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Automatic monitoring of hand hygiene

Submission date	Recruitment status	[_] Prospectively registered
13/01/2012	No longer recruiting	[_] Protocol
Registration date	**Overall study status**	[_] Statistical analysis plan
27/03/2012	Completed	[X] Results
Last Edited	**Condition category**	[_] Individual participant data
25/08/2016	Infections and Infestations	

Plain English summary of protocol

Background and study aims
Hand hygiene is essential in preventing the spread of infection between patients in hospital wards. However, measuring the compliance of staff with hand hygiene can be difficult in single rooms or when bed curtains are used. Observers can only monitor for periods of 20 minutes and not at night. This study aims to establish if automatic monitoring of hand hygiene and patient contact improves compliance with feedback of results and is acceptable to patients and staff. Patients in wards where the equipment is installed will be asked to participate. Written informed consent is required.
A monitoring system (VeraMedico) has been devised by Veraz Ltd that can detect the use of alcohol gel through monitoring alcohol vapour and the use of soap and water through a device implanted in the waste outlet. Further devices are attached to furniture and equipment in the patients immediate environment (the patient zone) including the bed, locker and chair. Staff members wear a badge attached to the uniform on the upper chest. The devices detect contact between the staff member and the patient or any item of tagged furniture or equipment in the patient zone and can display a traffic light according to whether hand hygiene is needed before patient contact. The hand hygiene opportunities (points where hand hygiene is required) and compliance are automatically recorded.

Who can participate?
Nurses and junior doctors on three wards

What does the study involve?
Independent visual observation would be conducted by research staff in two 20-minute sessions at set times during each day. The following phases will be included.
1. Two weeks visual observation only.
2. Two weeks observation with badges set at green and no feedback. The equipment would monitor the rate of hand hygiene.
3. Two weeks no intervention.
4. Two weeks observation plus badges working with colour change and feedback to professional. groups or on request the individual.
5. Eight weeks no intervention.
6. Two weeks monitoring with no badge colour change.
Spot checks of contamination of the high contact sites within the monitored zone would be made at random each day to determine the rate of hand transmission of pathogens.

What are the possible benefits and risks of participating?
Potential benefits are that staff hand hygiene will improve, reducing the risk of hospital-acquired infection. However, patients will be able to see if the staff member has or has not washed hands and may be concerned as a result. Patient group representatives have been involved in the study and will be available on the ward to deal with any concerns.

Where is the study run from?
University College London Hospitals (UK)

When is the study starting and how long is it expected to run for?
February 2012 to May 2012

Who is funding the study?
Veraz Ltd (UK)

Who is the main contact?
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Contact information

Type(s)
Scientific

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Additional identifiers

EudraCT/CTIS number

IRAS number

ClinicalTrials.gov number

Secondary identifying numbers
v8

Study information

Scientific Title
Trial of hand hygiene monitoring system protocol: a cohort sequential study

Study objectives
The hand hygiene monitoring system records hand hygiene compliance accurately and results in an improvement in compliance

Ethics approval required
Old ethics approval format

Ethics approval(s)
NRES Committee London - Bentham, 18/07/2011, ref: 11/LO/0731

Study design
Cohort sequential

Primary study design
Observational

Secondary study design
Cohort study

Study setting(s)
Hospital

Study type(s)
Prevention

Participant information sheet
Not available in web format, please use the contact details below to request a patient information sheet

Health condition(s) or problem(s) studied
Hospital-acquired infection

Interventions
No patients will be fitted with equipment in this study. The equipment will be placed on beds, tables, chairs and sinks. The staff will wear badges that sense alcohol vapour and receive wifi information on whether hand hygiene has been performed before contact. The study will follow phases with no intervention, with the badges working but no feedback of information to staff or patients, badges working with feedback to staff and patients and then repeat observations to determine if there is any long lasting effect on hand hygiene.

Intervention Type
Device

Primary outcome measure
A daily report of hand hygiene compliance would be provided and displayed in the nurses station in each ward. Patients would be able to see the colour of badges worn by staff caring for them. Patients and staff would be approached with a simple questionnaire at the end of the

monitoring (or when they were about to leave the ward if sooner) to determine acceptability of the system.

Secondary outcome measures
The effect of the system on hand hygiene and carriage of pathogens would be determined. Subset analysis would be attempted to examine the effect on each type of ward.

Overall study start date
29/01/2012

Completion date
29/05/2012

Eligibility

Key inclusion criteria
1. Able to give written informed consent
2. Over 18 years
3. Patient or member of staff on target ward

Participant type(s)
Mixed

Age group
Adult

Lower age limit
18 Years

Sex
Both

Target number of participants
20 staff and 20 patients

Key exclusion criteria
1. Unable to give written informed consent
2. Paramedical staff

Date of first enrolment
29/01/2012

Date of final enrolment
29/05/2012

Locations

Countries of recruitment
England

United Kingdom

Study participating centre
University College London Hospitals
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Sponsor information

Organisation
University College London Hospitals (UK)

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Sponsor type
Hospital/treatment centre

ROR
https://ror.org/042fqyp44

Funder(s)

Funder type
Industry

Funder Name
Veraz Ltd (UK)

Results and Publications

Publication and dissemination plan

Not provided at time of registration

Intention to publish date

Individual participant data (IPD) sharing plan

IPD sharing plan summary

Not provided at time of registration

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article	results	01/10/2014		Yes	No