Welcome to

Preventing the Next Avoidable Catastrophe in Low and Middle Resource Countries

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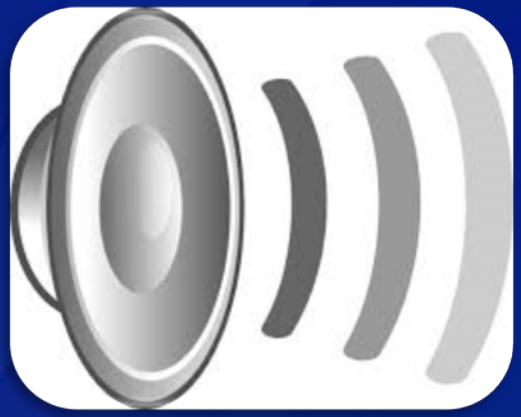

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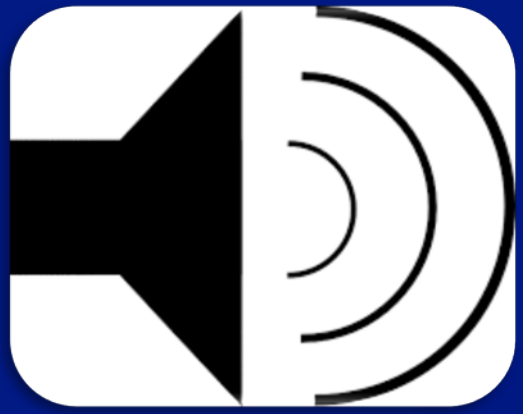

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ACCREDITATION STATEMENTS:

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Continuing Education Information

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Content will not include any discussion of the unlabeled use of a product or a product under investigational use.

CDC did not accept commercial support for this continuing education activity.

Continuing Education Information

ACTIVITY DESCRIPTION:

This webinar features a discussion on healthcare outbreaks from a global perspective.

OBJECTIVES:

- Describe infection control techniques that reduce the risk and spread of healthcare- associated infections (HAI).
- Identify unsafe practices that place patients at risk for HAIs.
- Describe best practices for infection control and prevention in daily practice in healthcare settings.
- Apply standards, guidelines, best practices, and established processes related to safe and effective medication use.

Preventing the Next Avoidable Catastrophe in Low and Middle Resource Countries

October 18th, 2016

National Center for Emerging and Zoonotic Infectious Diseases
Division of Healthcare Quality Promotion

Featured Speaker

- Benjamin J. Park, MD, Chief, International Infection Control Program, Division of Healthcare Quality Promotion, Centers for Disease Control and Prevention
  - Healthcare Outbreaks from a Global Perspective

Before We Get Started…

- **To submit a question:**
  - Use the "*Chat" window, located on the lower left-hand side of the webinar screen.*
  - *Questions will be addressed at the end of the webinar, as time allows.*
- **To ask for help:**
  - *Please press the "Raise Hand" button, located on the top left-hand side of the screen.*
- **To hear the audio:**
  - **Please ensure your speakers are turned on with the volume up** – the audio for today's conference should be coming through your computer speakers.

The speakers' slides will be provided to participants in a follow-up email.

Linda Greene, RN, MPS, CIC, FAPIC

APIC President Elect

Manager of the Infection Prevention Program at UR Highland Hospital in Rochester, New York

International Infection Prevention Week

October 16-22, 2016

- **Goal of observance:**
  - To raises awareness of the role infection prevention plays to improve patient safety.
  - To help healthcare professionals and consumers understand their role in infection prevention.

www.apic.org/infectionpreventionandyou

2016 Theme: Break the Chain of Infection

Getting involved is easy:

- **Download and share the "Break the Chain" infographic for healthcare professionals.**
- **Take the infection prevention pledge.**
- **Share sample social media posts about infection prevention.**
- **Send infection prevention eCards.**
- **Share the infection prevention podcasts.**
- **Take the polls and quizzes.**

Visit www.apic.org/infectionpreventionandyou for more ways to get involved.

Preventing the Next Avoidable Catastrophe in Low and Middle Resource Countries

Benjamin J. Park, MD

Chief, International Infection Control Program

Division of Healthcare Quality Promotion

International Infection Prevention Week

Tuesday, October 18, 2016

Healthcare Facilities, Infection Control, and Emerging Diseases

Poor Hospital Practices Blamed for 2003 SARS Epidemic in Toronto

By CHRISTOPHER MASON
Published: January 10, 2007

TORONTO, Jan. 9 — A provincial commission investigating the SARS outbreak in 2003 reported Tuesday that poor hospital infection-control procedures led to the epidemic in the Toronto area that killed 44 people.

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Healthcare Facilities, Infection Control, and Emerging Diseases

Poor Hospital Practices Blamed for 2003 SARS

AFRICA

Nigeria Struggles to Cope With Ebola Outbreak

By SABRINA TAVERNISE AUG. 10, 2014

Email

Ebola, one of the world's most fatal diseases, has surfaced in Africa's most populous country.

Healthcare Facilities, Infection Control, and Emerging Diseases

Poor Hospital Practices Blamed for 2003 SARS

AFRICA

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ASIA PACIFIC

MERS Virus's Path: One Man, Many South Korean Hospitals

한국어로 읽기 » | Read in Korean »

By CHOE SANG-HUN JUNE 8, 2015

Healthcare Facilities, Infection Control, and Emerging Diseases

'Superbugs' Kill India's Babies and Pose an Overseas Threat

By GARDINER HARRIS DEC. 3, 2014

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AMRAVATI, India — A deadly epidemic that could have global implications is quietly sweeping India, and among its many victims are tens of thousands of newborns dying because once-miraculous cures no longer work.

These infants are born with bacterial infections that are resistant to most known antibiotics, and more than 58,000 died last year as a result, a recent study found. While that is still a fraction of the nearly 800,000 newborns who die annually in India, Indian pediatricians say that the rising toll of resistant infections could soon swamp efforts to improve India's abysmal infant death rate. Nearly a third of the world's newborn deaths occur in India.

A mother nursing her newborn at a hospital in Haryana, where almost every baby born in hospitals in recent years has been injected with antibiotics. Kuni Takahashi for The New York Times

ASIA PACIFIC

MERS

한국어로 읽기

By CHOE SANG-HU

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Healthcare Facilities, Infection Control, and Emerging Diseases

HEALTH

Infection Raises Specter of Superbugs Resistant to All Antibiotics

By SABRINA TAVERNISE and DENISE GRADY MAY 26, 2016

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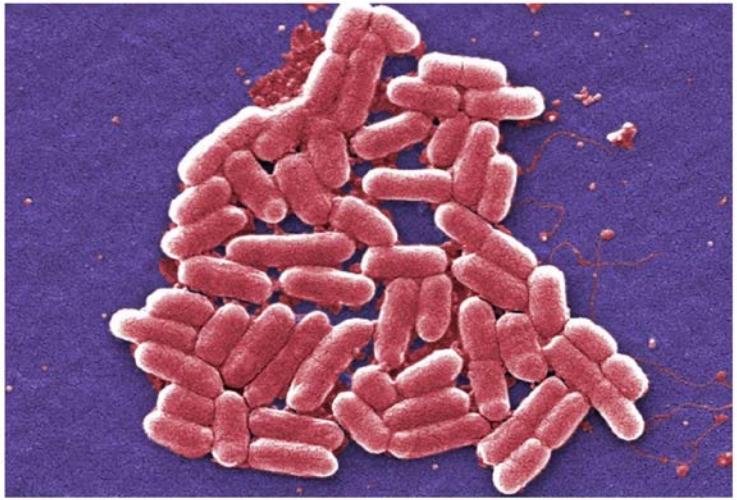

A strain of the E. coli bacteria. Janice Carr/Centers for Disease Control and Prevention, via Associated Press

ASIA PACIFIC

MERS

한국어로 읽기

By CHOE SANG-HU

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t's most

A health threat anywhere is a health threat everywhere

Source: The Lancet 380:9857, 1-7 Dec 2012, pp. 1946-55. www.sciencedirect.com/science/article/pii/S0140673612611519

What happens during an outbreak?

- Recognition
- Reporting
- Response
- Control

What happens during an outbreak?

- Recognition
- Reporting

Clinicians

- Response
- Control

Public health

What happens during an outbreak?

- Recognition
- Reporting
- Response
- Control

Clinicians

Public health

Healthcare-associated outbreaks

Importance of healthcare facilities in outbreaks

- Key principles of control of transmissible diseases:
  - Isolation
  - Vaccination
  - Medication prophylaxis

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Importance of healthcare facilities in outbreaks

http://news.bbcimg.co.uk/media/images/50920000/jpg/_50920733_waiting_room.jpg

- Key principles of control of transmissible diseases:
  - Isolation
  - Vaccination
  - Medication prophylaxis

What happened with Ebola?

WORLD NEWS | Thu Aug 7, 2014 | 5:00pm EDT

Exclusive: Liberia health system collapsing as Ebola spreads

A Samaritan's Purse medical personnel demonstrates personal protective equipment to educate volunteers on the Ebola virus in Liberia, in this undated handout photo courtesy of Samaritan's Purse. REUTERS/Samaritan's Purse/Handout via Reuters

Ebola is a story about IPC

- IPC not practiced well enough
- Disease transmission
- Healthcare system eroded
- Outbreak amplification instead of control

Impact felt across healthcare

Table 1 Moyamba government hospital admissions and consultations August–December 2013 and 2014

	August–December 2013: mean number per month (95% CI)	*August–December 2014: mean number per month (95% CI)*	*P-value*
Maternity admissions	46.4 (38.3–54.5)	25.8 (17.3–34.3)	0.01
Paediatric admissions (urgent/ non-elective)	44.0 (29.7–58.3)	11.0 (5.6–16.4)	0.001
Paediatric malaria admissions	26.2 (23.4–29.0)	5.2 (2.1–8.3)	<0.001
General outpatient consultations	152.2 (80.4–224.0)	66 (43.0–89.0)	0.03

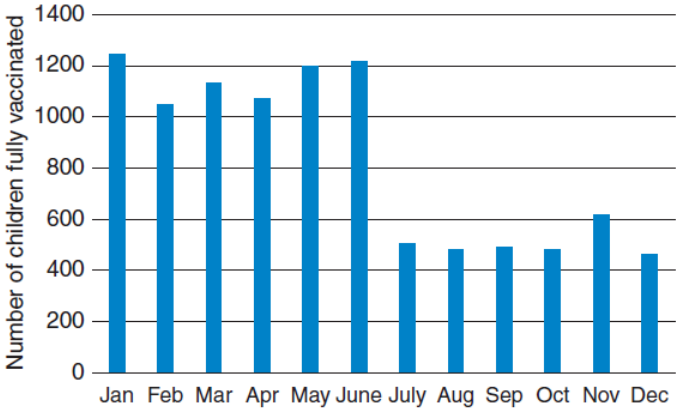


Fig. 3 Number of children aged <1 years 'fully vaccinated' by month in Koinadugu, 2014.

Elston JWT et al., Impact of the Ebola outbreak on health systems and population heatlh in Sierra Leone, J Pub Hlth 2015

Can happen in strong health systems too

Less than 1/3 of the world is prepared to respond

- All 194 countries of the world committed to International Health Regulations in 2005
- **By 2014, only 30% of countries were fully prepared to detect and respond to an outbreak**

Source: Report to the Director-General of the Review Committee on Second Extensions for Establishing National Public Health Capacities and on IHR Implementation, November 2014

Are African hospitals prepared from an IPC perspective?

- Survey from 192 professionals (125 hospitals in 45 countries)
  - 1/3 from Africa
- Preparedness for Ebola partially adequate
- Overall 69% had isolation capacity, but fewer in Africa

Preparedness of institutions around the world for managing patients with Ebola virus disease: an infection control readiness checklist

Tartari *et al.*

BioMed Central

Tartari *et al. Antimicrobial Resistance and Infection Control* (2015) 4:22
DOI 10.1186/s13756-015-0061-8

Possible obstacles to healthcare associated outbreak investigations

- No linkage to public health authorities
- Lack of a dependable laboratory
- Lack of training on outbreak investigation

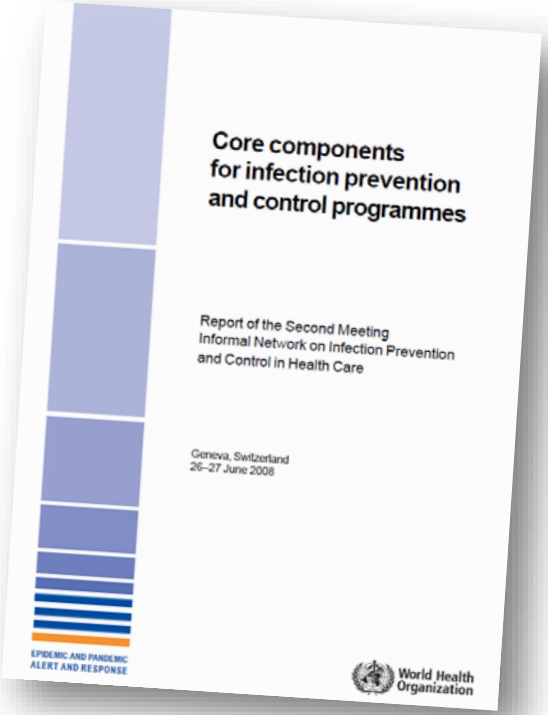
How do we prepare?

IPC as a priority in low and middle resource countries: Need for engagement with stakeholders

- Hospitals
- Civil societies
- Professional societies
- Advocacy groups
- Academic groups
- Universities
- Donors

WHO Core Components Document (2009)

- Organization of IPC Programmes
- Technical Guidelines
- Human Resources
- Surveillance of Infections and Compliance of IPC Practices
- Microbiology Laboratory
- Environment
- Monitor and Evaluate Programmes
- Link with Other Public Health Services


Core components for infection prevention and control programmes

Report of the Second Meeting Informal Network on Infection Prevention and Control in Health Care

Geneva, Switzerland
26–27 June 2008

EPIDEMIC AND PANDEMIC ALERT AND RESPONSE

World Health Organization

Global Health Security Agenda

"…the good news is today, our nations have begun to answer the call. Together, our countries have made over 100 commitments both to strengthen our own security and to work with each other to strengthen the security of all countries' public health systems."

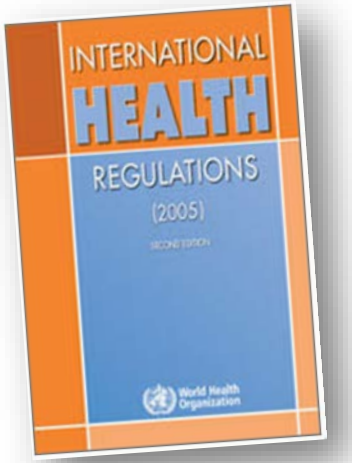
President Barack Obama, 2014
GHSA Summit Greeting Ebola Survivor Dr. Melvin Korkor from Liberia

Global Health Security Agenda

The Global Health Security Agenda (GHSA) was launched in February 2014 to advance a world safe and secure from infectious disease threats, to bring together nations from all over the world to make new, concrete commitments, and to elevate global health security as a national leaders-level priority. The G7 endorsed the GHSA in June 2014, and Finland and Indonesia hosted commitment development meetings to spur action in May and August.

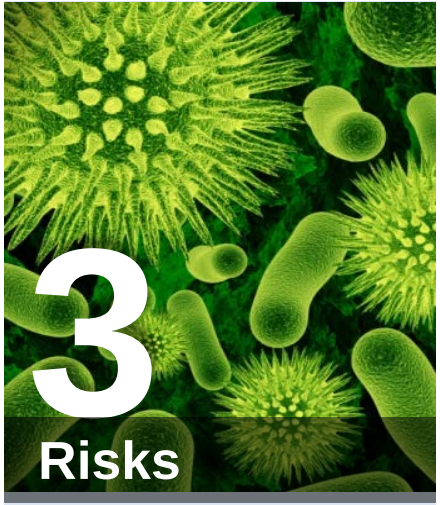
Global Health Security

"...the activities required, both proactive and reactive, to minimize vulnerability to acute public health events that endanger the collective health of populations living across geographical regions and international boundaries" (World Health Assembly Report, 2007)



- In 2003, SARS cost $30 billion in only 4 months
- The anthrax attacks of 2001 infected 22 people, killed 5, and cost more than $1 billion to clean up
- The 2009 H1N1 influenza pandemic killed 284,000 people in its first year alone
- AIDS spread silently for decades

Global Health Security



3 Risks

- Emerging organisms
- Drug resistance
- Intentional creation

3 Opportunities

- Societal commitment
- New technologies
- Success leads to success

3 Priorities

- Prevent wherever possible
- Detect rapidly
- Respond effectively

Action Packages to Achieve Targets

Action Packages to Achieve Targets

Prevent avoidable catastrophes

Antimicrobial Resistance

Leading	Contributing
• Canada • Germany • Netherlands • Sweden	• Australia • India • Indonesia • Italy • Japan • Norway • Portugal • Switzerland • Thailand • United States

GHSA Antimicrobial Resistance Action Package

Five-Year Target:

Develop an integrated and global package of activities to combat antimicrobial resistance, including:

- Each country has its own national comprehensive plan
- Strengthen surveillance and laboratory capacity at the national and international level
- Improved conservation of existing treatments and collaboration to support the sustainable development of new antibiotics, alternative treatments, preventive measures and rapid, point-of-care diagnostics, including systems to preserve new antibiotics

GHSA Antimicrobial Resistance Action Package

As Measured by:

- Number of comprehensive plans to combat antimicrobial resistance agreed and implemented at a national level, and yearly reporting against progress towards implementation at the international level
- Number of countries actively participating in a twinning framework, with countries agreeing to assist other countries in developing and implementing comprehensive activities to combat antimicrobial resistance, including use of support provided by international bodies to improve the monitoring of antimicrobial usage and resistance in humans and animals.

GHSA Antimicrobial Resistance Action Package

Desired National Impact:

Decisive and comprehensive action to enhance infection prevention and control activities to prevent the emergence and spread of AMR, especially among drug-resistant bacteria. Nations will strengthen surveillance and laboratory capacity, ensure uninterrupted access to essential antibiotics of assured quality, regulate and promote the rational use of antibiotics in human medicine and in animal husbandry and other fields as appropriate, and support existing initiatives to foster innovations in science and technology for the development of new antimicrobial agents.

CDC in Action

The **International Infection Control Program (IICP)** builds on decades of experience in the Centers for Disease Control and Prevention's Division of Healthcare Quality Promotion.

IICP's mission is to *protect patients and healthcare workers globally by providing expertise, evidence, and implementation strategies to sustainably address infectious disease threats related to healthcare delivery.*

International Infection Control Program: What We Do

Provide rapid assistance for outbreaks and other adverse events related to healthcare delivery

Improve country Infection Prevention & Control capacity to prevent and control healthcare-associated infectious disease outbreaks and device-associated HAIs

Reduce the global burden of antimicrobial resistance associated with healthcare delivery

Summary

- IPC is a critical component for outbreak response
- IPC and public health link must be strengthened
- Focus on national and sub-national systems for long-term
- Current global initiatives can help

Thank you!

For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

Before We End Today's Webinar…

- Question and Answer Session
- Continuing Education
  - Detailed instructions for taking the post-test and evaluation will appear on your screen as soon as today's webinar concludes.
    - www.cdc.gov/tceonline; Access Code: **WC1018**
  - If you exit out of the webinar prior to taking the post-test and evaluation, you can access the continuing education information in an email that will be sent to you following today's webinar.

THANK YOU