BRIEF SUMMARY

[0009] There is disclosed a sensor that is external to a hand hygiene product dispenser and that identifies actuations of the dispenser. Integration of the monitoring sensor into the internal workings of the dispenser is not required. Therefore a monitoring system including this sensor is not inherently tied to a specific dispenser or dispenser manufacturer. The present technology facilitates adoption of a monitoring system by avoiding the barrier to implementation of a monitoring system that is raised by the cost and effort of replacement of dispensing equipment and a potential change in hand hygiene product supplier.

[0009a] A first aspect of the present invention provides a method of identifying and reporting use of a hand hygiene product dispenser, the method comprising the steps of: providing a sensor from which a sensor field extends adjacent to the hand hygiene product dispenser; operating the sensor to sense activity in the sensor field, comprising operating the sensor to sense the presence of an object in the sensor field; determining whether the sensed activity indicates use of the dispenser, wherein the sensed activity is considered as being indicative of a use of the dispenser if the length of time that the object is present in the sensor field is neither longer than that of a hand hygiene event nor shorter than that of a hand hygiene event; communicating to a monitoring system an indication that the dispenser has been used.

[0009b] A second aspect of the present invention provides a monitor for identifying and reporting to a monitoring system use of a hand hygiene product dispenser, the monitor comprising: a case that is separate from the product

dispenser; a sensor that is mounted to the case, that extends a sensor field from the case; processing components that receive communications from the sensor indicative of an object being present in the sensor field of the sensor, and that determine whether the communications from the sensor indicate use of the dispenser , wherein the received communication is considered as being indicative of a use of the dispenser if the length of time that an object is present in the sensor field is neither longer than that of a hand hygiene event nor shorter than that of a hand hygiene event; and communication components connected to the processing components, the communication components communicate with the monitoring system to report use of the dispenser.

[0010] There is disclosed a sensor which has sensor field that encompasses a region that is adjacent to a section of the dispenser where an object is present when the dispenser is actuated and dispenses a product.

[0011] The present disclosure also relates to providing a sensor from which a sensor field extends to a region adjacent to a hand hygiene product dispenser in which the presence of an object is highly indicative of use of the dispenser.

[0012] The present disclosure also relates to determining that a hand hygiene event has occurred based on a sensor indication of an object within a sensor field and communicating that occurrence to a system that monitors use of dispensers.

[0013] There is also disclosed a sensor that communicates with a monitoring system, that is positioned adjacent to a hand hygiene product dispenser and that is physically and functionally separate from the dispenser.

CLAIMS

1. A method of identifying and reporting use of a hand hygiene product dispenser, the method comprising the steps of:

providing a sensor from which a sensor field extends adjacent to the hand hygiene product dispenser;

operating the sensor to sense activity in the sensor field, comprising operating the sensor to sense the presence of an object in the sensor field;

determining whether the sensed activity indicates use of the dispenser, wherein the sensed activity is considered as being indicative of a use of the dispenser if the length of time that the object is present in the sensor field is neither longer than that of a hand hygiene event nor shorter than that of a hand hygiene event;

communicating to a monitoring system an indication that the dispenser has been used.

2. The method of claim 1, wherein the sensor field extends to include a location at which hand hygiene product is dispensed.

3. The method of claim 2, wherein activity is sensed in the sensor field based on the presence of a user's hand receiving hand hygiene product from the dispenser.

4. The method of claim 1, wherein the hand hygiene dispenser includes a lever that causes the hand hygiene dispenser to dispense an amount of a hand hygiene product and the sensor field includes the lever.

5. The method of claim 1, wherein the step of communicating comprises wireless communication with a monitoring system.

6. A monitor for identifying and reporting to a monitoring system use of a hand hygiene product dispenser, the monitor comprising:

a case that is separate from the product dispenser;

a sensor that is mounted to the case, that extends a sensor field from the case;

processing components that receive communications from the sensor indicative of an object being present in the sensor field of the sensor, and that determine whether the communications from the sensor indicate use of the dispenser, wherein the received communication is considered as being indicative of a use of the dispenser if the length of time that an object is present in the sensor field is neither longer than that of a hand hygiene event nor shorter than that of a hand hygiene event; and

communication components connected to the processing components, the communication components communicate with the monitoring system to report use of the dispenser.

7. The monitor for identifying and reporting to a monitoring system use of a hand hygiene product dispenser of claim 6, wherein the sensor comprises an infrared transmitter and an infrared receiver, and the infrared receiver communicates to the processing components when infrared light emitted by the infrared transmitter

is reflected to the infrared receiver and the processing components determine whether an object is present in the sensor field.

8. The monitor for identifying and reporting to a monitoring system use of a hand hygiene product dispenser of claim 6, wherein the sensor comprises an ultrasonic sensor, the ultrasonic sonic sensor communicates to the processing components when waves are reflected to the ultrasonic sensor and the processing components determine whether an object is moving in the sensor field.

9. The monitor for identifying and reporting to a monitoring system use of a hand hygiene product dispenser of claim 6, wherein the communication components comprise an RF transceiver for wireless communication.

10. The monitor for identifying and reporting to a monitoring system use of a hand hygiene product dispenser of claim 6, wherein the sensor is rotatably

mounted to the case and rotation of the sensor changes the direction of the sensor field.

11. The monitor for identifying and reporting to a monitoring system use of a hand hygiene product dispenser of claim 6, wherein the sensor comprises an infrared transmitter and an infrared receiver, the infrared transmitter and receiver mounted to the case at separated locations, the sensor field extending from the infrared transmitter to the infrared receiver and the infrared receiver creates an indication of the presence of an object in the sensor field when infrared light emitted by the infrared transmitter is blocked from reaching the infrared receiver.