

Automatic monitoring of hand hygiene

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Registration date 27/03/2012	Overall study status Completed	<input type="checkbox"/> Protocol
Last Edited 25/08/2016	Condition category Infections and Infestations	<input type="checkbox"/> Statistical analysis plan
		<input checked="" type="checkbox"/> Results
		<input type="checkbox"/> Individual participant data

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?

Dr Peter Wilson

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Contact information

Type(s)

Scientific

Contact name

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Contact details

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Additional identifiers

Protocol serial number

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

Study type(s)

Prevention

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(s)

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.

Key secondary outcome(s)

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.

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

Healthy volunteers allowed

No

Age group

Adult

Lower age limit

18 years

Sex

All

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**

United Kingdom

England

Study participating centre

University College London Hospitals

London

United Kingdom

W1T 4EU

Sponsor information**Organisation**

University College London Hospitals (UK)

ROR

<https://ror.org/042fqyp44>

Funder(s)

Funder type

Industry

Funder Name

Veraz Ltd (UK)

Results and Publications

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