

Data analysis

Opportunities for hand hygiene are defined using the guidelines published by the Centers for Disease Control and Prevention. In analysing the data, hand hygiene opportunities are counted before and after each of the coded activities, but only after IA activities. Within a string of activities, HH opportunity is counted twice (except for IA), once before the activity and the second time after the activity. Each line of the database represents one activity, which may include 1-2 Hand Hygiene opportunities, depending on what the activity is. Only HH opportunities that record a HH product (C, S, A, D or “No” etc) count towards the final compliance figure (“?” do not count). Therefore,

$$\text{Hand Hygiene compliance} = \frac{\text{Number of correctly performed HH opportunities observed}}{\text{Total number of HH opportunities observed}}$$

Or,

$$\text{Hand Hygiene compliance} = \frac{W+S+C+T+P+R(\text{or D/A for post intervention})}{W+S+C+T+P+R(\text{or D/A}) + \text{No HH observed (X)}}$$

* Note: There is no HH opportunity before IA only AFTER IA

How to calculate Hand Hygiene compliance:

Step 1: Create a query to combine the 2 data tables (Tb_HH_OpportunitiesObserved and Tb_SessionDetails) by selecting:

- a. Queries
- b. Create query in Design view
- c. Show table box should appear, if not, go to View and select “Show Table”
- d. Add 2 tables – Tb_SessionDetails and Tb_HH_OpportunitiesObserved to design view
- e. Select all field names from HH_OpportunitiesObserved table, drag down to lower box
- f. Select all field names from SessionDetails tables, excluding Session ID (this has already been selected in previous table), drag down to lower box
- g. Run Query to view datasheet
- h. Return to design view
- i. Move across to Assessment No
- j. Enter criteria “2 Post” (next time you would enter criteria 3 Post (12 mth) etc
- k. Run Query to ensure that only the assessment stage you are interested in, is displayed
- l. Save Query as “qry_PreData” and close

Step 2: Perform a Crosstab query to display hand hygiene performance before each HCW activity

- a. New query
- b. Crosstab query wizard
- c. Select: view query, qry_PreData, next screen
- d. Select the field you would like displayed as row headings – HHPre, next screen (you can select up to a total of 3 items for row headings)
- e. Select the field you would like displayed as column headings – Activity, next screen
- f. Finally select a field that is unique to each row – ActivityID and select Count, next screen
- g. Copy and paste into an excel spreadsheet (See Table 1a)
- h. Repeat steps above (a-g), this time selecting row headings as HHPost
- i. Copy and paste into an excel spreadsheet (See Table 1b)

- j. Highlight results recorded as “?” on both the Pre and Post after activity tables. Highlight “IA” column in Pre activity table. The highlighted sections are excluded when calculating HH compliance.

Step 3. Prepare summary tables (excluding highlighted areas), see Tables 2a & 2b

Step 4. Combine the number of correctly performed HH opportunities observed for each activity type, see Table 3a & 3b.

Step 5. Calculate HH compliance for each HCW activity performed (Pre and Post activity), see Table 4

Step 6. Calculate overall HH compliance (see Table 5) by dividing the total number of HH performed by the total number of HH opportunities observed.

*It will be useful to analyse HH compliance by:

- Type of HCW, see Table 6. When creating the crosstab, select both HHPre and HCWType as row headings (Step 2d above) and repeat step 2 (if unsure, repeat step 2-5), this time including data on HCW type, see worksheet “By HCW”.
- Product used (this data can be pulled out of Table 2), see example on worksheet “By Product” and corresponding graph1.