

No Man is An Island - The Utility of Link Workers in Enhancing IPC Programs in Healthcare Settings
Dr. Martin Kiernan, University of West London
A Webber Training Teleclass

NO MAN IS AN ISLAND
THE UTILITY OF LINK WORKERS IN
ENHANCING IPC PROGRAMS IN HEALTHCARE
SETTINGS



Martin Kiernan

Visiting Professor, Richard Wells Research Centre,
University of West London

Declaration: Clinical Consultant, GAMA Healthcare

@emrsa15

Podcast: Infection Control Matters



Hosted by Karen Wares
Infection Prevention Society

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My early professional life (1990)

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- 1 ICN for
 - 1000 District General Hospital beds
 - 600 Mental Health/Learning Disability beds
 - 200 nursing and residential homes
 - 56 General Practice Surgeries
 - 100+ schools and nurseries
- Half a medical microbiologist with no defined IC time
 - No administrative support
- Also was the Tissue Viability Nurse 50% of the time



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Setting the Scene

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- For many years, I was called an Infection Control Nurse
- I wrote the policies
- I wrote the guidelines
- I provided education
- I audited practice (some of it)
- But I did not control infection, the rest (99.999% of the staff) did infection control
 - Teams are bigger these days – now only 99.9% is done by others



This had been recognised

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- “There is usually only one infection control nurse in a hospital or even a health district. She inevitably can only achieve her purpose, that of maximum prevention and control of infection, through many other human beings - the many nurses of all ages, experience, personality and motivation, whose hands may bring help or harm to their patients”
- Ashworth P. Infection control and the nursing process--making the best use of resources. J Hosp Infect. 1984;5 Suppl A:35-44. doi:10.1016/0195-6701(84)90028-8

Why Link Workers?

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- Ashworth (1984) identified the ward sister as a key person who can help nurses to understand and practice proper infection control measures
 - “understands the principles of infection control, and the importance of involving people as intelligent human beings in applying them”
 - Ashworth P. Infection control and the nursing process--making the best use of resources. *J Hosp Infect.* 1984;5 Suppl A:35-44. doi:10.1016/0195-6701(84)90028-8
- Need to support Infection Prevention and Control activities and to help embed ownership at the clinical level
- Recognition that education alone is insufficient
- Personal and professional drivers
 - Grow a new generation of infection prevention specialists

The History

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- First papers appeared in 1988/9 and focused on education
 - Horton R (1988) Linking the chain *Nursing Times* 84, 44-6
 - Cadwallader H (1989) Setting the seal on standards *Journal of Infection Control Nursing* 37, 71-2
- The Infection Control Liaison Nurse (ICLN)
 - A ward senior nurse received training in principles of infection control
 - Acted as a link between the ward and the Infection Control Team
 - Assisted in in-service education
 - Helped to motivate ward nurses to comply with control measures being introduced

Terminology

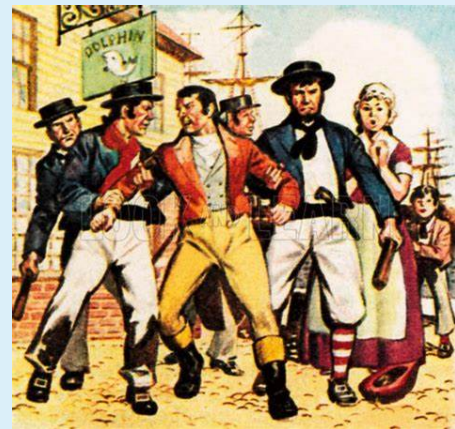
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- Link
 - Nurse
 - Worker
 - Practitioner
- Liaison Nurse
- Champion
- The list goes on..
- I used 'Worker' as our team were not just nurses

Potential Hazards

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- 'Some staff 'told' to be ICLN
 - One volunteer is worth ten pressed men
- Short meetings monthly without a structure
- Role not defined
- Objectives not defined
- Difficult to identify positive impact of role
- Role not supported by line managers
 - Time also an issue



Did they work?

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- Controlled trial to assess whether using ICLNs was effective in Hong Kong
 - Ching, T.Y. & W. H. Seto (1990) Evaluating the efficacy of the infection control liaison nurse in the hospital. *J Adv Nurs*, 15, 1128-31
- A guideline for urinary catheter care was introduced in a large teaching hospital and ICLNs were involved in the implementation
 - Education programme included a 30-minute lecture to all staff on 6 wards
 - Test wards then had small group demonstrations on the ward from the ICLNs (who were released for implementation)
- Prior to commencement, unannounced surveys conducted to assess practice

Observation of Practice

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1. Urinary catheter was to be properly secured
 2. Urinary catheter and collection tube must be kept from kinking
 3. Urine bags were to be emptied by the draining spigot into a collecting container
 - Before introducing the new guideline, usual practice was to use urine bags with no spigot; bag was changed daily, meant the closed system would be regularly breached
- Observations took place 5 weeks post-implementation
 - Lecture alone – Poor practice fell from 67% to 48% ($p < 0.01$)
 - Lecture plus ICLN – drop from 63% to 36% ($P < 0.001$)
 - ICLN vs Lecture alone significantly lower ($P < 0.05$)
 - Impact on infections?

Internationally Accepted

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- USA
 - Sopirala MM, Yahle-Dunbar L, Smyer J, Wellington L, Dickman J, Zikri N, et al. Infection control link nurse program: an interdisciplinary approach in targeting health care-acquired infection. *Am J Infect Control*. 2014;42(4):353-9.
- Australia
 - Lene MT. Improving infection control practices through staff link programmes. *Australian Infection Control*. 2002;7(1):19-26. doi:10.1071/hi02019
- MEA
 - Shabam FM. The Role of Head Nurses as Link for Infection Control at El-Behara. *ASNJ*. 2012;14(2):157.
- Europe
 - Bijl D, Voss A. Infection control in the Netherlands. *J Hosp Infect* 2001;47:169—172.
 - Melo-Cristino J, Marques-Lito L, Pina E. The control of hospital infection in Portugal. *J Hosp Infect* 2002;51:85—88.

Targeting

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- IPC Liaison in specific areas
 - Jacobsen, W. & H. Cadwallader (1999) Implementing standard precautions in the operating theatre: the role of the infection control liaison nurse. *Australian Infection Control*, 4, 7-11
 - Roberts, C. & D. Casey (2004) An infection control link nurse network in the care home setting. *Br J Nurs*, 13, 166-70.
 - Wright, J., B. H. Stover, S. Wilkerson & D. Bratcher (2002) Expanding the infection control team: development of the infection control liaison position for the neonatal intensive care unit. *Am J Infect Control*, 30, 174-8.

And in other specialties

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- Intravascular Access

- McGuire R, et al. *Br J Nurs.* 2021;30(2):S16-S22. doi:10.12968/bjon.2021.30.2.S16

- Evaluation

- 80% scored workshops as excellent, 14% good
- 87% were extremely likely to recommend the programme, 13% likely to recommend it
- 93% found it helpful in their personal and professional growth

Role	Responsibilities
<ul style="list-style-type: none"> ■ To act as a resource in the link nurse's clinical area ■ To work closely with the IV team ■ To increase awareness of infection control issues around IV devices ■ To improve quality of IV care ■ To motivate colleagues to improve practice 	<ul style="list-style-type: none"> ■ To gain competence in device insertion, access, dressing change, CVC unblocking and removal ■ To be a contact between the clinical area and the IV team ■ To work with ward manager and practice development nurses ■ To take the lead in teaching colleagues appropriate IV device care and challenge poor practice ■ To act as a resource for staff and patients ■ To share good practice with link nurse colleagues

The Role of the Link Nurse (2003)

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- Influence practice at ward level
- Data collection
- Ward education
- Cascade of evidence-based practice
- Raising the profile
- Promote the concept of 'ownership'
 - Dawson SJ. The role of the infection control link nurse. *J Hosp Infect.* 2003;54(4):251-257; quiz 320. doi:10.1016/s0195-6701(03)00131-2

Progress

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- Scoping review aimed to identify key concepts of infection control link nurses (ICLN) and ICLN programs, to evaluate the effect of such programs, and to identify gaps in the evidence base
 - Dekker M, et al. *Antimicrob Resist Infect Control*. 2019;8:20. doi:10.1186/s13756-019-0476-8
- 29 publications, identified three key concepts
 - the profile of ICLN
 - strategies to support ICLN
 - implementation of ICLN programs

Results of the scoping review

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- Lack of research evidence on the effects of infection control link nurses on guideline adherence and patient outcomes
 - Majority of included papers delineate the ICLN profile with accompanying roles, tasks and strategies to support ICLN without an evaluation of the implementation process or effects in clinical practice
 - Only two included a brief evaluation of the impact of their ICLN program on healthcare-associated infections
 - Dekker M, et al. *Antimicrob Resist Infect Control*. 2019;8:20. doi:10.1186/s13756-019-0476-8

Impact on HCAI

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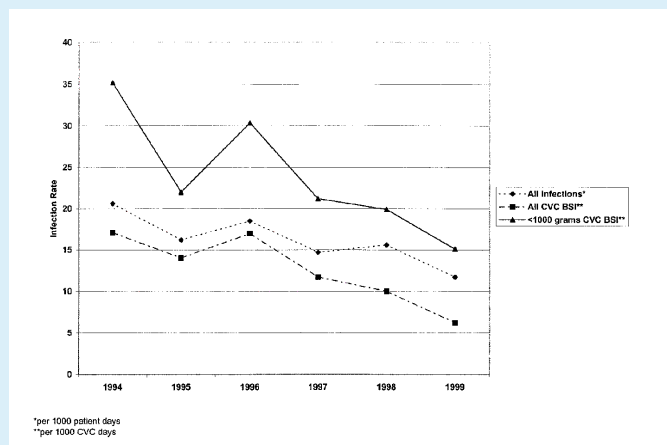
- Assisting in surveillance – before and after study showing an overall reduction in ‘infected patients’
 - No discussion of confounders etc
 - Ross KA. A program for infection surveillance utilizing an infection control liaison nurse. *Am J Infect Control*. 1982;10(1):24-28. doi:10.1016/0196-6553(82)90036-0



Second paper examining effect on HCAI

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- Multiple educational interventions
- Review of cannula type
- Implementation of new products
 - Wright J, et al. Expanding the infection control team: development of the infection control liaison position for the neonatal intensive care unit. *Am J Infect Control*. 2002;30(3):174-178. doi:10.1067/mic.2002.119927



Impact on MRSA

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- Link nurse focus on hand hygiene
 - Worker undertook 10 audits per month
 - Incentive for the best unit (lunch!)
- Hand Hygiene improved from 30% to 93%
- MRSA acquisition reduced by 28%
- MRSA Bacteraemia reduced by 41%
- Avoided cost of \$7,002,666
 - Sopirala MM, et al. Infection control link nurse program: an interdisciplinary approach in targeting health care-acquired infection. *Am J Infect Control*. 2014;42(4):353-359. doi:10.1016/j.ajic.2013.10.007



Challenges

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- Link practitioners are widely used
 - It seemed to be 'the done thing' to have a link nurse programme
- Variation in what they are called, how they are used and the support they receive
- Expectations of the role and purpose vary
- Programmes are rarely evaluated
- Need to avoid 'improvement evaporation'
- Creating a post that is desirable rather than onerous

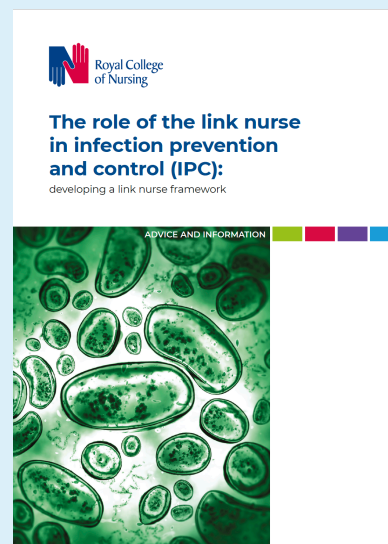


Difficulties recognised

- High turnover of staff, the need for adequate training time, recognition and monitoring of the link programme and the sustained effort required to achieve an enthusiastic and informed link team
- In a national survey, 7% of NHS Organisations had tried ICLN groups and abandoned them
 - Comptroller and Auditor General. The management and control of Hospital Acquired Infection in Acute NHS Trusts in England. National Audit Office, London; 2000.
- Only 2 of 13 ICLNs still in post 2 years later
 - Holliday AJ, Murdoch S. Nursing homes infection control audit. Health Bull 2001;59:356—363
- Personal commitment is required – up 80% may attend in their own time
 - Bawn R, Matthews T. Improving palliative care. Nurs Times 2002;98:34—35.

Professional Support

- Royal College of Nursing guidance on developing a link nurse framework (2021)
 - Available from <https://www.rcn.org.uk/Professional-Development/publications/rcn-role-of-the-link-nurse-in-infection-prevention-and-control-uk-pub-009595> (accessed 29th November 2022)
 - Authored by Kim Manley and Rose Gallagher
- Also provided attributes and competencies for link workers



Enabling factors for successful implementation

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- Individual:
 - role clarity – for example a role profile in place
 - up-to-date knowledge, skills and understanding about IPC best practice
 - knowledge and skills to facilitate both learning in and from practice



Enabling factors for successful implementation

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- Workplace
 - interdisciplinary team recognise and value role
 - active support with engagement from clinical leaders, managers, senior nurses and all members of the team
 - access to best practice guidelines and evidence-based practice local opportunities to regularly review IPC measures, indicators and practice

Organisational Enabling Factors

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- Organisational and senior management endorsement, support and active commitment to the role
- Governance systems in place for monitoring IPC practice and outcomes
- Regular board reporting and discussion



Core Competency I

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- Acts as role model and is a visible advocate for IPC by:
 - providing a visible presence and being accessible in the workplace to clinical teams, patients and service users
 - working alongside the clinical team, acting as a role model who demonstrates and promotes best practice at all times
 - providing positive feedback to members of the clinical team to support the celebration of success
 - challenging/managing poor practice with other local team members and supporting staff to review and rectify behaviour.



Core Competency 2

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- Enables individuals and teams to learn and develop IPC practice
 - working alongside clinical team members, particularly students and practice facilitators, to generate creative opportunities for learning
 - working with local leaders/managers to develop a culture of learning and development that will sustain improvements in IPC by learning from incidents/complaints and local data supporting evaluation of IPC practice
 - utilising opportunities to learn and develop their own IPC knowledge and skills in, and from, practice
 - supporting local IPC teams through attending and contributing to LN meetings



Core Competency 3

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- Communication and Networking
 - collaborating and communicating regularly with the IPC team, supporting them and clinical team members as a local resource for IPC
 - developing innovative ways to communicate IPC information including best practice standards and relevant supportive resources
 - supporting local clinical leaders and managers in their IPC role through regular two-way communication
 - promoting or establishing networks relevant to their role within local governance structures.



Core Competency 4

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- Supports individuals and teams in local review/audit/surveillance (optional)
 - together with leaders/managers, facilitating ownership of audit/surveillance by the whole local clinical team
 - acting as a local resource for audit/surveillance expertise, through the education and training of the local clinical team



Outcomes for the Link Worker

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- Role is recognised and supported by wider multidisciplinary team (MDT)
- Role satisfaction, continued commitment and motivation
- Enhances professional and personal development



Outcomes for the Workplace

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- Best practice standards and guidelines implemented
- Role actively used by the wider MDT
- IPC learning is identified and implemented
- Reduced IPC-related complaints and incidents
- Culture for networking and mutual support is created
- Success celebrated
- Sustainable body of local IPC expertise created



Outcomes for the Organisation

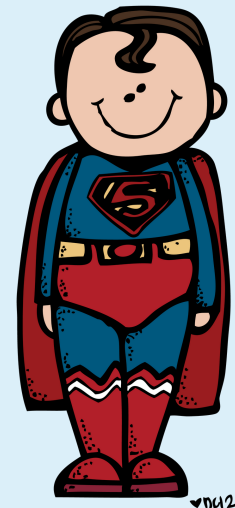
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- IPC practice is standardised across organisation
- Findings from reviews/surveillance and audit are implemented
- Corporate objectives are met, including those around learning and development
- IPC is considered everyone's business and responsibility
- IPC is embedded within clinical practice
- Increased uptake and interest in link role enabling sustainability
- Positive media messages are developed

Core Behaviours (RCN, 2021)

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- Passionate about infection prevention and control (IPC)
- Responsible for own actions
- Active participant in LN network/system
- Approachable
- Non-judgemental
- Inclusive
- Reflective
- Respectful



Education is critical

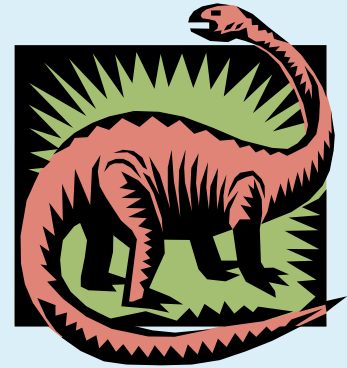
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- Link workers need education and support and this should be done in a structured manner
 - Cooper, T. (2001) Educational theory into practice: development of an infection control link nurse programme. Nurse Educ Pract, 1, 35-41.
 - Teare, E. L., A. J. Peacock, H. Dakin, L. Bates & J. Grant-Casey (2001) Build your own infection control link nurse: an innovative study day. J Hosp Infect, 48, 312-9.
 - Cooper, T. (2004) Delivering an infection control link nurse programme: improving practice. British Journal of Infection Control, 5, 24-27.



Educational Dangers

- No input to programme by ICLN's
- ICN sets content
- Little networking
- Follows traditional educational model
- ..a bit of a dinosaur!



A national examination

- Mixed methods study: Questionnaire and interview
 - 74 Hospitals in the Netherlands; 72 took part, Link nurse program present in 67%
 - Responsibility for 76% of programs lied solely with the IPCT
 - 29% not supported by management
 - Core component of 90% programs was education, those that included implementation skills perceived as more effective
 - Programs were initiated by the infection prevention team with the intention to collaborate with other departments to improve practice
 - Dekker M, et al. Infection control link nurse programs in Dutch acute care hospitals; a mixed-methods study. *Antimicrob Resist Infect Control*. 2020;9(1):42. doi:10.1186/s13756-020-0704-2

My main problem is

- It's all potentially a bit one way
 - IPC team educate the link workers
 - IPC Team direct the activity of the link workers
- Are we missing an opportunity?
 - Link workers may have specific expertise and certainly have experience of local activity
 - Are we really using these valuable team members optimally?
 - Could they, for example write the local policy or guideline?

Meanwhile back on the planet.. Erik Hollnagel

- Work as imagined
 - Policy, procedure etc
 - The 'best' way, the basis for design, training and control
- Work as done
 - What really happens, what we have to do to get the job done
 - Er.. Often suboptimal
- How well do those (us) writing a policy or guideline really understand the issues at the point of delivery?
 - A policy or guideline that has taken years to develop may fail within hours at the sharp end

My issues

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- Who knows what the staff think of the effectiveness of 'their' Liaison Worker?
- Is there any really solid evidence that having them reduces infection?
 - Yes, they may improve practice/implementation but does this translate into reductions in infections? Good studies needed
 - Otherwise how do we demonstrate cost-effectiveness/cost-saving and therefore value to management?
- Could we demonstrate how this helps people develop?
- Does it bring people into IPC (or drive them away?)



Can programs be improved?

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- Aimed to identify implementation strategies for ICLN programmes in acute-care hospitals using a Consolidated Framework for Implementation Research (CIFR)* construct approach
- Expert panel matched 19 implementation and sustainment barriers, identified in previous studies and used a Delphi method distil the 10 most important strategies to address barriers
 - Dekker M, et al. Strategies to improve the implementation of infection control link nurse programmes in acute-care hospitals. J Hosp Infect. 2022;128:54-63. doi:10.1016/j.jhin.2022.07.005

*Damschroder LJ, Aron DC, Keith RE, Kirsh SR, Alexander JA, Lowery JC. Fostering implementation of health services research findings into practice: a consolidated framework for advancing implementation science. Implement Sci 2009;4:50.

Barriers identified

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- Infection control has no priority at the hospital level
- The role of link nurses is not defined
- ICLNs are not accepted by medical staff
- ICLN programmes are initiated, developed and implemented solely by infection control practitioners
- Responsibility to educate link nurses lies with infection control practitioners Interconnecting link nurses from various departments to exchange experiences and best practices is challenging
- Only half of link nurse programmes are evaluated

Top 10 implementation strategies

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- Identify and prepare champions
- Conduct local consensus discussions
- Assess for readiness and identify barriers and facilitators
- Inform local opinion leaders
- Facilitation
- Create a learning collaborative
- Conduct local needs assessment
- Develop a formal implementation blueprint
- Build a coalition
- Identify early adopters

Using strategy to overcome barriers

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Barrier	Implementation strategies
Infection control has no priority at the hospital level	Conduct local consensus discussions; identify and prepare champions; alter incentive/allowance structures; access new funding; assess for readiness and identify barriers and facilitators
The role of link nurses is not defined	Make training dynamic; identify and prepare champions; promote adaptability; develop educational materials; create a learning collaborative

Using strategy to overcome barriers

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Barrier	Implementation strategies
ICLNs are not accepted by medical staff	Identify and prepare champions; inform local opinion leaders; conduct educational meetings; facilitation; assess for readiness and identify barriers and facilitators
ICLN programmes are initiated, developed and implemented solely by infection control practitioners	Identify and prepare champions; develop a formal implementation blueprint; conduct ongoing training; assess for readiness and identify barriers and facilitators; develop and implement tools for quality monitoring

Using strategy to overcome barriers

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Barrier	Implementation strategies
Responsibility to educate link nurses lies with ICPs	Identify and prepare champions; inform local opinion leaders; identify early adopters; conduct local consensus discussions; create a learning collaborative
Interconnecting link nurses from various departments to exchange experiences and best practices is challenging	Organize clinician implementation team meetings; conduct local consensus discussions; build a coalition; promote network weaving; facilitation
Only half of link nurse programmes are evaluated	Develop and implement tools for quality monitoring; audit and provide feedback; develop and organize quality monitoring systems

Identification of Champions

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- Individuals that have informal influence and actively support the link nurse programme during implementation
- Help overcome resistance that hamper implementation, shift the perception of key stakeholders and influence individuals in an organization who formally or informally influence the attitudes and beliefs of their colleagues with respect to the implementation of the programme
- Champions can influence the organizational culture



Use of Champions

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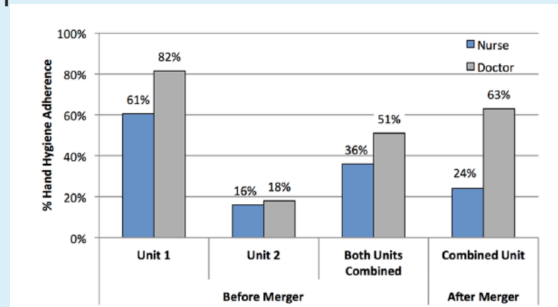
- Qualitative study in 14 hospitals looking at the implementation of new technology
 - It was possible for a single well-placed champion to implement a new technology, but more than one was needed when a change required people to change behaviours
 - Champions in hospitals with low-quality working relationships across units or professions had a particularly challenging time implementing behavioural change
 - Just 'appointing' champions is ineffective
 - successful champions tended to be intrinsically motivated and enthusiastic about the practices they promoted
 - Damschroder et al., Qual Saf Health Care, 2009. 18(6): p. 434-40

When Two Become One

Petrilli et al., Journal of Infection Prevention, 2017

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- Looked at what happened when two Infectious Disease units merged



- Medical staff had a committed champion, the nurses did not
- Medical staff goal adherence rate was 75–100%, while the nurses thought 50–70% adherence was acceptable

Peers as effective change agents

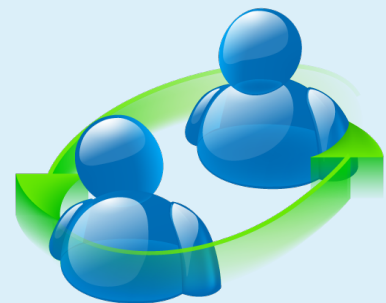
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- Study on effect on hand hygiene of peer-identified change agents (PICAs) compared to management-selected change agents (MSCAs)
 - Slightly more improvement in the PICA group but p=NS
 - PICA group improved hand hygiene because they did not want to disappoint the efforts taken by peers
 - MSCA group felt pressured to comply with hand hygiene to obtain good overall performance appraisals
 - Lee, Y.F., et al., Hand hygiene promotion delivered by change agents-Two attitudes, similar outcome. *Infect Control Hosp Epidemiol*, 2020. 41(3): p. 273-279

Peers are listened to

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- Embedded a compliance coach (RN with experience in central line management into units managing these devices
 - conducted unannounced audits of central venous access device dressings, using a model of observation, data capture, coaching, and reporting, followed by focused education
 - Buchanan et al, *American Journal of Infection Control* (2019) 47(1)
- Results
 - Clean/dry/intact dressing compliance improved from 64% to 84% (P = .0001)
 - CHG sponge placement improved from 54% to 78% (P = .0001)
- Feedback was instant and non-punitive from a peer



My tips - beginning a Group

- Start small and build
 - Target the higher risk areas but beware they may be resistant
- Try and develop a team culture in the link group
 - They will support each other
- Do not force membership if there is no-one willing
 - *"It's better to have a hole in your team than an asshole"* Dan Jacobs, Head of Talent, Apple
- Demonstrate success and others will follow

Selection

- One volunteer is worth ten pressed men
- Find someone who is enthusiastic
 - You can teach them infection prevention, you cannot teach them enthusiasm (at the beginning)
- Find out what motivates them and work with that
 - To be the best; Not to be the worst
- Useful to find out who is the opinion leader in the area

Using opinion leaders Seto et al; AJIC (1991)

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- Opinion leaders are members of a group with significant social influence over the others in a group
 - New information must be accepted by these leaders before it can be transmitted to the rest of the group
 - Opinion leaders identified by peers using a simple scoring method
- Opinion leaders involved in the development of an intervention and in undertaking the education
 - New information better received

What worked in my hospital?

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- Varied group
 - Nurses, Healthcare assistants, Cleaners, Porters, Laboratory Scientists
 - All have expertise in their area and can be used to teach others
- Surveillance
 - Assisted with data collection
 - Hand hygiene (Peer audit), Device prevalence, Environment
- Dissemination
 - Passing on information on current rates and trends
- Education
 - Passed on from link worker to departmental staff
- Could be seconded in to the team
 - Three became Infection prevention and control nurses

An effective link group

- Building it is not easy
- Sustaining it is even more difficult
- But it is worthwhile on so many levels
 - For the IPC Team
 - For the worker
 - For the workplace
 - For the organisation
- But most importantly, for the patients!

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HOSPITAL TRANSMISSION NETWORKS: WHAT DO WE REALLY KNOW?

December 8, 2022 Speaker: **Dr. Hugo Sax**, Bern University Hospital and University of Bern, Switzerland

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