A Web Based Educational Material Can Be Used In A Multimodal Approach To Change Hygienic Behavior Of Health Care Workers



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Background

Hand hygiene is recognized as one of the cornerstones in infection control practice but compliance to the guideline is low. To increase compliance the approach has to be multi-faceted and multimodal. Teaching hand hygiene is primarily done by

lectures and bedside learning – but this is time consuming. A new interactive teaching is needed.

Objective

The aim is to clarify the educational challenges for a material that can support behavioral change.

Methods

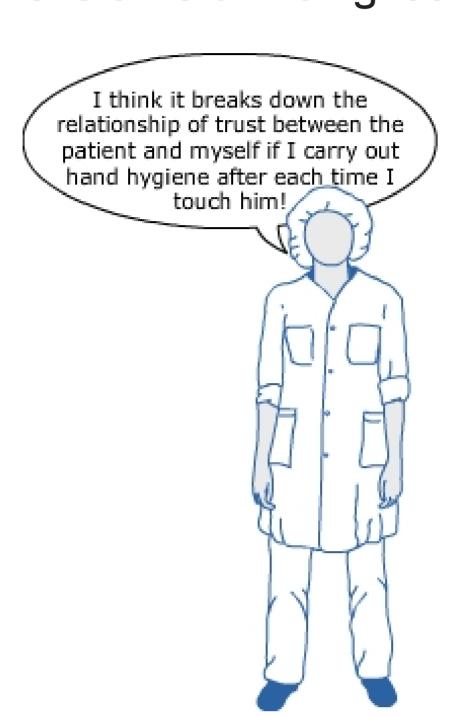
Literature review, 1700 questionnaires based on decision theory, (multi attribute utility) and 15 qualitative semi structured interviews were conducted among HCW. Data were analyzed and discussed on the basis of theories on action, experience, reflective thinking, control and rituals. Best design of an educational material was chosen. Design and content were tested on HCW.

Results

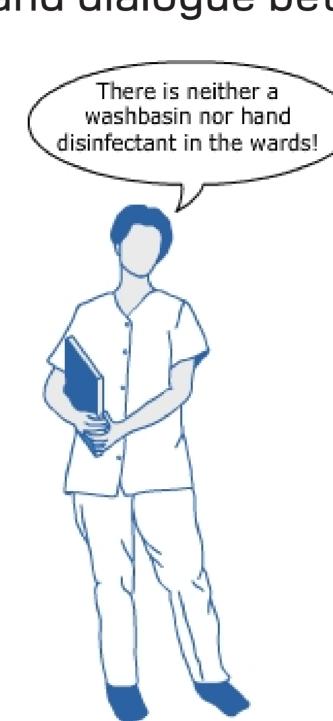
The pre investigation suggested that hand hygiene is a field with great implications on interactions and dialogue between individuals.

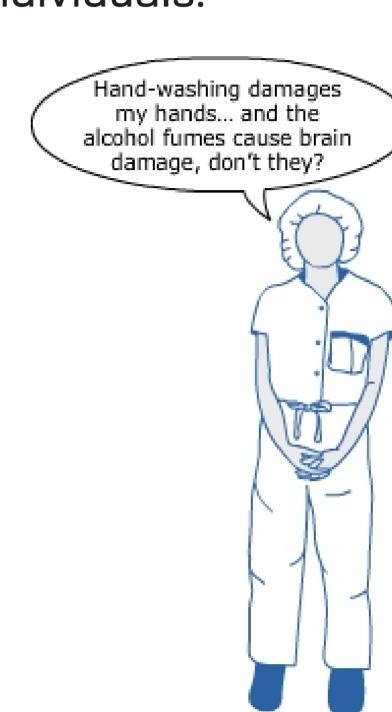




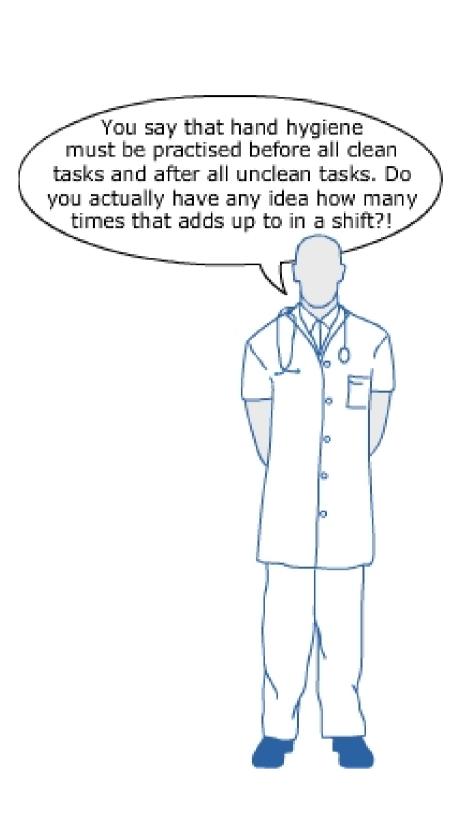












Reflections on learning

You learn and change behavior by motivation.

Your motivation is generated from the possibility to reflect on action:

- experimenting
- exploring
- having a constructive dialoque on hand hygiene with peers

e-Learning can promote this!

User survey

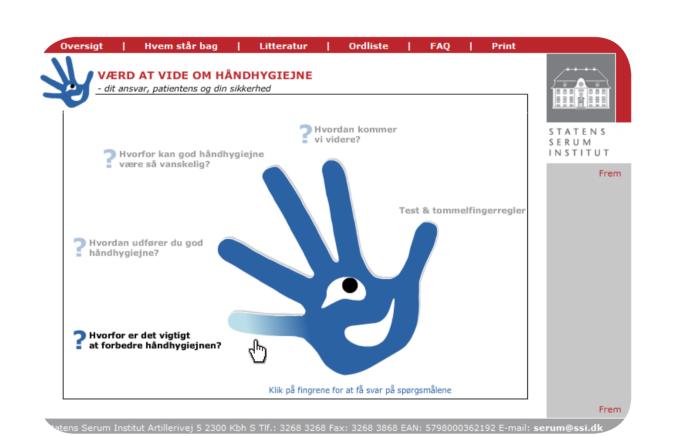
- •600 weekly visitors (nurses, doctors, teachers and students from the healthcare sector, colleagues from adjoining fields)
- •age 20-60+
- •8 minutes/13 pages/visitor
- •60 % first time users
- •75 87 % very satisfied with accessibility, navigation, content and design
- •90 % would recommend it to others.

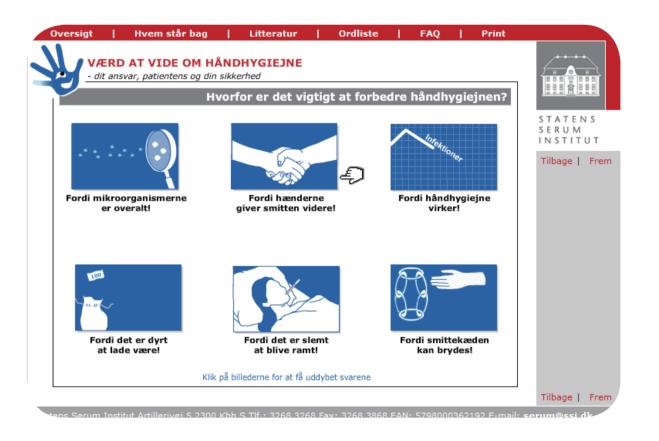
Webanizer (2012), web questionnaire 2008

Design

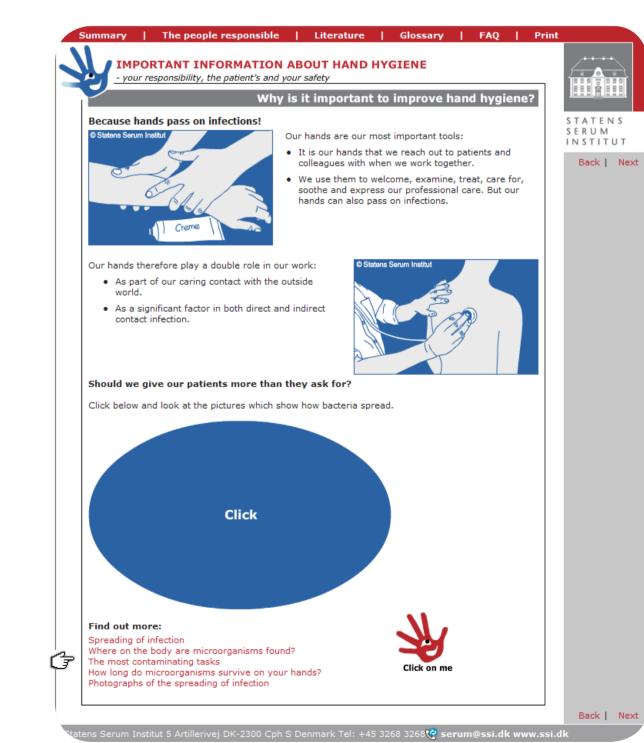
- Explorative design with 3 levels (Need to know, Nice to know, Really nice to know) supports reflections on action
- Should appeal to all learning styles
- Text, pictures/videos, illustrations, games, test, graphs

Mozilla Firefox or Internet Explorer, Flash plugin, Direct X compatible sound file, 512 MB RAM, Screen resolution 1024 x768, Dual ISDN 256 kb), Document format doc, .pdf, .png, .jpg.

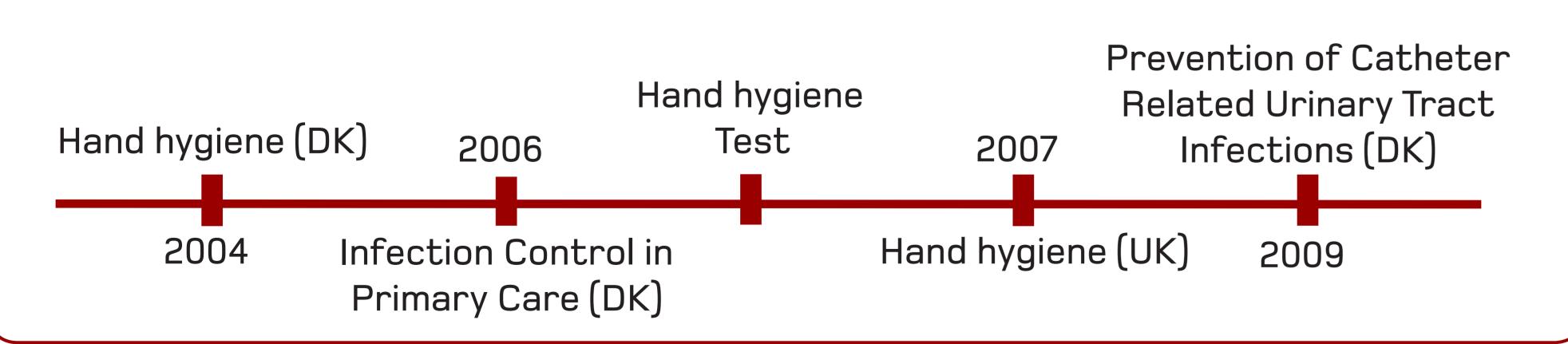




Need to know



Status on web based educational material launched on www.ssi.dk



Really nice to know

JS National Library of Medicine National Institutes of Health	PubMed Advanced		Sea	arch
Display Settings: Abstra	ct		Send to: ✓	ELSEVIER FULL-TEXT ARTICLE in PubMed Central
J Hosp Infect, 2003 Aug;54(4):310-5. A comparison of the bacteria found on the hands of 'homemakers' and neonatal intensive care unit nurses.			Save items	
		ntensive		
			Add to Favorites ▼	
<u>viello AE, Cimiotti J, Della-Lat</u>	<u>a P, Larson EL</u> . Public Health, Columbia University, New \	York MV USA		
			Related citations in PubMed	
Abstract This prevalence study was conducted to compare the counts, types and antimicrobial resistance profiles of bacterial flora on the hands of individuals in the community to that of nurses at a nearby university teaching hospital, with an intense hand hygiene regimen. Hand cultures were obtained from 204 individuals during a home visit and 119 nurses in two neonatal intensive care units (NICUs). The mean total log counts of organisms were 5.73 and 5.24 for the homemakers [defined as the person (usually the mother) who is the primary person			Gram-negative bacilli associated with catheter-associa [Pediatr Crit Care Med.	
			Prevalence and clinical relevance of Staphyloco [Infect Control Hosp Epiden	
				Otaphyloco [inicct Control Floop Epiden
esponsible for arranging chi Acinetobacter Iwoffii, Entero	dcare, cooking, cleaning etc] and pacter cloacae, Klebsiella pneumo	nurse hands, respectively (P<0.0001). Significantly more honiae, Pseudomonas aeruginosa, P. fluorescens/putida, and	omemakers had Staphylococcus	Antimicrobial-resistant pathogens in inte care units [Antimicrob Agents Chemothe
esponsible for arranging chi Acinetobacter Iwoffii, Entero aureus on their hands comp epidermidis, and S. warneri	dcare, cooking, cleaning etc] and pacter cloacae, Klebsiella pneumo ared with the nurses (all P<0.05). I on their hands (P<0.05). Of note, t	nurse hands, respectively (P<0.0001). Significantly more ho	omemakers had I Staphylococcus Ilis, S. Iidis strains	Antimicrobial-resistant pathogens in inte
esponsible for arranging chi Acinetobacter Iwoffii, Entero aureus on their hands comp ppidermidis, and S. warneri esistant to amoxicillin/clavu befazolin, clindamycin, and ciprofloxacin-resistant S. wa	dcare, cooking, cleaning etc] and pacter cloacae, Klebsiella pneumo ared with the nurses (all P<0.05). In on their hands (P<0.05). Of note panate, cefazolin, clindamycin, ery poxacillin (P<0.05). Surprisingly, sig- meri was recovered from the hand-	nurse hands, respectively (P<0.0001). Significantly more honiae, Pseudomonas aeruginosa, P. fluorescens/putida, and However, significantly more nurses had Enterococcus faeca he hands of nurses harboured significantly more S. epiderm	omemakers had I Staphylococcus ilis, S. iidis strains illin/clavulanate, epidermidis and nces in	Antimicrobial-resistant pathogens in inte care units [Antimicrob Agents Chemothe Antimicrobial resistance patterns of colo



Nice to know

Conclusions

- With its possibilities of supporting different learning styles and create room for reflection the internet is an excellent medium for teaching infection prevention and control.
- It gives room for privacy but can also initiate joint ownership for implementation and evaluation of infection control guidelines.
- With limited economical resources and little time for classic educational sessions e-Learning is costly to produce but inexpensive to use. A downloadable app could be next step.

