Global Antibiotic Resistance Partnership

NATIONAL HEALTH LABORATORY SERVICE

THE MICHAEL EMMERSON HiSC Johannesburg
S.A.Health-care-associated Infection Surveillance Centre.

UNIVERSITY OF THE WITWATERSRAND JOHANNESBURG

Infection Prevention & Control Initiatives in SA and Antimicrobial Resistance

Adriano G Duse - Chair: GARP South Africa
NHLS & University of the Witwatersrand
Meeting 8-9 February 2010, Stellenbosch

Global Antibiotic Resistance Partnership

CDDEP THE CENTER FOR Disease Dynamics, Economics & Policy WASHINGTON DC • NEW DELHI

Anti-infectives resistance policy strategies:

- Strategies that reduce demand
  - Extending the therapeutic life of existing drugs by reducing need for anti-infectives
    - Reduction of anti-infectives prescribing + ? other strategies: topical, antimicrobial impreganted devices, immunomodulation, probiotics)
    - Lower burden of infections and therefore need of antimicrobials (immunization, infection control)
    - Determine role of cycling, combination therapies & antibiotic heterogeneity, to delay emergence and spread of resistance
- Strategies that address supply
  - Development of new antimicrobials
  - Reduce incentives to oversell existing drugs

Infection Prevention & Control (IPC):

- Challenges:
  - Focus is on mainly HCFs
  - Reluctance to invest in IP&C programs because:
    - Often cheaper to use antibiotics
    - IP&C costs are borne by the HCFs
    - Anti-infectives prescribing covered by health insurers

Challenges of reducing AMR:

QUALITY HEALTH CARE; ECONOMICS (VESTED INTERESTS); NATIONAL, GLOBAL CONCERNS…

PREVENT TRANSMISSION

I C

RESTRICT/ OPTIMIZE USAGE

AMR

COMMUNITY

HOSPITAL

AGRICULT/ VETERINARY

SURVEILLANCE: LOCAL, NATIONAL, GLOBAL

COST EFFECTIVENESS; EFFICACY; ACCOUNTABILITY/RESPONSIBILITY; RESEARCH

The Reality of the Risk:

- 7.6 % adult patients in UK & Ireland
- 8.2% adult patients in England

  (3rd National Prevalence survey 2006)
- A proportion of patients who develop HCAI will die and for many others it is a major contributory factor in their death

IP&C in South Africa:

- Extent of the problem of HCAIs poorly defined
- Adequate surveillance systems are weak or non-existent
- Outbreak responses GENERALLY REACTIVE, NOT PROACTIVE
- Education, political support, staffing, and infrastructure POOR
- Whose responsibility is it? Lack of accountability

Gauteng's hospitals of neglect

Patients and their families tell of ordeals in provincial health institutions on the first day of public hearings

"Why was my sister left to rot to death?"


THE PAPER FOR THE PEOPLE
WIN!
Pierre Cardin hampers
PAGE 3
Manuel on SA's four-letter word
BUSINESS TIMES
PAYOUTS ON PAGE 2
www.sundaytimes.co.za
HEIRS AND GRACES
Why Harry's crazy over local babe
PAGE 3
Sunday Times
December 12 2004 / R7.50 INC. VAT
Killer bugs strike hospitals
One in seven patients at risk of picking up life-threatening infection
THE PAPER FOR THE PEOPLE
LOTTO
NEW TREASURES
Lost Bosman works discovered P13
JULY 10 2005 / R8.50 INC. VAT
SA's deadly new plague
Top doctor warns that hospital infections could soon rival Aids and malaria
NEWS
UNDER THE MICROSCOPE:
Hospital diagnosis is no comfort to bereaved parents
NEWS
Sunday Times 5
December 12 2004
Worldwide alarm at virulence of bacteria
Misuse of antibiotics spawns bugs immune to every weapon in medicine's arsenal
CLAIRE KEETON and MEGAN POWER
THE SUPERBUG MENACE
SUPERBUGS
22 7 2005

Gauteng Hospital Situational Analysis:

- Questionnaires sent to 18 HCFs in Gauteng
- 61%: NO established ICCs
- Hospitals with ICNs: 50% nil; 22% 1 ICN; 28% 2-3 ICNs
- 32% ICNs not trained; 21% 3-day training course; 36% 6-month training course; 11% “other”
- Surveillance: 11% nil; 30% lab-based; 24% comprehensive; 16% targeted; 19% “other”; 22% spent > 50% of time on surveillance
- % Time spent on Staff Education/week: 72% spent < 10% of time on Staff Education
- Other commitments: OH&S (~ 11% respondents spending > 50% of time on OH&S); waste disposal (ranged from 0-90%!, with ~ 17% of respondents spending > 50% of time on waste)

THE MICHAEL EMMERSON

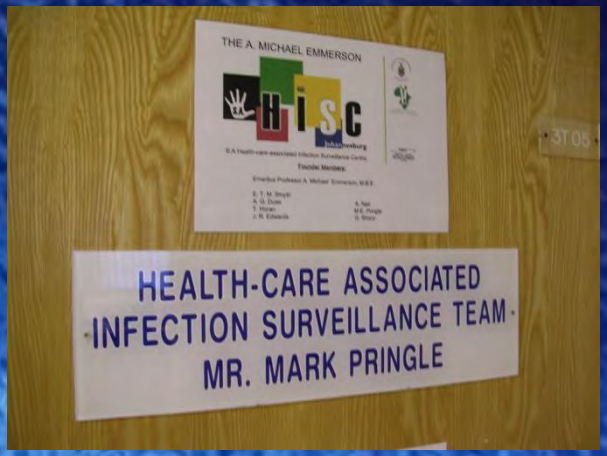
S.A. HISC Johannesburg

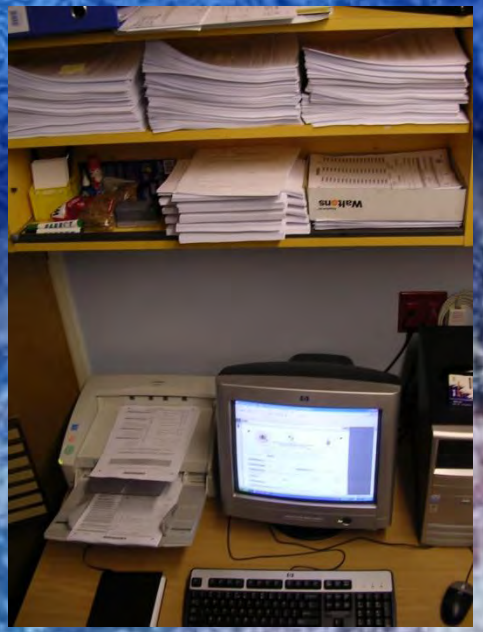
S.A.Health-care-associated Infection Surveillance Centre.

Founder Members:

Professor Emeritus Michael Emmerson, O.B.E.

E.T.M.	Smyth		
A.G.	Duse	G.	McIlvenny
J.R.	Edwards	A.	Nair
T.	Horan	M.E.	Pringle
L.	Doherty	G.	Sharp





Room 3T05 , Level 3, Wits Medical School
Division of Clinical Microbiology and Infectious Diseases
School of Pathology of the NHLS and University of the Witwatersrand,
7 York Road, Parktown, 2193
Johannesburg

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South African National Accreditation System
09.11.2004 14:40

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Considerations when creating a surveillance system:

- Goal of the surveillance system (why?)
- Engage the stakeholders (who?)
- Surveillance method (which?, how?, when?)
- Available resources

Objectives:

- Reducing infection rates
- Establishing endemic baseline rates
- Identifying outbreaks
- Identifying risk factors
- Persuading medical personnel
- Implementing interventions
- Evaluate control measures (interventions)
- Satisfying regulators
- Document quality of care
- Compare hospitals' HCAI rates

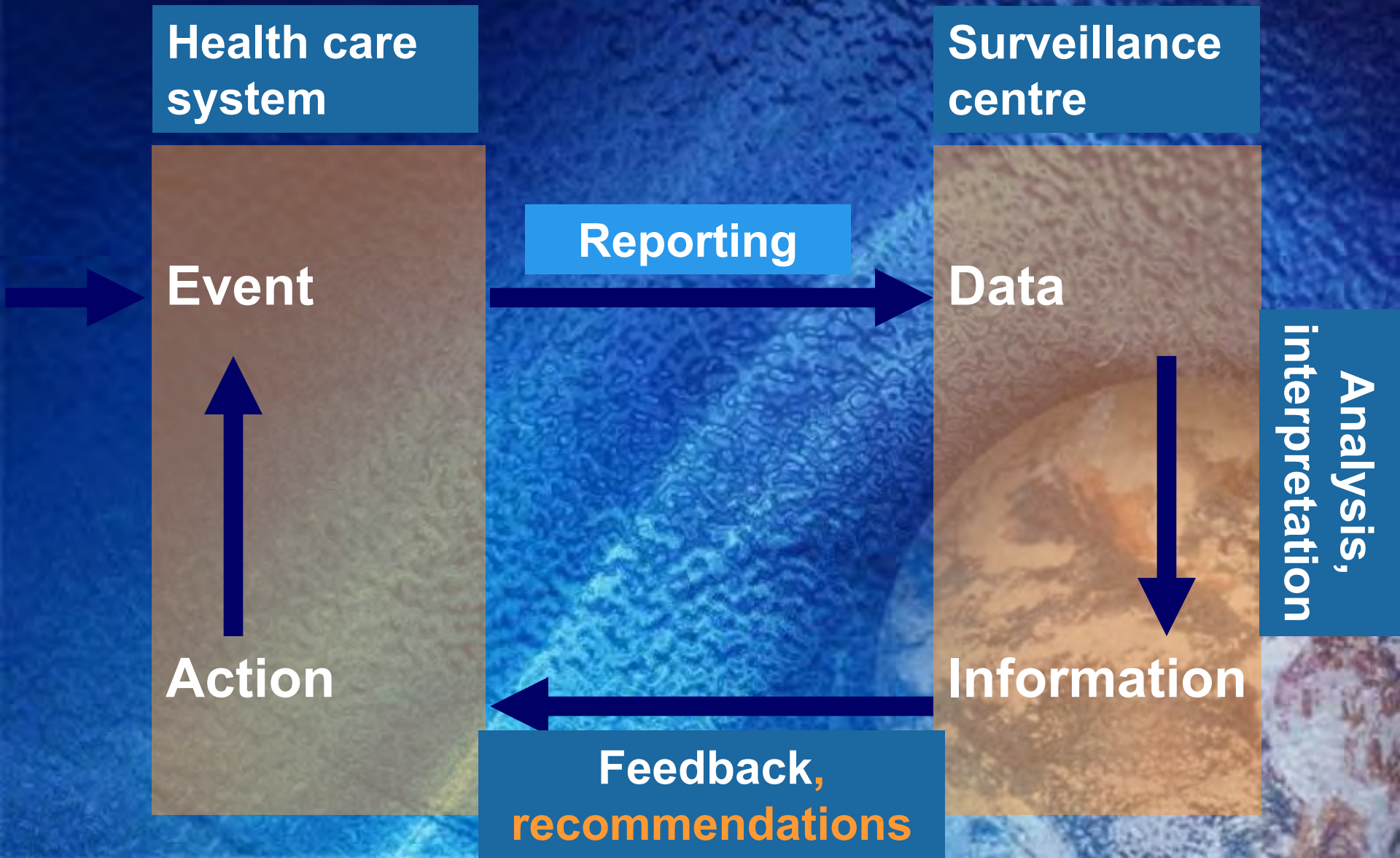
Surveillance surveys:

- Prevalence studies: initial benchmarking & ID of high-risk areas
- Periodically repeated for trends
- In-between prevalence studies: targeted surveillance
- Then aim towards incidence data: targeted by site

Use of prevalence surveys:

- Show trends
- Estimate
  - distribution of HCAIs
  - surveillance accuracy
  - antimicrobial usage patterns
- Raise awareness

The surveillance loop:



AN OVERVIEW OF THE GAUTENG PROVINCIAL MULTI-HOSPITAL PILOT SURVEY

UNIVERSITY OF THE WITWATERSRAND JOHANNESBURG

THE MICHAEL EMMERSON
SA HISC Johannesburg
S.A Health-care-associated Infection Surveillance Centre.

NATIONAL HEALTH LABORATORY SERVICE

Aims of project: Pilot study 2005

- To pilot the tool that could be used for a Gauteng Provincial/National Nosocomial Infection Prevalence Survey
- To determine, hopefully more realistic, prevalence rates of uniformly defined NIs in South African health-care facilities
- From the above, where microbiology data is available, distinguish between colonization, pseudo-infection and infection
- Link antimicrobial resistance (AMR) profiles to colonizing versus infecting organisms to get a true perspective of the clinical relevance of AMR data

Background:

- Study performed over a 3-month period, between March 2005 – May 2005
- Two academic, 2 provincial, 2 private hospitals
- Four NIs surveyed: BSIs, UTIs, LRTIs, SSIs
- Total number of beds surveyed = 2 672

Overall prevalence rate for the 4 surveyed infections: 9.73% (260/2672)

Hospital	BSI rate	UTI rate	RTI rate	SSI-surgical	Prevalence rate for 4 active infections surveyed
Hospital #1 (731 beds surveyed)	6.7	1.1	1.2	1.4	9.05
Hospital #2 (593 beds surveyed)	4.9	3.0	4.4	2.9	11.17
Hospital #3 (376 beds surveyed)	10.4	0.5	3.2	2.8	15.73
Hospital #4 (532 beds surveyed)	1.5	0.8	0.6	1.7	15.42
Hospital #5 (214 beds surveyed)	1.9	3.7	10.7	1.5	5.08
Hospital #6 (226 beds surveyed)	2.2	0.4	1.8	0.9	4.02

Service groups and infection rates:

Service groups	BSI rate	UTI rate	RTI rate	SSI-all	SSI-surgical	Prevalence rate for 4 active infections surveyed
Medical	4.7	3.0	1.6	0.3	0.5	8.7
Surgical	4.1	0.9	2.2	2.7	3.5	8.4
Intensive Care	12.5	4.5	17.9	1.8	2.3	28.6
Gynaecology and Obstetrics	0.6	0.6	0.9	1.7	3.3	3.5
Paediatrics	10.2	1.1	4.9	0.2	0.3	16.5
Other services	2.2	0.4	1.8	0.4	0.9	4.02

Data collection form 1- general parameters:

- Patient demographics
- Medical risk factors
- Surgical risk factors & other invasive procedures
- Device-related risk factors
- Antibiotic and non-antibiotic therapy during admission

Surveillance of Healthcare-Associated Infection

Surveillance Manual (Version 1.1)

February, 2003

Developed by Infection Control Team
The Royal Hospitals
Belfast

The Royal Hospitals Trust
Belfast BT12 6BA

Hospital Infection Survey 2001

01/inf/01

Q1 Survey date D D / M M / Y Y Y Y
Q2 Directorate
Q3 Ward number
Patient's name
Q4 Admission date to hospital D D / M M / Y Y Y Y
Q5 Hospital number
Q6 Gender ☐ Male ☐ Female
Q7 Date of birth D D / M M / Y Y Y Y
Q8 Admission type ☐ Elective ☐ Emergency ☐ Term labour ☐ Newborn
Q9 Was patient transferred? ☐ Yes, from another hospital ☐ Yes, from another ward ☐ No
Q10 Admission diagnosis 1 choose from list
Q11 Admission diagnosis 2 choose from list
Q12 More than 2 diagnoses Yes ☐ ☐ No
Q13 Medical Risk Factors Select all that apply ☐ Major trauma ☐ COAD ☐ Stroke/paraplegia ☐ Diabetes ☐ Malnourished ☐ Obesity ☐ Cancer ☐ Smoking ☐ Leukocytopaenia ☐ None
Q14 Urinary catheter ☐ Suprapubic ☐ Urethral closed ☐ None
Q15 Catheter duration (days)
Q16 Intravascular lines ☐ Venous (periph) ☐ Arterial (periph) ☐ Central ☐ PICC
Q17 >1 intravascular device Yes ☐ ☐ No
Q18 Duration of peripheral line
Q19 Duration of central line
Q20 Duration of other vascular device
Q21 Therapy this admission ☐ Steroids ☐ Blood ☐ Chemotherapy ☐ Cytotoxic
Q22 Antibiotics this admission ☐ No ☐ Prophylaxis ☐ Therapy
Q23 Non-surgical break in skin Yes ☐ ☐ No
Q24 Type of break ☐ Vascular ulcer ☐ Pressure sore ☐ Vascular & pressure ☐ Diabetic ulcer ☐ Other
Q25 Has patient undergone any form of surgery? Yes ☐ ☐ No
Q26 Surgical drains in-situ? Yes ☐ ☐ No
Q27 Has pt undergone any other invasive procedure? Yes ☐ ☐ No
Q28 Other invasive procedures ☐ ERCP ☐ Percutaneous drainage procedure ☐ Other endoscopy (excl. surgery but incl. gastrstomy insertion) ☐ Other invasive procedure

Survey : 50 Serial : 2 Page : 1

Infection Control. The Royal hospitals. Belfast BT12 6BA