Implementing IPC –a global challenge?

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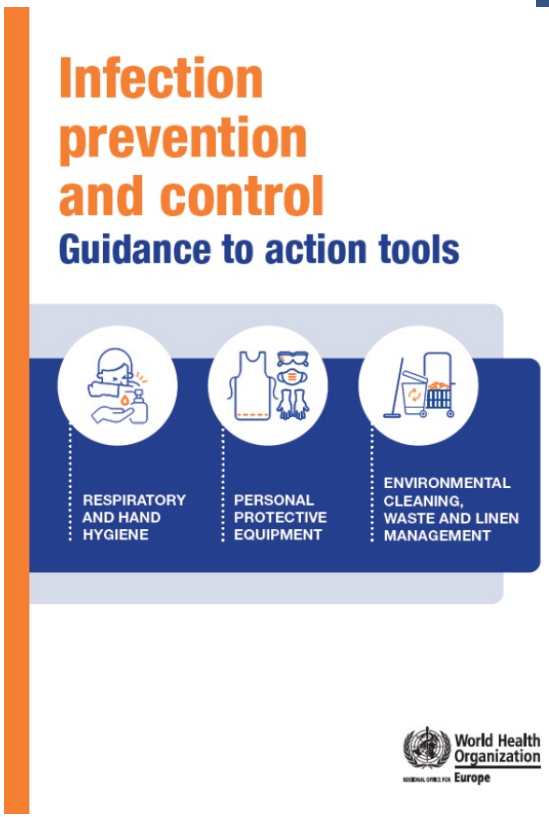
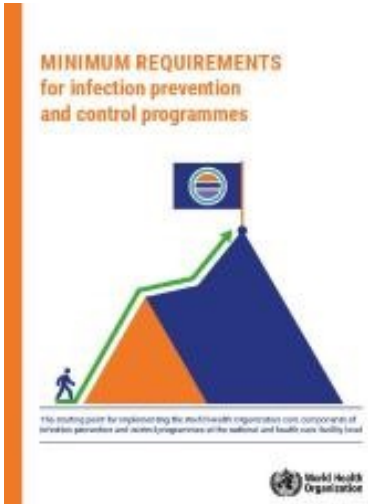
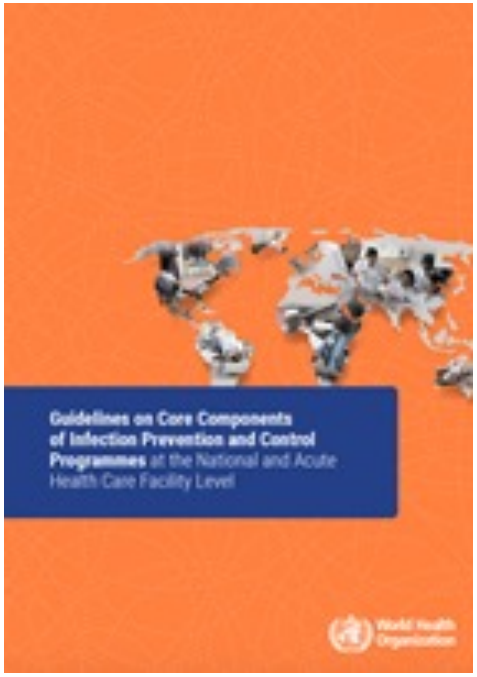
Objectives

- Identifying implementation challenges in LMICS and HIC
- Identifying the cost of HAI and cost benefit of IPC
- Strategies to overcome some of these barriers
- Moving forward within cultural and social norms

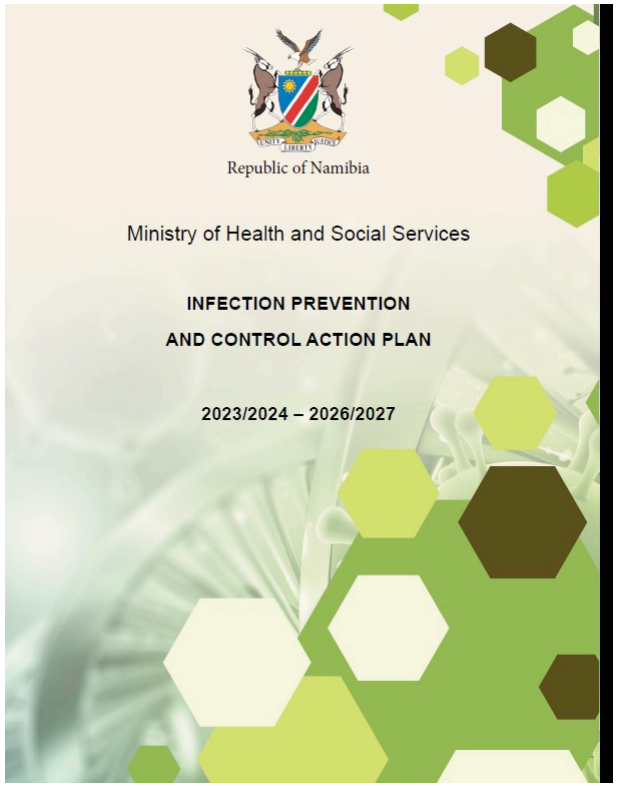
There is no shortage of guidelines!

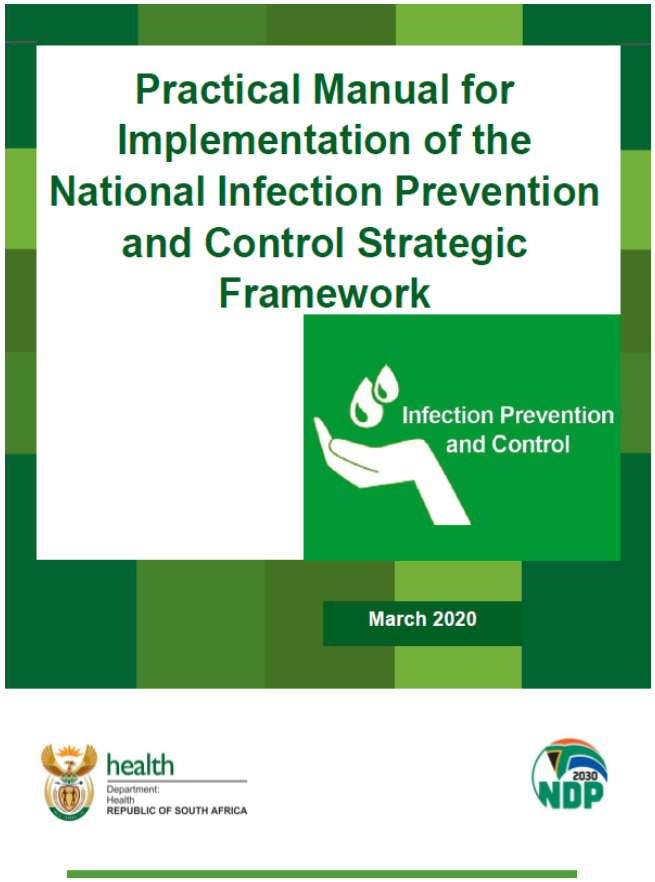


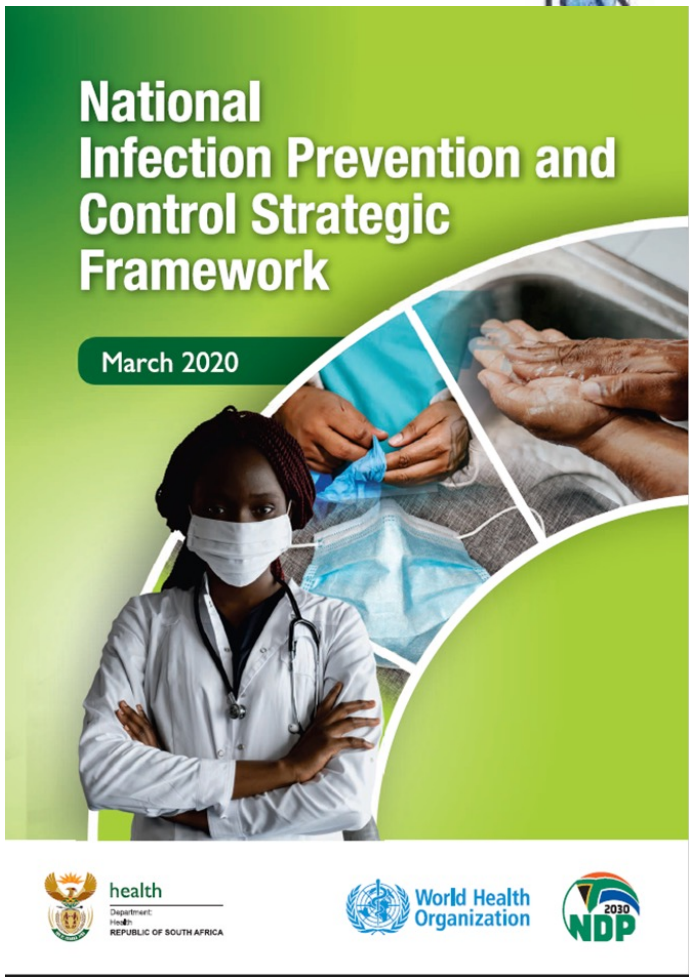




National Guidelines







Why is IPC not being implemented?

- Inadequate infrastructure
- Lack of available funds
- Lack of political will
- Complacency
- Information fatigue
- All of the above?

Barriers to implementation - LMICS

- **Financial constraints**
  - Donor dependence
- **Weak leadership and accountability**
  - Lack of IPC structures at national level- HCF level fragmented
  - Lack of infra structure- WASH-
  - Resources constraints- equipment, physical space, PPE
- **Shortage of IPC staff**
  - Time spent on administration and surveillance. No time for clinical practice
  - Training of IPC practitioners- punitive challenges
- **Guidelines are not contextually appropriate**

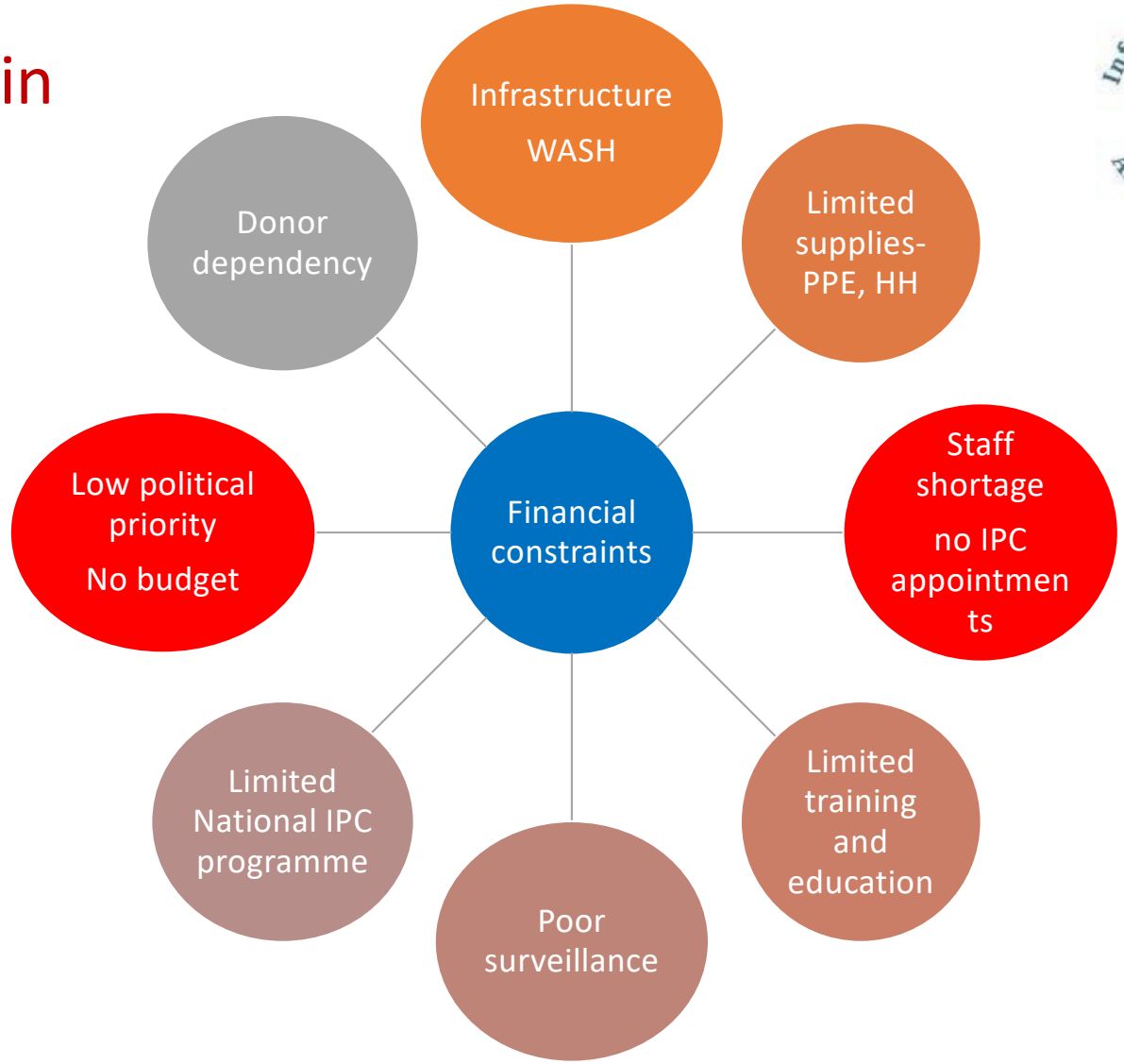
  Copy /paste from HI- cannot be implemented – think outside the box
  - Lack of surveillance data or systems- need to set up
- **Cultural barriers –**
  - resistance to change
  - IPC operates in silos- no integration with other departments
- Weak Quality Management
  - Lack of monitoring and audit-

Financial Impact in LMICs

HICs

Financial capacity good but effective IPC programmes still depend on allocation of funds and budgets, managed, and prioritized.

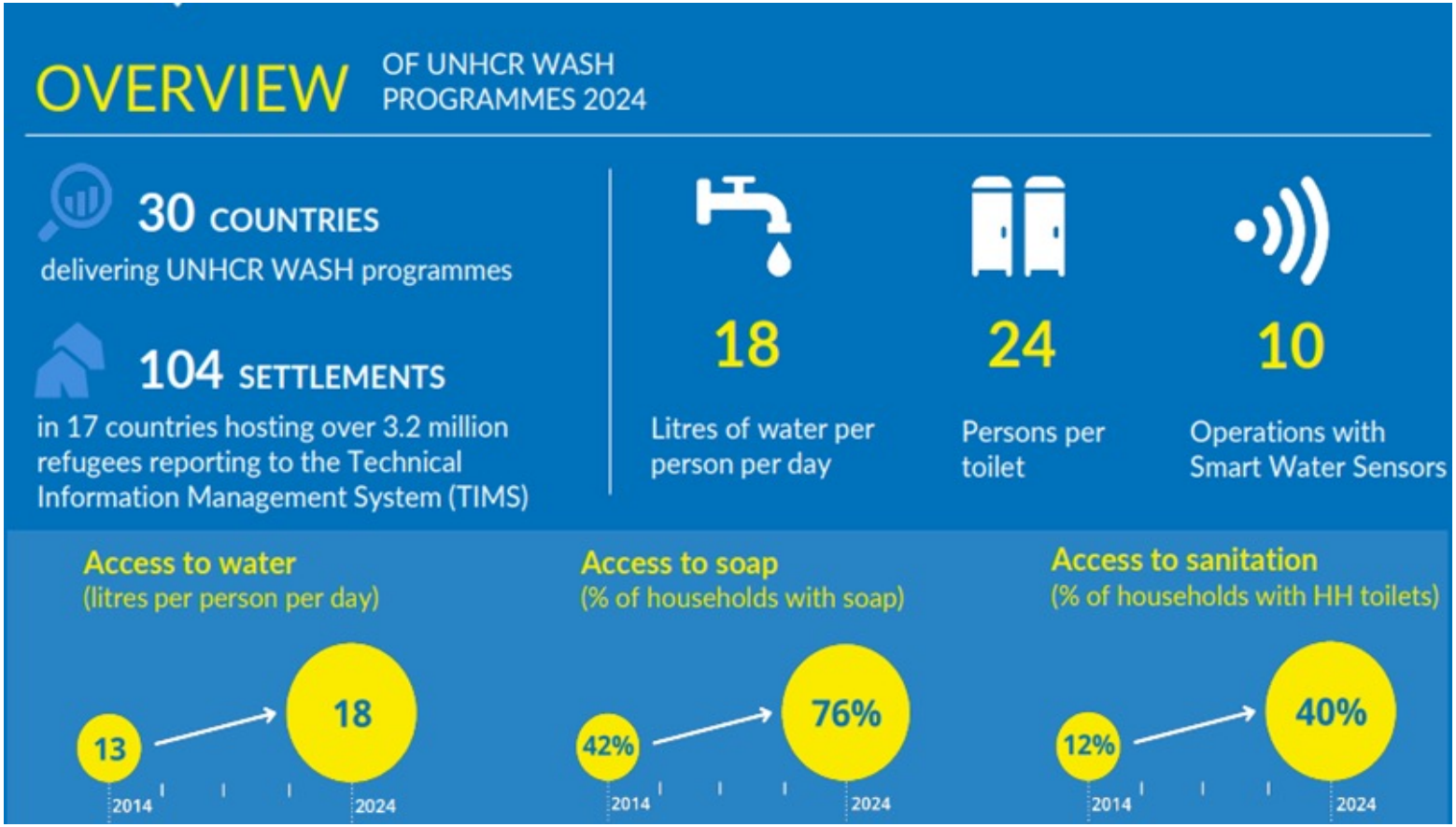
IPC considered a cost and not a strategic investment



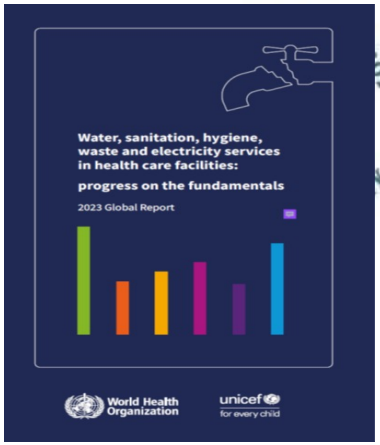
Barriers to Implementation in HI

- **Behavioural and cultural resistance-**
  - lack of compliance with IPC policies
  - Complacency- everything under control
  - Hierarchical control to prevent modification of practice
- **IPC is not prioritised by management-**
  - Cost of HAI (not known)
  - Staffing shortages – cutting corners
  - IPC not represented on AMS teams- AMR rates high
  - Lack of continuous training and refresher courses
- **Communication gaps-**
  - Mixed messages not clearly delivered or understood.
  - Complex health systems- fragmented care or in silos – care homes,
  - Data and surveillance data underreported and not acted upon
  - Patients may not understand and refuse to follow IPC procedure and protocol- isolation
- **Technology fatigue:**
  - Multiple electronic systems (e.g., for documentation, surveillance, audits) can overwhelm staff

WASH provision: Global Report 23



Water Sanitation and Hygiene funding required (2023 Global Report)



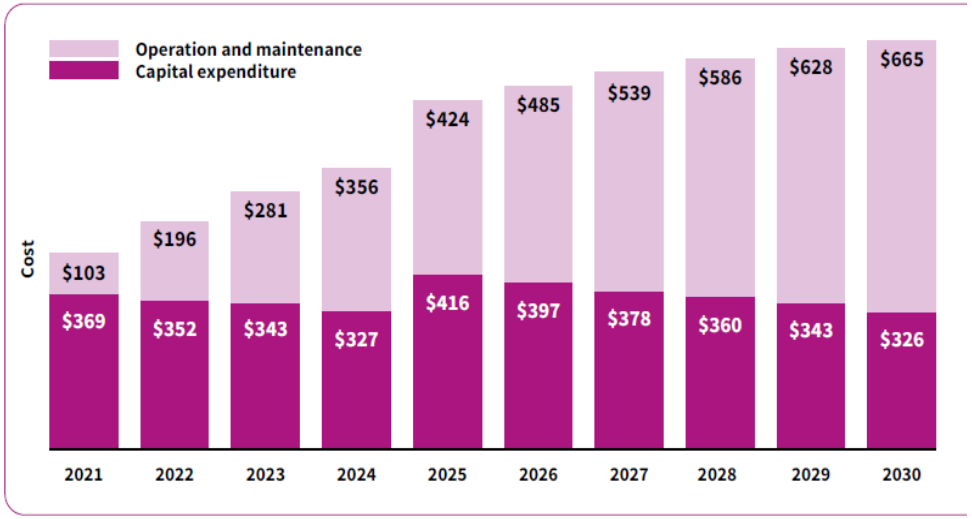
- Greater efforts are needed to understand actual costs of WASH services in different types of facilities; how to set realistic and optimal budgets within existing budgetary constraints; and what financing options are available at the facility, municipality, subnational and national levels.

- Costs for achieving basic WASH services and IPC practices in health care facilities are relatively modest, whereas the return on investment is 15 times or higher[12] *(43, 44)*. The costs of WASH operations and the cost savings from investing should be considered in regular health policy and financing reviews.

- In many countries, budgeting and financing for WASH in health care facilities are often ad hoc and not consistently tracked or reported at the facility level. This makes it difficult for facilities to ensure good services through regular operation, maintenance and cleaning.

- Government spending on health increased in 2020[13] in countries at all income levels, with the greatest growth in low-income countries and in preventive health services. This demonstrates that shifting the needle towards more preventive health spending is possible. However, a major challenge will be sustaining such spending when there is no immediate crisis (e.g. a pandemic).

Fig. 7. Total capital and recurrent (operation and maintenance) costs, 2021–2030 (US$ million)



Water, sanitation, hygiene, waste and electricity services in health care facilities: progress on the fundamentals – 2023 Global Report

Evaluating national infection prevention and control minimum requirements: evidence from global cross-sectional surveys, 2017–22

Ermira Tartari, Sara Tomczyk*, Anthony Twyman, Ana Paula Coutinho Rehse, Mohamed Gomaa, Maha Talaat, Aparna Singh Shah, Howard Sobel, Joao Paulo Toledo, Benedetta Allegranzi*

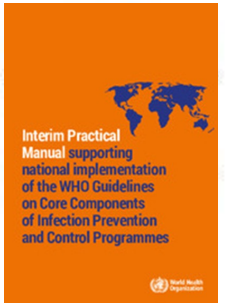
	All countries (n=106)	Comparison between The World Bank income levels				p value*
		High-income countries (n=33)	Upper-middle-income countries (n=33)	Lower-middle-income countries (n=27)	Low-income countries (n=13)	
Core component 1—IPC programme						
An active IPC programme exists at the national level*	83 (78%)	28 (85%)	25 (76%)	19 (70%)	11 (85%)	0·56
An appointed IPC focal point in charge of the programme can be identified	97 (92%)	31 (94%)	29 (88%)	25 (93%)	12 (92%)	0·89
Focal points are trained in IPC and HAI prevention	85 (80%)	30 (91%)	25 (76%)	18 (67%)	12 (92%)	0·073
A protected and dedicated budget is allocated for IPC	43 (41%)	23 (70%)	10 (30%)	8 (30%)	2 (15%)	<0·0001
IPC focal points—at least one full-time equivalent	67 (63%)	24 (73%)	20 (61%)	16 (60%)	7 (54%)	0·56
Core component 2—guidelines						
The national IPC programme has a mandate to produce guidelines	96 (91%)	29 (88%)	29 (88%)	26 (96%)	12 (92%)	0·66
Use of evidence-based knowledge and internationally recognised national standards	90 (85%)	31 (94%)	28 (85%)	22 (81%)	9 (69%)	0·17
Guidelines for national coverage (all acute health-care facilities, public, and private)	94 (89%)	30 (91%)	29 (88%)	24 (89%)	11 (85%)	0·97
Guidelines reviewed and updated every 5 years	69 (65%)	25 (76%)	20 (61%)	17 (63%)	7 (54%)	0·44
Guideline adaptation and standardisation reflects local conditions	77 (73%)	27 (82%)	22 (67%)	18 (67%)	10 (77%)	0·47
Core component 3—education and training						
Guidance and recommendations provided for in-service IPC training	76 (72%)	23 (70%)	23 (70%)	20 (74%)	10 (77%)	0·95
Support for IPC training of health workers at the facility level	87 (82%)	26 (79%)	26 (79%)	24 (89%)	11 (85%)	0·77
A national IPC curriculum for in-service training of health-care workers has been developed	42 (40%)	13 (39%)	9 (27%)	14 (52%)	6 (46%)	0·25
A national system on the effectiveness of training and education is in place	30 (28%)	6 (18%)	10 (30%)	10 (37%)	4 (31%)	0·42
Core component 4—surveillance						
A multidisciplinary technical group for HAI surveillance is established	69 (65%)	30 (91%)	23 (70%)	10 (37%)	6 (46%)	<0·0001
A national strategic plan for HAI surveillance is in place	66 (62%)	28 (85%)	22 (67%)	10 (37%)	6 (46%)	<0·0001
IPC focal point team is trained in HAI surveillance	81 (76%)	32 (97%)	27 (82%)	13 (48%)	9 (69%)	<0·0001

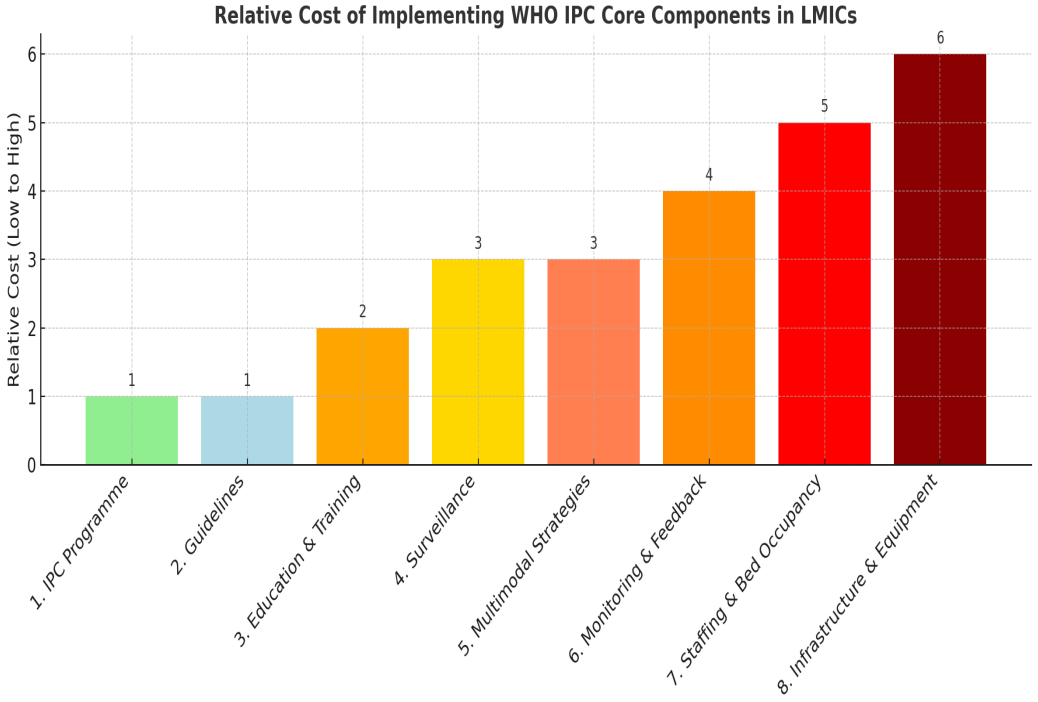
	All countries (n=106)	Comparison between The World Bank income levels				p value*
		High-income countries (n=33)	Upper-middle-income countries (n=33)	Lower-middle-income countries (n=27)	Low-income countries (n=13)	
Core component 5—multimodal strategies						
A trained national IPC focal point that is knowledgeable in implementation science and multimodal improvement strategies	77 (73%)	27 (82%)	22 (67%)	19 (70%)	9 (69%)	0·52
Coordinate and support local implementation of IPC improvement	79 (75%)	24 (73%)	27 (82%)	18 (67%)	10 (77%)	0·59
Multimodal strategies are promoted	75 (71%)	26 (79%)	21 (64%)	19 (70%)	9 (69%)	0·62
Core component 6—monitoring, evaluation, and feedback						
Established multidisciplinary technical group for IPC monitoring is in place	66 (62%)	27 (82%)	20 (61%)	12 (44%)	7 (54%)	0·020
A strategic plan for IPC monitoring is in place	55 (52%)	24 (73%)	16 (48%)	9 (33%)	6 (46%)	0·020
A minimal set of core indicators for health-care facilities in the country is defined	83 (78%)	29 (88%)	27 (82%)	18 (67%)	9 (69%)	0·19
A mechanism to train national and local auditors is in place	49 (46%)	19 (58%)	14 (42%)	9 (33%)	7 (54%)	0·26
Hand hygiene compliance monitoring and feedback is a key national indicator	70 (66%)	23 (70%)	22 (67%)	16 (59%)	9 (69%)	0·86

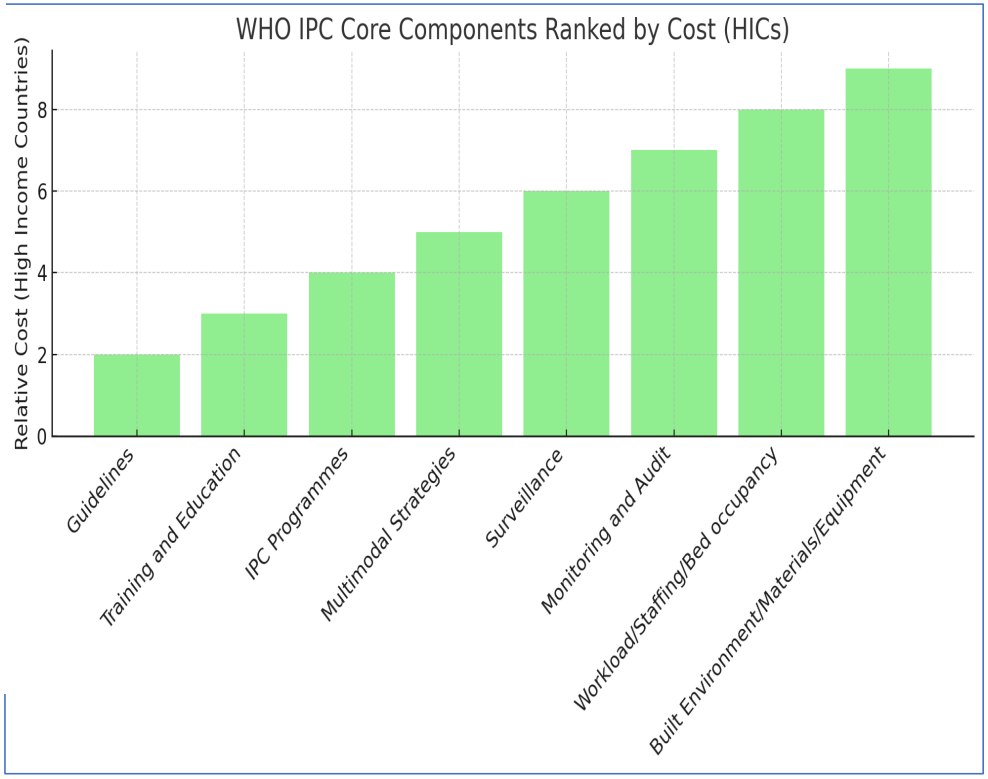
Data are n (%), unless otherwise specified. A full list of IPC minimum requirement indicators is provided in appendix 3 (pp 9–10). IPC=infection prevention and control. HAI=health-care-associated infection.
*Active is defined as a functioning programme with annual work plans and a budget.

Table 1: **Proportion of countries with reported established IPC minimum requirements by World Bank income level**

Comparing LMIC & HIC cost of implementing WHO Core Components







WHO Minimum requirements (2021)

Countries meeting IPC Minimum Requirement (n 106)

100% 4/106 =4%
75% 48/106 (45%)
50% 81/106 (75%)

Met 100% of minimum requirements
LMIC or LIC = 0
UMI = 1/33 (3%)
HI = 3/33) (9%)

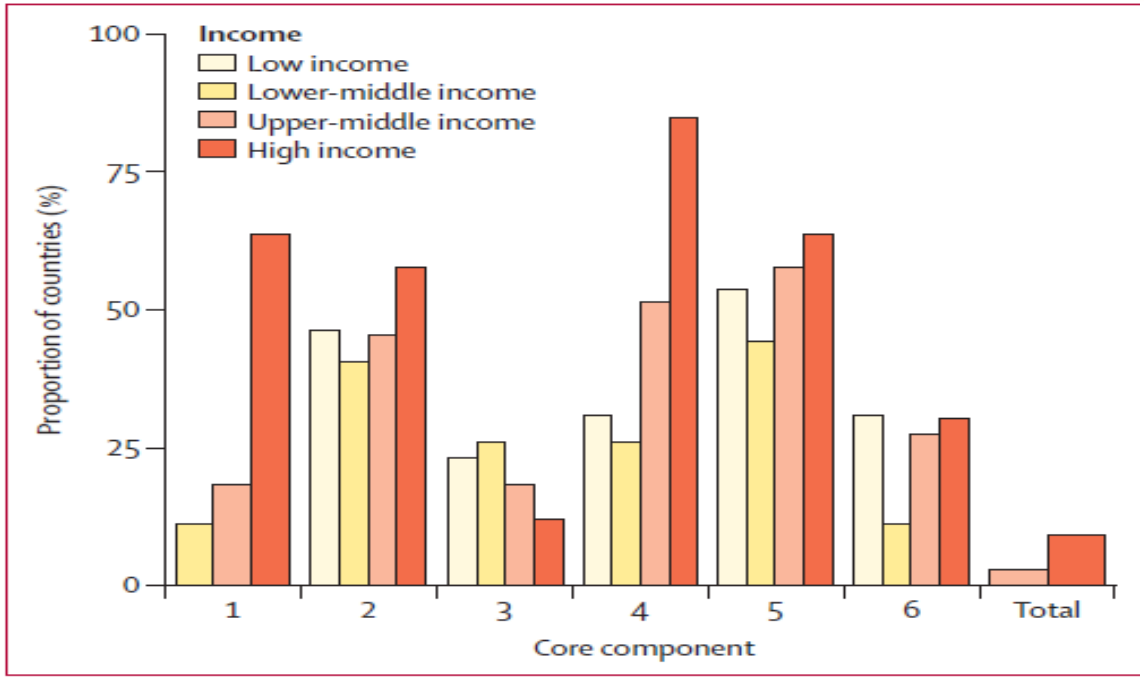


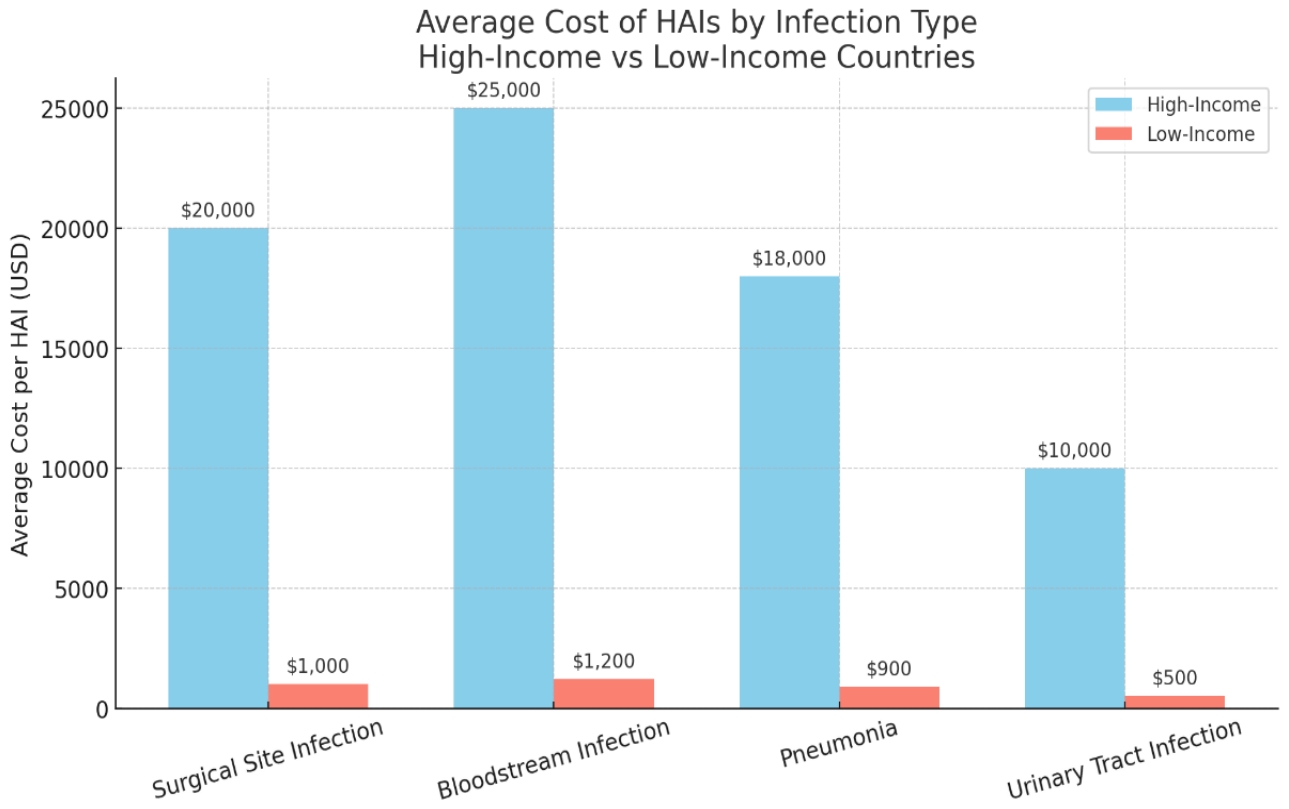
Figure 2: **Proportion of countries meeting all reported minimum requirements by core component and World Bank country income level (N=106)**
No low-income countries met all indicators for core component 1 and no low-income and lower-middle-income countries met all indicators overall for the total; thus, no bars are shown for these latter groups.

HAI rates in high & low income settings

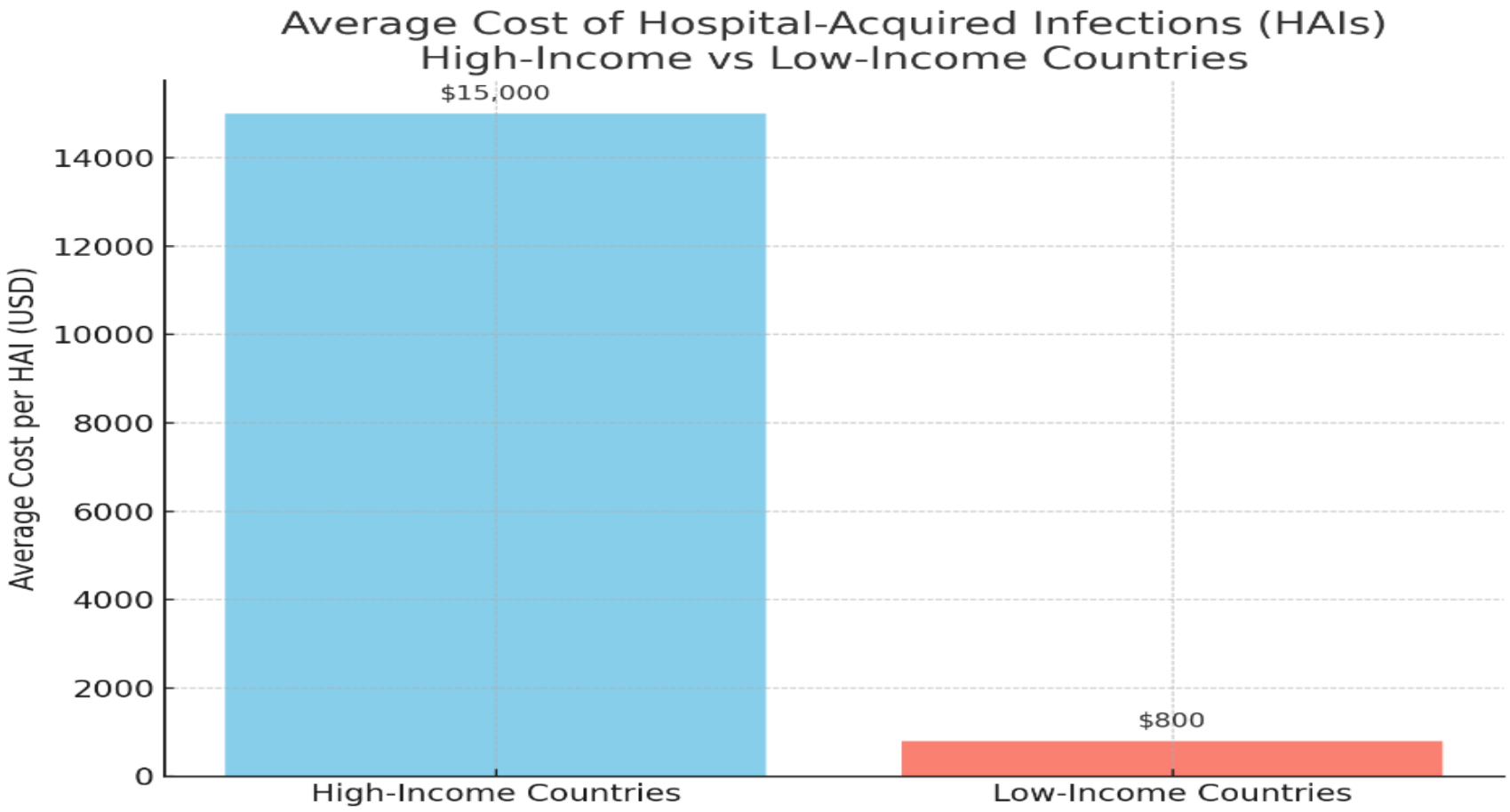
Type of Data HI	Estimated HAI Rate (HI)	Estimated HAI Rate (LMIC)
Overall HAI Prevalence	3% to 7%	5% to 15%
Surgical Site Infections (SSI)	1% to 5%	10% to 30%
Catheter-Associated Urinary Tract Infections (CAUTI)	1% to 5%	~5% to 15%
Ventilator-Associated Pneumonia (VAP)	5% to 15%	10% to 30%
Bloodstream Infections (BSI)	1% to 5%	5% to 15%

Breakdown of average HAI cost by infection type

- **Surgical Site Infections**:
  - High-income: ~$20,000
  - Low-income: ~$1,000
- **Bloodstream Infections**:
  - High-income: ~$25,000
  - Low-income: ~$1,200
- **Pneumonia**:
  - High-income: ~$18,000
  - Low-income: ~$900
- **Urinary Tract Infections**:
  - High-income: ~$10,000
  - Low-income: ~$500



Average cost of per HAI case. HI v LMICs



Estimated Setup Costs for National IPC Programme in LMICs (USD)

Component	Description	Estimated Cost Range
Personnel	National IPC coordinator, trainers, admin staff	$80,000 – $200,000
Guidelines & Policy Development	Adaptation, printing, dissemination	$30,000 – $70,000
Training & Capacity Building	Initial training sessions, materials, workshops	$80,000 – $300,000
Surveillance Systems Setup	Basic data collection tools and reporting	$50,000 – $200,000
Infrastructure & Equipment	PPE, hand hygiene stations, essential supplies	$100,000 – $500,000
Communication & Advocacy	Campaigns, IEC materials, workshops	$30,000 – $80,000
Monitoring & Evaluation (M&E)	Data systems, periodic evaluation	$30,000 – $70,000
Technical Assistance & Consultancy	External support and expert advice	$20,000 – $50,000

Total cost of setting up a programme from scratch is approx. $500,000 - 1470000

Cost of HAI in South Africa (estimated)

South Africa	Estimate (USD)
National annual HAI cost	~ $4.6 billion
Cost as % of GDP	~ 1.14%
Cost as % of health budget	Likely ~5–6%
Hospital-level (6 mo.)	≈ $0.37 million
Hospital extrapolated annually	Several million per hospital

Cost of an IPC programme providing IPC services per bed

level	Bed assessment	Min cost (IPC prog) USD	Max cost (IPC prog) USD	Av Cost per bed
HI	500	1,4000 000	2, 850 000	~4250
LMIC	200	50 000	138 000	~ 470

Providing IPC programme in a HI setting is approximately 11 times more expensive than for an LMIC setting

Estimation of HAI v IPC specialist cost

1. Cost of HAIs in LMICs (WHO report)

Average cost per HAI in LMICs: $1,200–$5,000
HAI rate: ~15% of hospitalized patients
Estimated total annual cost of HAIs in LMICs: $6–10 billion USD (conservative estimate)

2. Average annual salary of an IPC specialist in LMICs

Nurse IPC specialist: ~$8,500
Doctor IPC specialist: ~$17,500

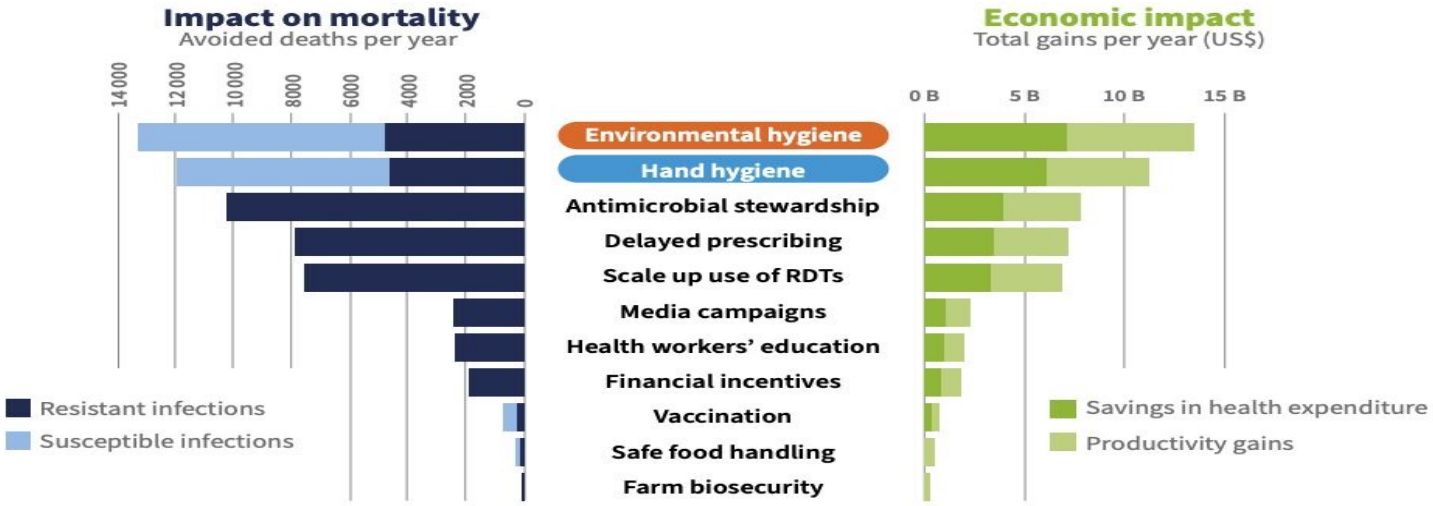
3. Even **1/10th** of HAI costs could fund **70,000–100,000 IPC nurses**.
The total estimated need for IPC staff across LMICs is **much smaller** than this—indicating IPC investment is **highly cost-effective**

Savings realized by investing in IPC and reducing Infections

Setting	Estimated Savings per $1 Invested	Details
High-Income Countries (HICs)	$2 to $4 saved for every $1 spent	avoided treatment costs, shorter LOS, and fewer complications.
Low- and Middle-Income Countries (LMICs)	$3 to $6 saved for every $1 spent	higher baseline infection rates and less expensive IPC implementation. - prevented infections, reduced antibiotic use, and lower readmissions.
Global Average	~$3 saved per $1 invested	- WHO estimates a 2-5x return globally depending on local context.

- *The Lancet Infectious Diseases* (2020) IPC interventions typically reduce infections by **30-50%;** cost-benefit ratio of **2:1 to 6:1**.
- **WHO** hand hygiene interventions alone can reduce healthcare-associated infections by up to **40%**, with strong economic benefits.

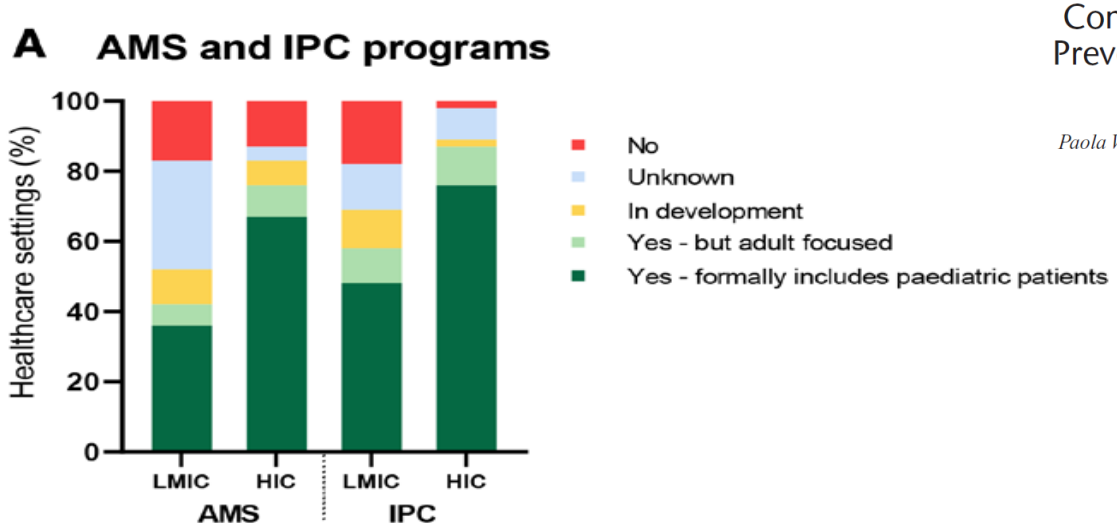
Within a package of 11 "One Health" interventions, hand hygiene and environmental hygiene in health care facilities are the most effective and cost-saving investment to reduce AMR, based on model for 34 OECD members and EU/EEA countries[b].



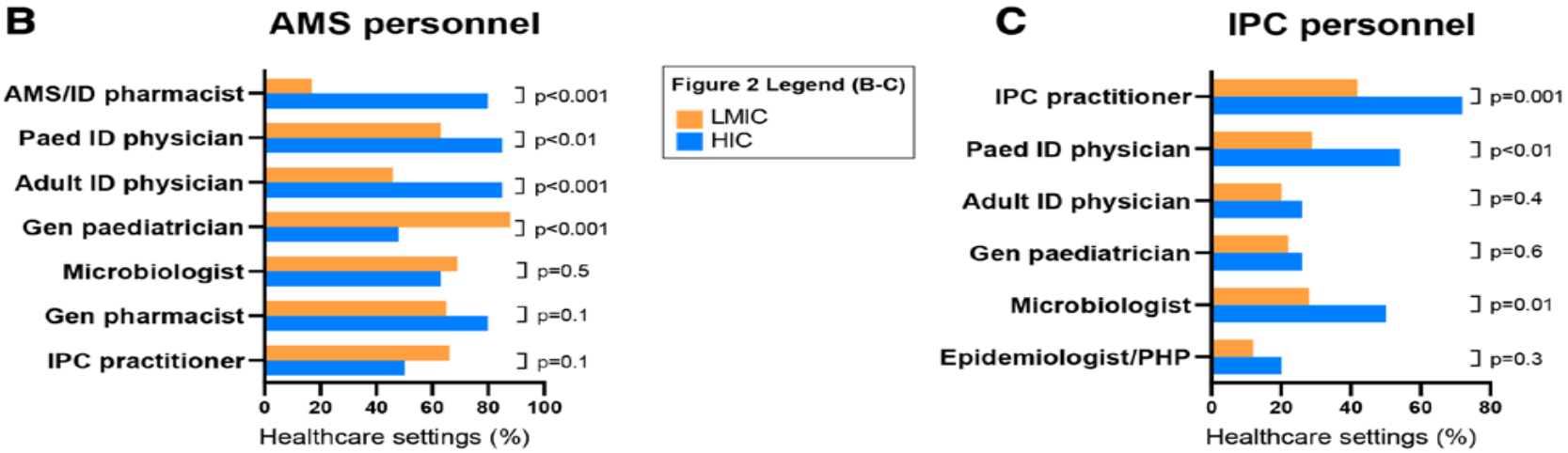
Comparison of Antimicrobial Stewardship and Infection Prevention and Control Activities and Resources Between Low-/Middle- and High-income Countries

Paola Villanueva, MBBS, BMedSci,†‡ Susan E. Coffin, MD, MPH,§¶ Amha Mekasha, MD, MSc,‖** Brendan McMullan, BMed,††‡‡§§ Mark F. Cotton, MD, PhD,¶¶‖‖ and Penelope A. Bryant, PhD****†††*

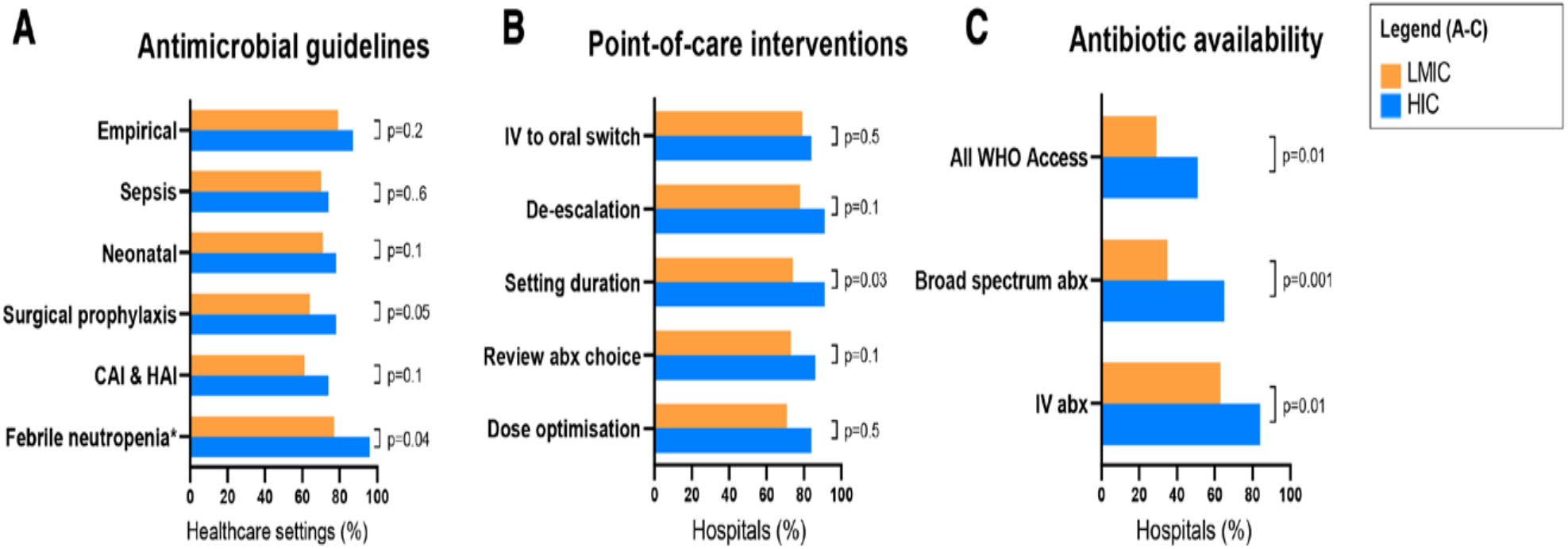
(*Pediatr Infect Dis J* 2022;41:S3–S9)



Access to AMS and IPC programs and personnel. Proportion of LMIC and HIC healthcare settings with (A) a formal AMS program or IPC program; (B) types of AMS and (C) types of IPC personnel.

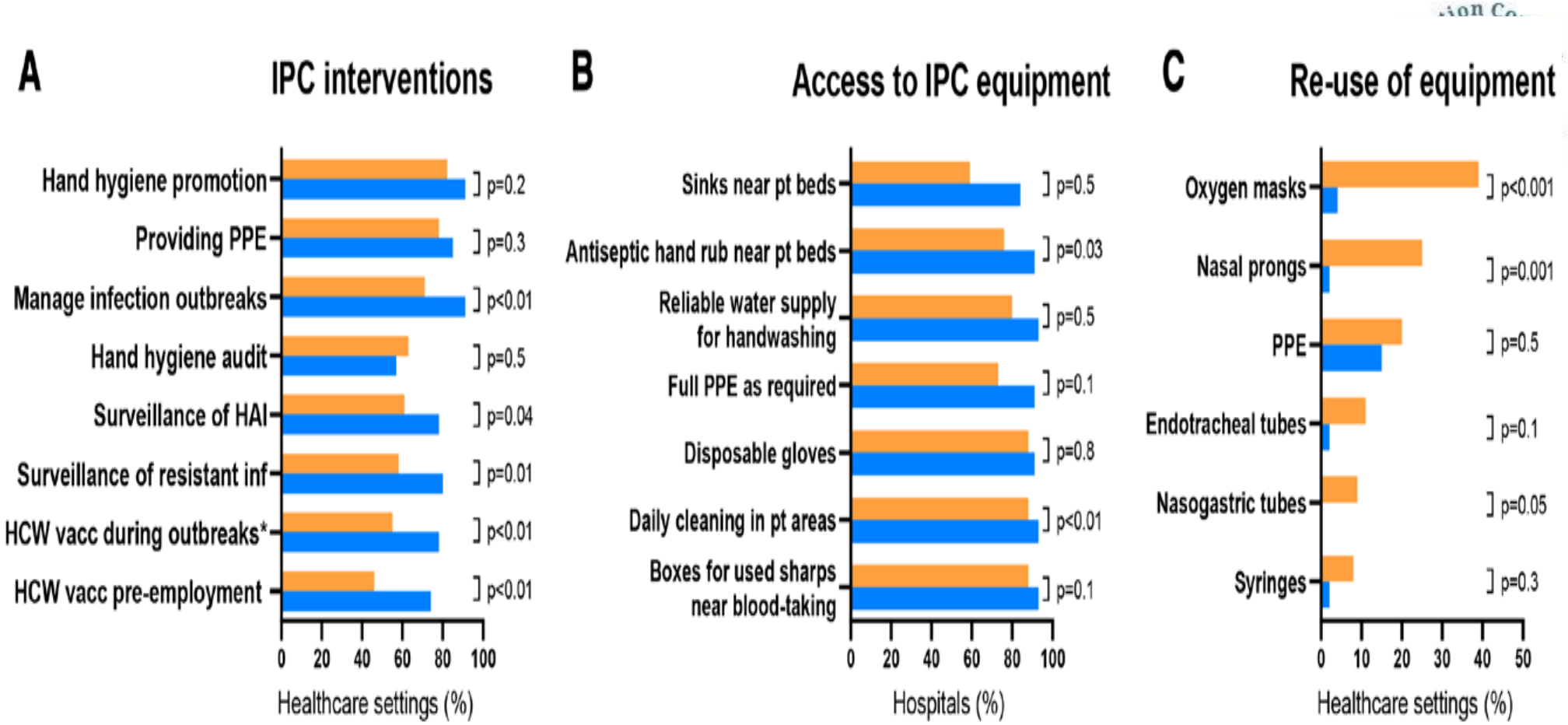


AMS Resources and interventions. LMIC v HI



Specific AMS resources and interventions: (A) Use of antimicrobial prescribing guidelines in all healthcare settings; (B) Use of point-of-care interventions relating to antimicrobial prescribing in children in hospitals; (C) Reliable antibiotic availability for children in hospitals. Abx, antibiotic; CAI & HAI, guidelines differentiating between community acquired infections and hospital-acquired infections. *In healthcare settings with heamatology/oncology services.

(*Pediatr Infect Dis J* 2022;41:S3–S9)



Specific IPC resources and interventions: (A) IPC interventions for children; (B) Access to IPC equipment; (C) Reuse of healthcare equipment. HAI, hospital, acquired infections; HCW, healthcare worker; inf, infection; pt, patient; vacc, vaccination. *Seasonal outbreaks.

(*Pediatr Infect Dis J* 2022;41:S3–S9)

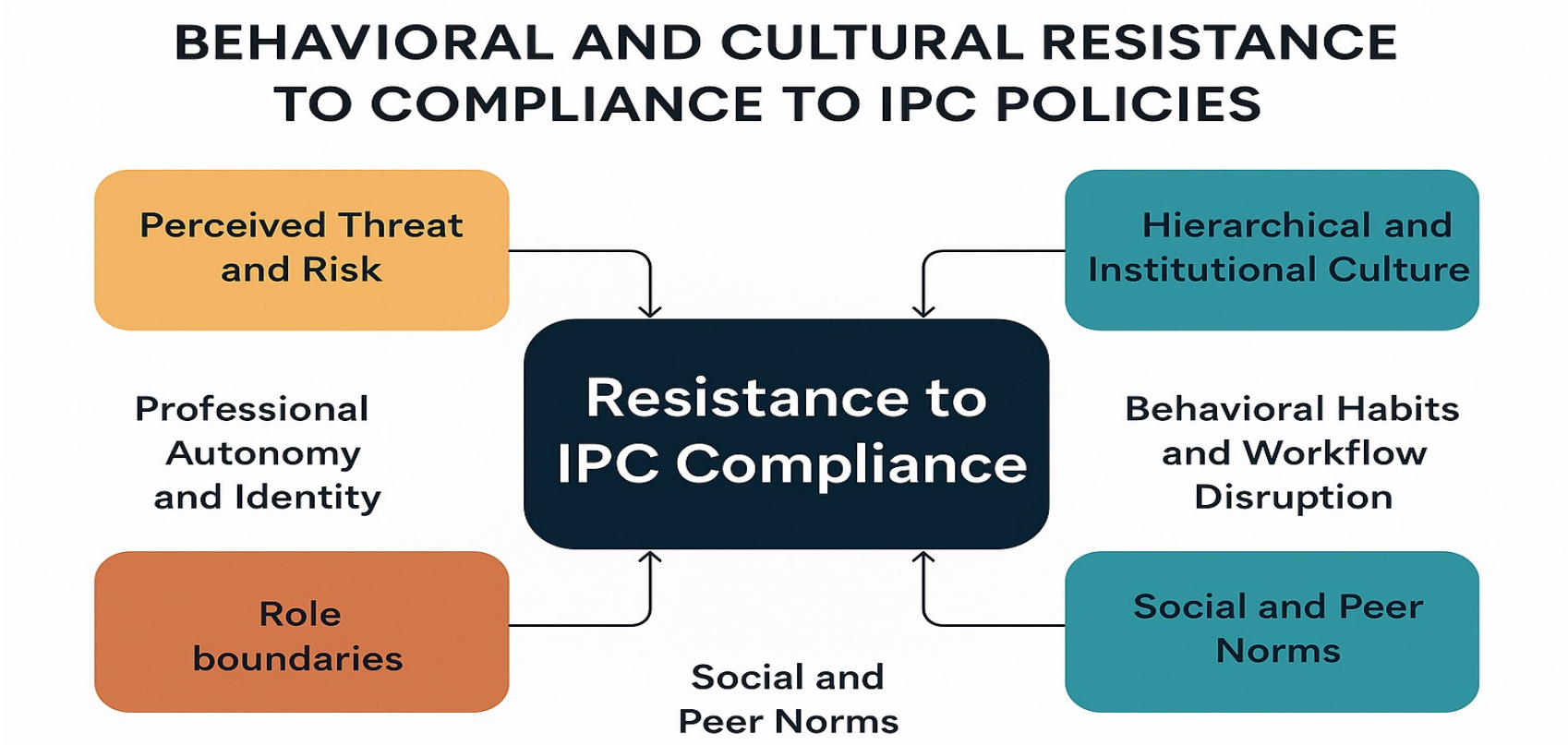
Use of microbiology lab services

Table 2. Access to Microbiology Laboratory Services

	LMIC Hospitals, N (%) n = 80	HIC Hospitals, N (%) n = 43	*P* Value
Availability of culture types			
Urine	69 (86)	40 (93)	0.03
Cerebrospinal fluid	62 (78)	40 (93)	< 0.01
Blood	67 (84)	40 (93)	0.02
Notification of positive blood culture result			
Within 24 h	15/67 (22)	24/40 (60)	< 0.001
Within 48 h	43/67 (64)	39/40 (98)	<0.001
Antibiotic susceptibility testing			
Always/usually	59 (74)	38 (88)	< 0.01
Restricted to sample type/patient group	8 (10)	2 (5)	0.5
Occasionally/never	3 (4)	0 (0)	0.6
Cascade reporting	38 (48)	29 (67)	< 0.01
Periodic updates of local antibiogram	36 (45)	35 (81)	< 0.001

(*Pediatr Infect Dis J* 2022;41:S3–S9)

High and LMICS



Cultural and behavioural resistance

Theme	High-Income	Low- & Middle-Income
Perceived Risk	Low perceived risk due to better infrastructure and lower HAI rates	High awareness of risk, but often normalized due to high endemic levels
Professional Autonomy	Physicians may resist guidelines that feel imposed or unnecessary	Guidelines sometimes bypass clinicians; authority-based hierarchies dominate
Workplace Culture	Fragmented IPC ownership, with high reliance on IPC teams	Collective compliance may be undermined by weak institutional support
Hierarchies	Resistance from senior staff; junior staff reluctant to challenge them	Strong medical hierarchies; nurses and support staff have little authority
Habits & Convenience	Non-compliance due to minor disruptions to workflow	Basic IPC often seen as impractical or resource-intensive

Cultural and behavioural resistance (2)

Theme	High-Income	Low- & Middle-Income
Resource Context	Protocols not followed due to behaviour, not availability	**Lack of** gloves, PPE, clean water, WASH, & ABHR undermines ability to comply
Training & Motivation	IPC training may be perceived as repetitive or irrelevant	Irregular or top-down training with low reinforcement or monitoring. **Trained by untrained staff**
Feedback Culture	Non-punitive systems may exist but are often underused	**Feedback** is rare or punitive, discouraging reporting or initiative
Peer Influence	Strong peer culture; if leaders don't comply, staff won't	Senior staff culture dominates; challenging poor practice is risky
Attitudes Toward Change	IPC fatigue or skepticism towards constant updates	High dependency on external partners (e.g., WHO) and low local ownership

Dealing with the barriers to implementation

National level

- **International pressure-** WHO, ACDC guidelines to implement IPC policy
- **Pressure from within-** Set up a society or network of likeminded IPCP providing support and mentorship programme and exchange data- seminars and conferences. Pressure group
- **Write contextually grounded evidence based guidelines** (keep it simple) and circulate through the society structure to members including government bodies
- Examine WHO **audits and surveys** of your country or similar countries within same economic band and apply
- Concentrate on **knowledge exchange** through teaching, seminars, education at scientific meetings
- **Show the cost effectiveness of IPC-** write documents showing evidence- bring to the attention of govt.
- Look for research funding to support further development of the scientific society
- *Consider WHO Core components- start with low hanging fruit*

Example of a simple instruction on HH

Dealing with the barriers to implementation

Health facility level

- Set up an IPC Team- IPC practitioners (not always full time).
- Convince CEO that IPC is cost effective- set up IPC committee working with AMS and WASH committee. Provide regular feedback
- Conduct surveillance- start small- HAI data powerful tool to help convince management of cost savings
- Can use GPPS for more local and regional comparative data
- Discussions with clinical colleagues- formal and informal discussions- inform them of their infection rates and IPC support available
- Work with engineers and other staff in your facility
- Start introducing multi modal strategies to engage other departments
- Attend national scientific meetings and present your data- PUBLISH!

High income countries – Behavioural change strategies

Barrier	Targeted Strategy
Complacency / Low Risk Perception	Case studies local data dashboards make risk visible
Professional Autonomy & Resistance	Involve clinicians in co-designing IPC policies; highlight how IPC protects their work
Workflow Disruption	Integrate IPC tools into electronic medical records (e.g., hand hygiene alerts)
Lack of Accountability	Introduce non-punitive peer audits, with team-based performance feedback- through Committees
Hierarchy and Modelling Gaps	Train and incentivize clinical leaders to model IPC behavior
Change Fatigue	Prioritize micro-changes (1–2 key behaviors at a time), reinforced with positive feedback
Social Norms	Use behavioural nudges (posters, signage, gamification); recognize top performers

Behavioural Change Strategies for LMICs

Barrier	Targeted Strategy
Resource Constraints	Focus on no-cost behaviours first (e.g., glove use, hand hygiene moments, envir. cleaning*)*
Role Confusion	Clarify individual IPC roles (written instruction); mentorship and regular ward rounds. Link nurses
Lack of Training / Refreshers	Provide on-the-job coaching and peer-led refreshers in local languages (link nurses, cleaners)
Top-down Instruction	Include senior and junior staff in problem-solving IPC barriers at facility level
Weak Feedback Systems	Create feedback loops via WhatsApp groups or similar
Fear of Punishment / Blame	Shift from blame to a culture that values reporting and learning
Low Morale / Motivation	Use visual boards to display progress IPC Boards

Cost effectiveness of an IPC programme (SA)

- Highest paid IPC specialist is $46000 per year.
- Divide cost of HAI of $4.6 billion per year.
- Can appoint 100 000 IPC specialists if HAI rates are reduced
- Paed Unit SA (TBH) – HAI costs (A Dramowski)

  Direct cost US$371,887

  Additional 2275 hospitalization days,

  2365 antimicrobial days,

  3575 laboratory investigations

IPC societies important to drive the IPC agenda and act as a pressure group to enforce IPC programmes

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REWARD AND RECOGNITION!

“Mehtar Shield” for best Ward!

Link Nurses- celebrated

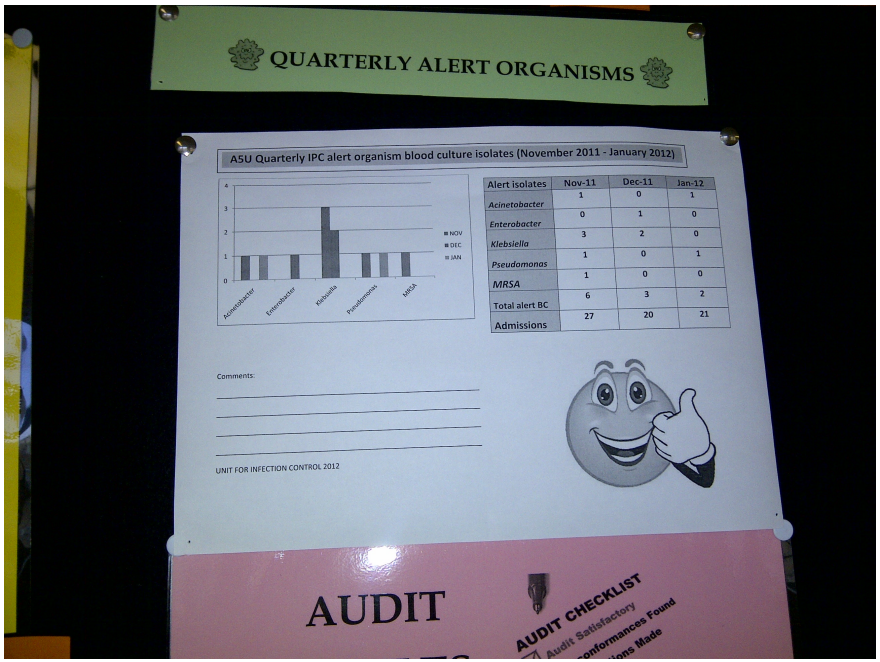
IPC notice board- WARD

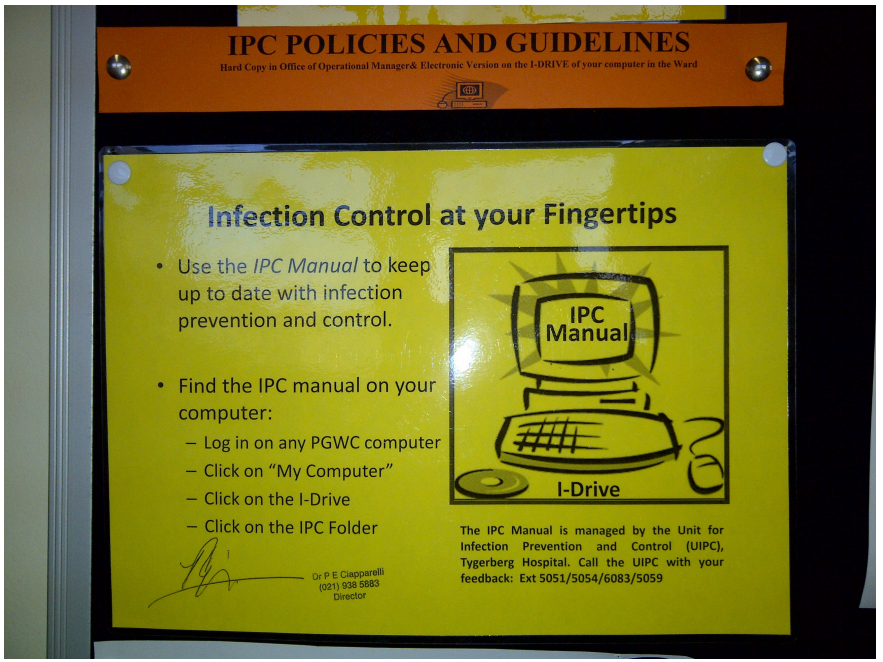
- Visible reminder of the LN programme
- Relevant IPC information
- Clinical staff can monitor their own performance

- Quarterly statistics

- IPC audits

- Assist with education – microbe of the month


QUARTERLY ALERT ORGANISMS
ASU Quarterly IPC alert organism blood culture isolates (November 2011 - January 2012)
Alert isolates | Nov-11 | Dec-11 | Jan-12
Acinetobacter | 1 | 0 | 1
Enterobacter | 0 | 1 | 0
Klebsiella | 3 | 2 | 0
Pseudomonas | 1 | 0 | 1
MRSA | 1 | 0 | 0
Total alert BC | 6 | 3 | 2
Admissions | 27 | 20 | 21
Comments:
UNIT FOR INFECTION CONTROL 2012
AUDIT
AUDIT CHECKLIST


IPC POLICIES AND GUIDELINES
Hard Copy in Office of Operational Manager& Electronic Version on the I-DRIVE of your computer in the Ward
Infection Control at your Fingertips
• Use the IPC Manual to keep up to date with infection prevention and control.
• Find the IPC manual on your computer:
– Log in on any PGWC computer
– Click on "My Computer"
– Click on the I-Drive
– Click on the IPC Folder
IPC Manual
I-Drive
Dr P E Ciapparelli
(021) 938 5683
Director
The IPC Manual is managed by the Unit for Infection Prevention and Control (UIPC), Tygerberg Hospital. Call the UIPC with your feedback: Ext 5051/5054/6083/5059

IPC Nurse time spent per week (TBH)

Nurse F/T = 40 hrs (38.5 hr)	hrs	%
Meetings and admin	10	25
High care ward rounds (n=169)	12 (4.7min/ bed)	30
General ward rounds	5* (3.4 min/bed)	12.5
Lab reports and IPC (admin)	8	20
Data collection & Comm. Disease (admin)	5*	12.5
Writing reports (admin)	2	5

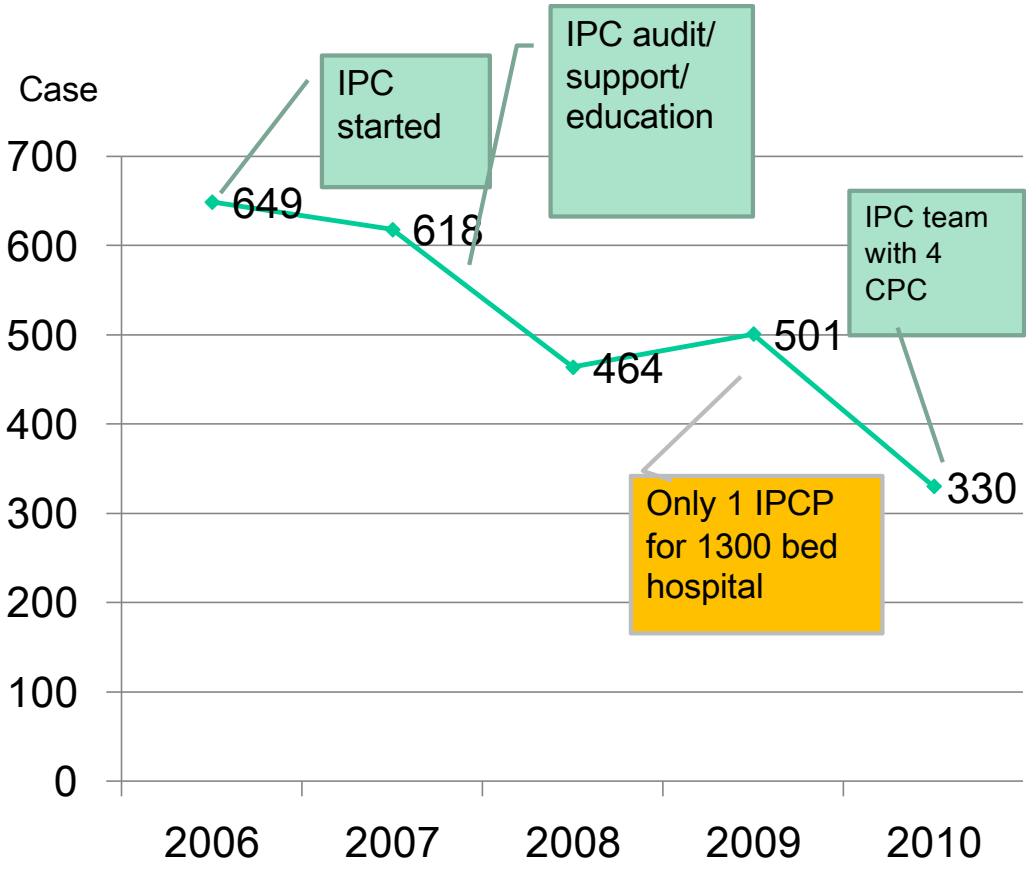
- **Some duties may over lap on ward rounds and visiting units (SSD, laundry, kitchen etc)–works out to 44 hrs**
- **DOES NOT COVER OUTBREAK RESPONSE!**

Summary Table

Cost of an ICU bed /patient per day

Setting	Typical ICU Cost (per patient per day)
EECC (basic critical care, LMIC)	US $17–21
India (LMIC, public/private)	~US $32 (1999) – $222; surgical ICU: $155/day
South Africa (public ICU)	US $1,346
COVID-19 ICU (SA)	US $271–830
Vietnam (ICU admission, ventilated)	US $4,250 (per admission)
High-income — global avg	US $2,200–6,000 per day
Australia	~AUD $5,000 (~US $3,300–3,600)
UK (adult ICU)	£1,328 (~US $2,300)
Belgium	€2,160 (~US $2,300)
USA (mean)	~US $3,660 per day; mean per patient ~$18,500

ICU infections prevented by implementing an IPC programme



Impact of IPC at TBH Feb-11		Minimum R	Maximum R
Cost per infection in ICU		25 000	50 000
(LOS increased 5 times)			
Cost reduction annually			
Year	infections #	Cost	Cost
2006- 2007	31 ↓	775000	1550000
2007-2008	154 ↓	3,850,000	7,700,000
2008-2009	47 ↑	1,175,000	2,350,000
2009-2010	171 ↓	4,275,000	8,550,000
Approx	Total savings	8,900,000	17,800,000

Rationalization of gloves use policy

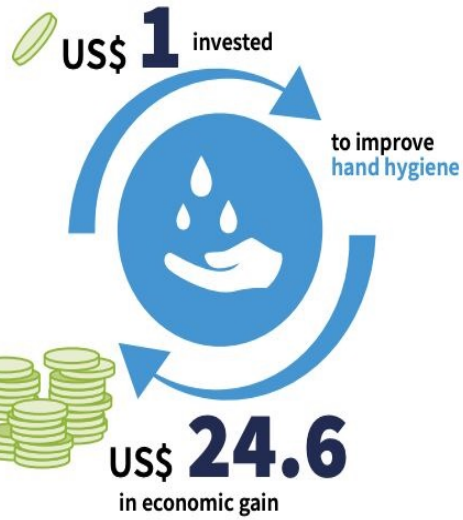
Usage	Surgical	Latex		Plastic	
		Sterile	Non-Sterile	Sterile	Non-Sterile
2004-2005	332151	7601	37674	9780	1064
2005-2006	190474	4004	24590	3173	440
% diff	42.7	47	35	67.6	58.7
Difference #	141677	3597	13084	6607	624

Cost Rands	Surgical	Latex		Plastic	
		Sterile	Non-Sterile	Sterile	Non-Sterile
2004-2005	797574	233,377.75	907789.02	452,045.98	5246.78
2005-2006	633443.53	157489	584058.43	107860.33	1646.24
% savings	19.6	32.5	35.6	76.2	68.6
Saving	164, 130.47	75,888.75	323,730.59	344,185.65	3600.54

R 911,536 saved

Summary

- Some aspects for lack of implementation are similar between high and low resource settings such as
  - behaviour,
  - clinical independence
  - lack of accountability
- In LMICs additional factors are mainly financial which affect many other areas such as
  - Infrastructure
  - Appointment of staff
  - Investing in IPC programmes
- The investment in IPC will result in a large cost savings!



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SEPTEMBER

18 ... Resource Sustainability and Challenges in the Supply Chain: Implications for Infection Prevention
With Prof. Ruth Carrico, US

23 ... Patience, Patients and Persistent Antimicrobial Resistance
Afro-European Teleclass
With Colm Dunne, UK

25 ... Development of Food Safety Training Materials Through Memory Anchors and Elevated Learning
With Prof. Keith Warriner, Canada

29 ... *IPS Conference Broadcast* – Cottrell Lecture
Afro-European Teleclass
With Dr. Neil Wigglesworth, UK

29 ... *IPS Conference Broadcast* - From Reminder to Reflex: Making IPC Second Nature
Afro-European Teleclass
With Prof. Michael Borg, Malta

30 ... *IPS Conference Broadcast* - Antimicrobial Stewardship: At the Heart of Infection Prevention
Afro-European Teleclass
With Prof. Martin Llewelyn, UK

OCTOBER

15 ... What Can Knowing Something About the Evolution of *Clostridium difficile* Teach Us About IPAC?
Australasian Teleclass
With Prof. Thomas Riley, Australia

20 ... Special Lecture for International Clean Hospitals Day
With Prof. Didier Pittet (and friends), Switzerland

21 ... Discussion: Are Current Healthcare Cleaning Guidelines Sufficient to Fight Antimicrobial Resistance Spread?
With Dr. Jon Otter, UK & Dr. Curtis Donskey, US

28 ... Research Priorities to Strengthen Environmental Cleaning in Healthcare Facilities: the CLEAN Group Consensus
Afro-European Teleclass
With Dr. Giorgia Gon, UK

NOVEMBER

11 ... The Use of Faecal Microbiota Transplant as Treatment for *Clostridium difficile*
Afro-European

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