

Education in IPC – One Size May Not Fit All

Prof. Shaheen Mehtar, Stellenbosch University, South Africa
Sponsored by the WHO Patient Safety, Clean Care is Safer Care



Education in IPC-
One size may not fit all

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Sponsored by
WHO Patient Safety Challenge
Clean Care is Safer Care

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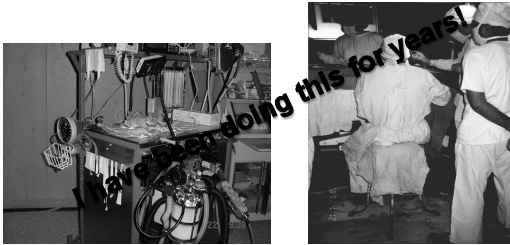
Plan

1. Barriers to education in IPC especially in LMIC
2. Overcoming the barriers towards lasting behavioural change
3. Types of training methods in IPC
4. African teaching systems- a look into the future for IPC education

Why educate and train?

- The aim of education is to deliver relevant information so that the recipients can make informed decisions, evaluate the risk (in their daily practice) and change behaviour to make practice safe (Mehtar, 2010).
- Educational interventions are universally accepted as an integral part of programmes aimed at improving HCW practices (Mathai, E *et al.* Infection, 2010: 38; 349-358)

Barriers to learning

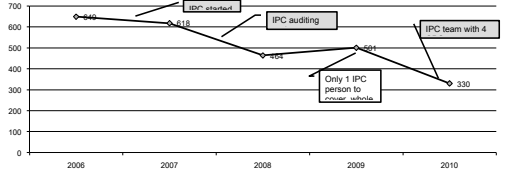


Barriers to learning- cultural

- Hierarchical barriers
 - “I am not allowed to do anything without asking my manager first, so it is not my responsibility if the hand hygiene items are not in place”
 - “I will loose my job”
 - “Why do I need to know this? It is not my job”
- Despite knowledge in IPC difficulty in maintaining standards due to lack of resources
- Will not advise superiors- do not want to appear aggressive or a show off
- So,

We train the managers!

ICU reduction in number of Alert Orgs



Impact of IPC at TBH		Minimum	Maximum
Feb-11			
Cost per infection in ICU (LOS increased 5 times)		R 25 000	50 000
Cost per annum			
Year	N infections	Cost	Cost
2006-2007	31 (reduction)	775000	1550000
2007-2008	154 (reduction)	3850000	7700000
2008-2009	47 (increase)	1175000	2350000
2009-2010	171 (reduction)	4275000	8550000
Approx	Total savings	8,900,000	17,800,000

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S Barriers - linguistic

- Countries with several languages may require some basic education in all languages BUT there may not be the appropriate words in that language to transfer the information accurately
 - “I use alcohol rub with water when there is no liquid soap. Is that a problem? Both are used for hand hygiene, aren't they?”
 - “I can wash my hands with water, and then rub them with ash because there is no soap. My hands are clean.”
- So,

S Change the method of information delivery

- Change from extensive written documentation to visual demonstration
- Increase face to face discussion to clarify

Role playing →

S Barriers- literacy (LMIC)

- Few healthcare workers have access to the internet at work in LMI countries.
- They do not have easy access to libraries or the written word
- They rely on guidelines from national sources which they neither understand nor can they fully implement
- Overworked and do not have time to read
- Need visual pictorial reminders

S BEHAVIOUR CHANGE

Culture is made up of beliefs, habits, attitudes and assumptions shared by the people in a group.
Cohn, K. Journal of Healthcare Management (2009); 54, 2

What is required to modify the culture of learning?

S Education programmes in health

Within the health care industry, health care professionals must collectively acknowledge that it is **no longer acceptable to:**

- Accept single health care professions or professionals **working in isolation** to handle the patients' needs and provide adequate care,
- Accept single health professions or professionals to be **trained in silos** and isolation,
- Accept the current **lack of leadership** on the part of health care professionals and educators for developing and implementing structured interdisciplinary education, and
- **Assume** that all health professionals are **capable or properly trained** to work together in all health care environments starting on the day of graduation.

Manasse HR, Am Journ Pharm Ed; 2009; 73 (5)

S Team focused learning

It is about

- mutual trust** between the organization and its employees,
- empowering employees** to participate in planning, organizational, and goal-setting activities, and
- emphasizing to employees that upholding the organization's social and **moral responsibilities and accountability** are shared responsibilities.

It also requires **proper training and appropriate formal education**. Interdisciplinary health professions education must be incorporated into the formal curriculum of all health disciplines.

A mixed group of students- FIPC

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Physicians and hand hygiene

- Autonomy is important and do not like to be told how to manage their patients
- “prefer inspiration to supervision”
- Barriers to hand hygiene
 - Lack of familiarity
 - Disagreement with the guidelines
 - Expectation that the guidelines will not improve patient outcome
 - View of own effectiveness
 - Motivation
 - External barriers- lack of provision

Changing Physician behaviour

- Start small
- Celebrate benefits and successes
- Bottom up approach
- Improve the practice environment
- Healthy competition
- Champions..... “Health care is however a hands-on and very personal business. Personal qualities do matter” (Reason J; 2008: World Alliance for Patient Safety, WHO)
- Physicians did not agree they were role models for HH, yet medical students viewed them as such (Jang JH et al. 2010: Infect Control Hosp Epidemiol:31, 144-50)

Cohn K. Journ Healthcare Management; 2009: 54, 2

Qualitative study on HH


Eight focus groups across four hospitals and survey of nurses and managers: 230 circulated - 153 (40%) returned

- Four main themes identified related to HH:
 - HCW **knowledge and beliefs affected behaviour**, which lead to guideline breaches in emergencies and during heavy workload, increased likelihood of non-adherence after interruptions, and variety in knowledge requests;
 - **desire to protect self or loved ones** led to use of gloves and risk stratification of patients, environment, and types of contact;
 - **environment factors**, such as access to alcohol hand rub, skin damage, or poor cleaning of equipment viewed as barriers;
 - and **discomfort in reminding others** about HH

Jang JH et al. 2010: Infect Control Hosp Epidemiol:31, 144-50

Peer leaders and support

- **Student leadership** effort that focused on infection control used an **appreciative-based approach**.
- Discovered a **deficit in core knowledge about hand-hygiene** importance among support staff;
- Basic hygiene and health promotion **information** to employees was provided;
- **Link nurse programmes** have a similar effect in clinical areas



PDIC student (Dr) demonstrating iv cannulation to a nurse colleague

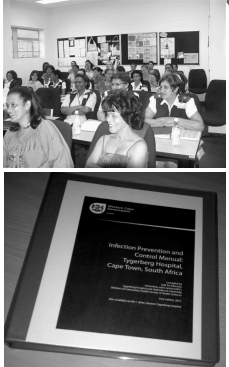
Reid K et al 2011. QJIN; 16 (3)

Our Link Nurse programme at TBH



The training course in IPC

- A 5 day course which reinforces the basics of IPC- take them through the IPC Manual
- Allows the LN to evaluate the provision and practice for IPC on their wards and offer correct advice.




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The Link Nurse Board- serves as a reminder!

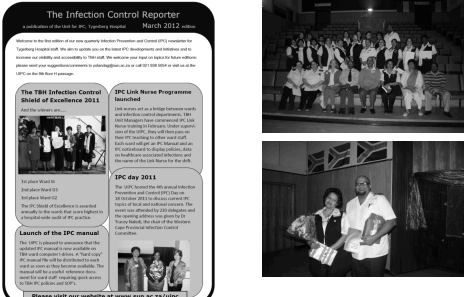
Who is the link nurse today?
Or for this shift?



Who can the team rely on to help with IPC immediately?



Link Nurse Programme at TBH



The Infection Control Reporter
March 2012 edition

The TBH Infection Control Shield of Excellence 2011

IPC Link Nurse Programme launched

IPC day 2011

Types of education


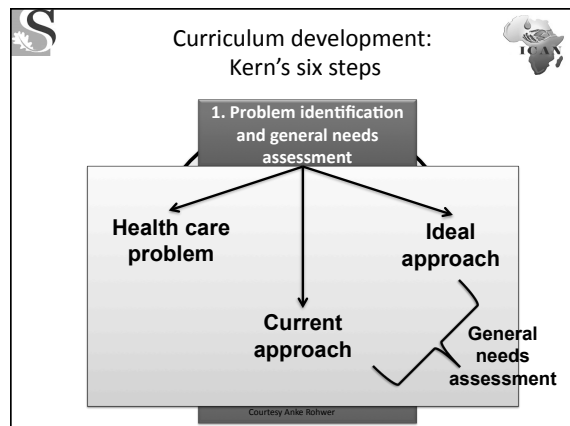
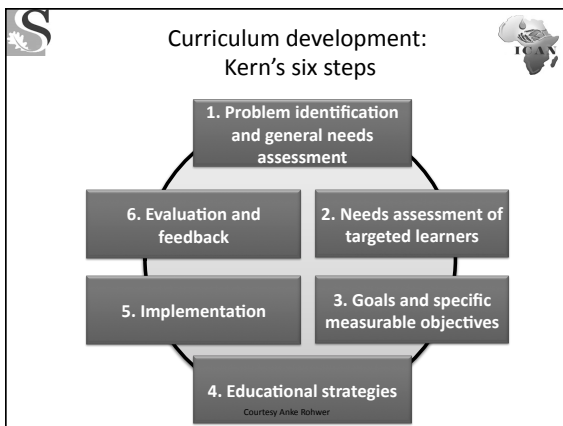
- Education covers a broad range of activities and can be delivered through various channels, including
 - Curriculum modification** for medical and nursing students,
 - Continuing education** organized during conferences and meetings of professional bodies
 - In-service sessions** in healthcare facilities for existing and new staff.

SURMEPI
Stellenbosch University Rural Medical Education Partnership Initiative

MEPI
Medical Education Partnership Initiative

Themes:

- Increasing capacity and quality of medical doctors
- Retention of graduates
- Regionally relevant research



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Teaching methods

- Methods should be
 - Innovative
 - Exciting
 - Engaging
 - Unusual
 - Participatory/ Interactive
 - Relevant
 - Culturally sensitive

Conventional teaching methods

hand outs- (passive learning)



Lectures using power point- (passive)



Doing.....(active learning).




Discussion groups (active)



Face to Face Teaching


Advantages of face to face

- Close relationship develops between tutors and within the class - networking
- Revision when necessary
- Modification of method of teaching if necessary
- Demonstrations and visual teaching is understood better



Disadvantages of face to face

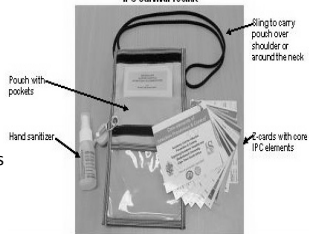
- Expensive for both students and faculty
- Time consuming
- Short term engagement
- Routine and sometimes boring
- Tutor dependent transfer of knowledge



Constant reminders

IPC Survival Kit

- All clinical healthcare workers underwent a 5 day basic IPC training course
- Covered the *Core Elements of IPC*
- Issued with the IPC kit as a reminder and a personal reference.
- Very useful to the Link Nurses



Introducing e-health tools -WHO

- WHO Global m-Health Survey, SMS messaging or mobile health communication used
 - High income 60%
 - low- and middle-income countries 30% (Piette JD et al; 2012: Bull World Health Organ: 90)
- E-health tools are designed to improve health surveillance, health-system management, health education and clinical decision-making, and to support behavioural changes related to public-health priorities and disease management <http://www.emro.who.int/his/ehealth/AboutEhealth.htm> [accessed Feb 2012]

In a review of seven intervention studies, including four randomized trials, text messaging showed significant promise for improving adherence rates

Innovative developments in education for Africa

- E-learning platforms
 - On-line education programmes- self assessment
 - SMS or text messaging
- Videos and other visuals
- Games- mental stimulation



J Contin Educ Nurs 2010;41(10):463-471.


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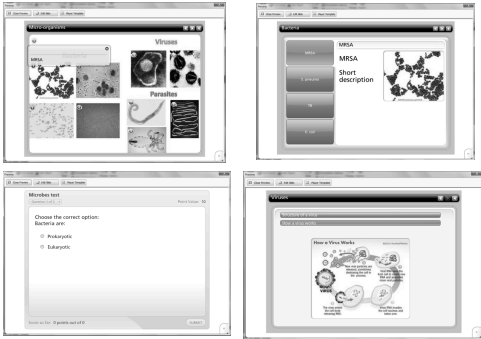
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Designing distance learning IPC courses- for African universities


- Uses *moodle* which is not only educational, but also has strategies for teaching–learning and for assessing progress and performance.
- IPC programme is being developed under the auspices of the UIPC/ SURMEPI at SUN
- It intends to collaborate with ICAN via the *Cape to Cairo* education programme-
- Also looking for private public partnership



Knowledge testing and development




Demonstrations incorporated into the e-learning programmes



- Principles of vacuum and entry of steam in a steam sterilizer
- Checking the same parameters on a functioning sterilizer

Other e-learning methods

What better way is there to get a message across!



In Africa there are 280 m subscribers of which 260 m (85%) are mobile phone users

Folk K, The Observer, July 2011

How does the SMS system work?

- Systems facilitating care at a distance include the use of a short message service (SMS) or other text messaging to **improve outcomes through reminders;**
 - **between-visit monitoring and/or health education;**
 - videoconferencing facilities for **live consultations**
 - asynchronous **communication between clinicians,**
 - **automated telephone calls** with recorded messages (sometimes called interactive voice response calls)
 - Can use for **group announcements**
 - Running **training programmes** (Hajo van Beijma, Text to Change, Dutch NGO)
- Given airtime incentive to participants

Designing e- IPC education for Africa

<h3>Advantages</h3> <ul style="list-style-type: none"> • Interactive lectures - exciting • Quizzes interspersed in the lectures – test of knowledge • Movement within the talks • Can learn in one's own time and repeat if necessary • Much more user friendly once you get used to it. • Can be linked to an SMS programme • Standardised measure of outcome 	<h3>Disadvantages</h3> <ul style="list-style-type: none"> • A very new concept in Africa for teaching IPC • Access to the internet may be restricted • The programmes might be too big for the band width • Unfamiliar territory • May be resistance from learners • Resistance from tutors
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S Measuring knowledge improvement

- Pre and post assessment- written
 - Multiple choice questions
 - Pairing of questions and answers
 - True or False
 - Short answers
- Spots: (2 min each)
 - A child with MDR-TB. Comment on this slide from an IPC point of view.

S Peer Evaluation of TTT lectures

- Lectures prepared and given by trainers to their peer groups
- Adult education and have to present innovative means of knowledge transfer
- Peer evaluated according to set criteria.
 - Presentation skills
 - Scientific content
 - Interaction with audience
 - Answering questions




Topic	Score (20)
Basic Microbiology	15
Standard Precautions	12.1
Transmission based	14.3
Risk assessment	14
Clinical services	14.8

Train the Trainer course (SUN)

Type to Test	Pre	Post	Increase in knowledge/speed
Written test: max marks	50	50	
Allocated time (min)	30	30	NA
Average Completion time (min)	30	14.7	15 minutes
Average score	31.15	44	13 marks
% score	62.30%	88%	25.70%
Spots- Visual test	20	20	
(10 spots x2 min) max marks	13.2	15.8	3 marks (15%)

S Clinical Shield of Excellence in IPC

- Education in IPC is provided to 2000 employees annually and reinforced via the Link Nurse programme
- Each ward at TBH is evaluated annually using the following criteria
 - HAI rates;
 - Provision for IPC; e.g. hand hygiene, PPE;
 - Standard precautions in place;
 - Transmission based precautions in place;
 - Number of staff trained in IPC;
 - Link nurse programme.
- Outcome is a reward of proudly carrying the shield for a year plus two runner up wards



S What should be incorporated in education for LMI countries

- Social and cultural context is important
- Good robust guidelines- easy and simple to follow
- Provision- water, hand wash system, alcohol rub
- How to work safely when provisions are not available
- Accountability- Link nurses, managers
- Surveillance (simple) associated with HAI
- Move towards e-communication

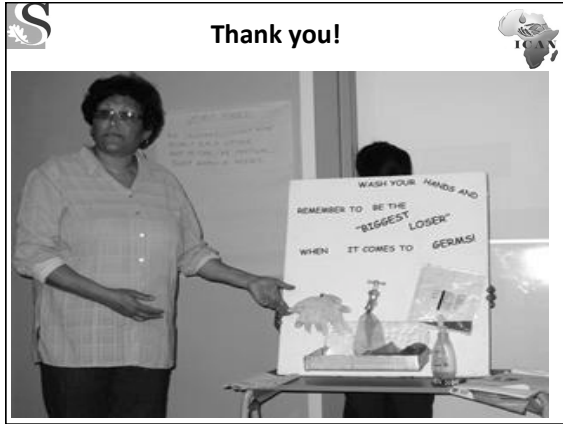


S Finally.....

- “The current approach to educating and training our health care providers has outlived its effectiveness and utility.
- With the growing complexity of health care and the accelerated pace of accumulation of knowledge, significant reform of health professions education is required”.
- “For LMI countries we should encourage **Multifaceted approaches** (which are culturally sensitive to sustain effect)
Educational intervention could be extremely cost effective- Educating healthcare workers to optimal (hand hygiene) practices is effective.”

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2012 WHO Teleclasses	
	Clean Care is Safer Care
February 8 Behavioural Change in Infection Prevention and Control , Prof. Andreas Voss	
March 7 Achievements in Improving Injection Safety Worldwide , Dr. Selma Khamassi	August 8 Processing Medical Devices in Settings with Limited Resources , Dr. Nizam Damani
April 17 Implementing Change: The Technical & Socio-Adaptive Aspects of Preventing Catheter-Associated Urinary Tract Infection , Prof. Sanjay Saint	September 5 Successes and Challenges in Developing and Implementing Bundles in Infection Prevention , Prof. Don Goldmann
May 7 Keeping the Hand Hygiene Agenda Alive: Acting on Data and the Influence of Global Surveys , Prof. Didier Pittet	October 2 The Role of Education in Low and Middle Income Countries , Prof. Shaheen Mehtar
June 6 Economic Impact of Healthcare-Associated Infections in Low and Middle Income Countries , Dr. A. Nevzat Yalcin	November 7 Measuring Impact: Key to Infection Control Scale-Up and Sustainability , Prof. Jacqui Reilly
July 11 Patient Involvement in Infection Control , Claire Kilpatrick	December 5 New Developments in Infection Control for Renal Dialysis , Prof. W.H. Seto

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