMS implementation in resource-constrained settings.

Key Lessons from the COVID-19 Pandemic

Dr. Nusrat outlined several critical lessons learned from AMS experiences during COVID-19, emphasising adaptability, realism, and leadership:

1. **The Value of Pre-Existing Stewardship Teams**
   Functional AMS teams prior to the pandemic were instrumental in adapting to evolving clinical realities. While strategies had to be restructured, earlier experiences provided valuable guidance, particularly in managing cases such as community-acquired pneumonia.
2. **Realism in Crisis Management**
   Pandemics demand a nuanced approach. While infection prevention measures increase, breaches can occur—especially in critical care settings. AMS protocols must be flexible to account for these scenarios, including the use of corticosteroids which may escalate antifungal demand if misused.
3. **Trust and Credibility in AMS Leadership**
   Long-standing credibility and proven clinical judgement are essential for stewardship teams to influence prescribing behaviours. Building trust across treating teams takes time but is crucial.
4. **Teamwork and Administrative Support**
   Coordinating AMS under resource constraints is difficult. Strong leadership and administrative backing are essential for cross-functional collaboration, including when plans must be revised in real-time.
5. **Use of Digital Training Platforms**
   In settings without ready access to AMS expertise, digital education and outreach proved highly effective. Dr. Nusrat's team delivered online sessions to peripheral

centres to support evidence-based antimicrobial decision-making during the pandemic.

Challenges of AMS Implementation in LMICs

Dr. Nusrat outlined persistent and structural challenges that hinder AMS implementation in LMIC contexts:

1. **Human Resource Shortages**
   During pandemics, frontline workers are overwhelmed or affected themselves, severely limiting AMS activity.
2. **Dual Disease Burden**
   The ongoing burden of communicable and non-communicable diseases competes with pandemic-focused resources, leading to increased morbidity.
3. **Healthcare Inequity**
   Inequities—both international (e.g., vaccine access) and domestic (e.g., access to private vs public care)—affect care quality and timely intervention.
4. **Misinformation and Medical Dogma**
   In many settings, non-evidence-based practices were rapidly adopted during the pandemic, fuelling irrational prescribing and AMR.
5. **Lack of Evidence-Based Practice Culture**
   Overprescription of antibiotics, corticosteroids, and unregulated drug sales are common, exacerbating AMR threats.
6. **Weak Diagnostics and Infection Control Infrastructure**
   Many LMICs lack adequate lab capacity, isolation facilities, and even water for basic hygiene, undermining AMS.
7. **Economic Strain and Social Barriers**
   Income loss, food insecurity, and overcrowded living conditions compromise infection control and limit access to healthcare for vulnerable populations.

Strategic Recommendations for Strengthening AMS in Health Emergencies

Dr. Nusrat proposed forward-looking, adaptable strategies for strengthening AMS in future health crises:

1. **Policy Inclusion of AMS and AMR Experts**
   National emergency response teams must include AMS and AMR professionals who can anticipate implications and contribute to **living policy documents** that evolve as evidence emerges.
2. **Invest in Training, Education, and Public Awareness**
   Use digital platforms to train healthcare workers in peripheral centres and educate communities on infection prevention, even in low-resource household settings.
3. **Strengthen AMS Teams During Non-Crisis Periods**
   Sustainable AMS models, developed and tested in peacetime, can rapidly adapt to crises. Building and training AMS champions in non-emergency times ensures readiness when emergencies occur.
4. **Foster Collaborative, Contextualised Approaches**
   Every health system is different. Successful AMS policy must reflect local contexts, resource realities, and available expertise.

Dr. Nusrat's insights reinforce the urgency of embedding AMS within broader health system resilience strategies in LMICs. As COVID-19 revealed, preparedness must be proactive, evidence-based, and inclusive. Strengthening diagnostic capacity, governance structures, and cross-sector coordination are not only essential for tackling AMR but also for safeguarding public health in future health emergencies.

Her practical, experience-driven recommendations offer an important complement to international AMR policy frameworks and support the global push for sustainable antimicrobial stewardship.

Closing Remarks

In her concluding reflections, Dr. Viviana Muñoz Tellez reinforced the urgent need to establish robust antimicrobial stewardship frameworks before health crises emerge. She emphasised that preparedness must be proactive, not reactive, and that international cooperation is essential to ensure countries have access to the funding, resources, technical knowledge, and political backing required to make AMS a national and global priority.

"Pathogens do not respect borders," she noted. "This is a global concern, and everyone has a role to play."

Viviana highlighted that clear recommendations had been shared throughout the webinar—from practical hospital-level strategies to national and international policy priorities. She encouraged participants to refer not only to the South Centre's policy brief but also to tools and guidance from WHO and the quadripartite agencies, especially for low-income countries where a stepwise, prioritised approach is essential due to limited resources.

She reminded the audience that AMS should not be seen in isolation, but rather as a core component of broader health system strengthening, integrated within:

- National Action Plans on AMR,
- Infectious disease control strategies,
- Infection prevention and control (IPC),
- Water, sanitation, and hygiene (WASH),
- And Universal Health Coverage (UHC).

Dr. Viviana closed the session by expressing her appreciation to Dr. Kamini Walia, Dr. Nusrat Shafiq, and Dr Rasha Abdelsalam Elshenawy for their valuable contributions in preparing this webinar and her presentation. She confirmed that a recording of the webinar, along with the already available policy brief, will be shared with participants and stakeholders to support further dissemination and action.

Critical Insights and Recommendations

The webinar produced several crucial insights for policymakers and healthcare leaders:

1. **Proactive Framework Development:** Processes and frameworks for AMS must be established before health emergencies, not during them. This requires foresight, planning, and prioritization.
2. **Integration with Existing Structures:** AMS should be integrated into national action plans, universal health coverage initiatives, and broader health system strengthening efforts.
3. **Stepwise Stewardship Implementation:** Especially in resource-limited settings, a prioritized and gradual approach to building AMS capacity is more sustainable than attempting comprehensive programs immediately.
4. **Data-Driven Decision Making:** Enhanced surveillance, diagnostic capacity, and real-time data reporting are fundamental to effective AMS and pandemic response.
5. **Multi-sectoral Collaboration:** A One Health approach that spans human, animal, and environmental health sectors is essential to comprehensively address AMS.
6. **Global Equity Considerations:** Ensuring equitable access to antimicrobials, diagnostics, and technical knowledge requires international cooperation and resource sharing.

Conclusion and Call to Action

The webinar concluded with an emphasis that AMR represents a genuine and growing global threat that requires immediate attention. The experts stressed that antimicrobial stewardship is no longer optional but a necessity for all countries.

Key messages included:

1. The need for international cooperation to ensure resources, funding, technical knowledge, and political will are available to make AMS a priority before crises occur
2. Recognition that pathogens and resistance patterns cross borders, making AMR a global concern requiring coordinated responses
3. The importance of integrating AMS within broader frameworks including national action plans, infection prevention and control measures, water and sanitation initiatives, and universal health coverage

The South Centre committed to making the webinar recording and policy brief available to participants and expressed interest in organizing follow-up sessions on this critical topic.

Alignment with the WHO Pandemic Agreement

This webinar directly supports the commitments outlined in the emerging Pandemic Agreement that is expected to commit Parties to "progressively strengthen measures and capacities for pandemic prevention and coordinated multi-sectoral surveillance" including "measures to address public health risks associated with the emergence and spread of pathogens that are resistant to antimicrobial agents, facilitating affordable and equitable access to antimicrobials and promoting appropriate, prudent, and responsible use across relevant sectors."

The insights and recommendations from this webinar provide practical guidance for implementing these commitments through evidence-based approaches informed by COVID-19 experiences.

This Report compiled by the South Centre, is based on the presentations and discussions during the webinar *"Strengthening Antimicrobial Stewardship: Policy Insights from COVID-19 and Future Pandemic Preparedness"* held on **14 April 2025**.

This webinar builds on the key messages and recommendations outlined in **South Centre Policy Brief No. 136: "Lessons from COVID-19: Strengthening Antimicrobial Stewardship Prior and During Pandemics"**, published in February 2025. The policy brief provides further analysis and a detailed call to action for integrating antimicrobial stewardship into global health and pandemic preparedness efforts.

📄 **Access the full policy brief here**:
https://www.southcentre.int/policy-brief-136-25-february-2025/

Prepared by Dr. Rasha Abdelsalam Elshenawy, Consultant on AMR, South Centre