The Global Momentum for AMR – Moving from Knowledge to Action

Combating Antimicrobial Resistance: A One Health Approach
National Academy of Medicine
Washington DC
20 June 2017
Keiji Fukuda
Since 20th century to now

• Intense scientific discovery
  o 1928 – Penicillin discovered
  o 1937 – sulfonamides introduced
  o Mid 1950’s – transferable resistance identified
  o Estimated 200,000 published articles since 1950’s*

• 1950s – 1970s: “golden period” of drug development

Extensive international & national efforts ...

- **1959** WHO scientific group recommends *studies* on resistance (The Work of WHO, 1959, Official Records of WHO no. 98)

- **1981** WHO Scientific Working Group report includes *guidelines* for the appropriate use of antibiotics (WHO/BVI/PHA/ANT/82.1)

- **2001** WHO Global *Strategy* for containment of antimicrobial resistance (WHO/CDS/CSR/DRS/2001.2)

- **2009** Transatlantic Taskforce on Antimicrobial Resistance (TATFAR)

- **2011** World Health Day “Antimicrobial resistance: no action today, no cure tomorrow” *policy package*

- **2011** European Action Plan

- **2011** Jaipur Declaration
Many standards & guidelines available from OIE, FAO, WHO

Preserving the efficacy of antimicrobials

- Distribution, restriction of free access
- Prescription and administration under veterinary supervision
- Monitoring of quantities used in animals, antibiotic resistance surveillance
- Oversight by Veterinary Statutory Bodies

OIE intergovernmental standards

- Use and surveillance of antimicrobials
- Veterinary legislation
- Quality of Veterinary Services

OIE List of antimicrobial agents of veterinary importance

- Aquatic Animal Health Code
- Terrestrial Animal Health Code
- Manual of Diagnostic Tests and Vaccines for Terrestrial Animals
- OIE List of antimicrobial agents of veterinary importance

OIE web portal on AMR
www.oie.int/antimicrobial-resistance
Concerned about the rapid emergence and spread of human pathogens resistant to available antibiotics;

- Aware that antimicrobial resistance is increasingly hampering treatment of infectious diseases as a result either of totally ineffective currently available antibiotics or of the high cost of “new generation” agents;

- Concerned about the extensive use of antibiotics in food production, which may further accelerate the development of such resistance,.....
Benefits & consequences

• Major gains in scientific knowledge, concepts & professional guidance

• Positioning
  o Complex phenomenon of primarily medical relevance (more recent incorporation of one health)
  o Expectation of endless antibiotic drug supply

• Real world trends
  o Loss of companies interested in antibiotics
  o Continued increase in levels worldwide
2014 WHO report
“Antimicrobial resistance: global report on surveillance”

- 114 countries in all WHO regions
- Selected (hospital & community) infections & resistance patterns
- High AMR in all regions
  - E coli, K pneumoniae, S aureus, S pneumoniae, N gonorrhea ....
  - 3rd generation cephalosporins, fluoroquinolones, methicillin ..... 
- Under reporting of key concerns like MDR TB
- Significant gaps in surveillance & information
Need for strategic change

• Current approaches essential but not enough

• Actively broadened engagement beyond health & science
  o Partnering (FAO, OIE, WHO) around one health concept
  o Active reach out to political, economic, security, business sectors
  o Cooperation & communication among like-minded champions

• Significant results
  o Greater attention beyond health & scientific sector
  o G20 & UN High Level Meeting (2016)
UN High-Level Meeting on AMR

• Milestone
• Increased legitimacy
• Formalized engagement & commitment
• Mandated Interagency Coordinating Group on AMR
• But all such gains time-limited unless built upon
• Will it result in cooperation among non-health ministries, departments, agencies?
• Will it catalyse private sector actions?
How do we consolidate gains & move from knowledge to actions?
High-level aims remain unchanged

• Lowest possible sustained levels of AMR

• Reliable development & production of essential technologies, including antimicrobial medicines

• Affordable & equitable access
At this time, need emphasis on 3 foundational elements

1. Further “socialization” of AMR
2. Closure of specific knowledge gaps hindering policy & behavior
3. Visible leadership & action by lead groups
Socialization is the fundamental driver

• Some issues too large to be addressed as technical
  o Tobacco control, climate change, cancer, HIV, AMR .......
  o Popular concern & support enabled new policies, initiatives, funding

• AMR moving in right direction, but not yet felt by average person as ...
  o Familiar & personally relevant
  o Critically important & urgent
  o Issue where voicing concern makes a difference
Challenge to move from abstract, technical & distant to human, personal, now

Need multiple voices to recraft AMR

• About people -- faces & stories
• Personal --- everyone, everyday health
• Urgent -- untreatable infections here now
• Reversible --- if governments, companies, individuals act
Pace of change will require closing certain knowledge gaps

• Observation
  o Evidence sometimes drives action
  o Insufficient evidence **always** cited as justification for slowness

• Key gaps
  o **Holistic picture: AMR epidemiology & etiology**
    ▪ Health, agriculture & environment
    ▪ Relative importance & pathways to human infections
  o Most (cost) **effective** interventions
  o How to move into post-growth promotion agriculture world-wide
Key groups must be visibly active

**UN IACG**
- Actively convene & engineer cooperation & coordination among sectors

**Governments**
- Leadership
- Broaden involvement of non-health agencies
- Legislation & financing

**WHO, FAO, OIE & other international organizations**
- Keep AMR in front of governments
- Provide strategic advice in addition to technical guidance
- Exemplify one health partnering
Key groups must be visibly active

National health & agriculture
- Make knowledge of AMR & best practices normative
- Separate profit from provision of antibiotics
- Find ways to phase out antibiotics as growth promoters

Civil society
- Scrutiny
- Organize efforts around food

Industry
- Return to making new antimicrobial drugs
- Internalize access as normative

Funders & academia
- Use funding to drive multidisciplinary, impact based research so big questions & issues will be addressed faster
Hong Kong – an example

• Highly evolved environment (professional, scientific, business)

• Professionals ready to engage but uncertainty over directions

• Population attentive to health but low awareness about “AMR”

• Right combination of focus, network building, trust, coordination, communication & funding can create engine for change
Thank you