

GLENROSE HOSPITAL TRIAL RESULTS SUMMARY

Self-described usage: occasional users (keyboards are on shared machines that any one individual does not use all day or even every day). Primarily data-entry and not text entry (not heavy typing).

Stated departmental keyboard cleaning policy is to clean keyboard after each patient - clean by wiping with Cavi-wipes.

PHASE I (CONVENTIONAL KEYBOARDS)

Compliance with protocol for cleaning conventional keyboards:

- More than half of respondents (5/9) reported cleaning the conventional keyboard less than once a day (with 2/9 reporting cleaning patient-treatment computers 0 times per day)
- 2/9 reported cleaning 1x /day
- 1/9 reported cleaning 1-2x/day
- Only 1/9 reported cleaning conventional keyboards as per policy (i.e. after each patient).
- Average cleaning was less than once per day

Time required to clean a conventional keyboard:

- Wide variation in thoroughness of cleaning - with users spending between “a few seconds” up to 15 minutes cleaning the conventional keyboard as required.
- One third of respondents (3/9) reported requiring 10 minutes or longer to properly clean the conventional keyboard.
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Supplies required to clean conventional keyboards:

- 3/9 users were non-reporting
- One third of reporting users (2/6) used up to 3 wipes per keyboard per cleaning
- Two thirds of reporting users (4/6) used 1 caviwipe per keyboard per cleaning
- The average number of wipes used per cleaning was 2

Difficulty in cleaning a conventional keyboard:

- The majority (7/9) of respondents indicated that the conventional keyboards are highly difficult to clean (ratings of 4/5 or 5/5 on the difficulty scale).

PHASE II (CLEANKEYS KEYBOARDS)

Several of the keyboards are to be used on laptop computers that are situated on audiology carts. For these, small plexi-glass trays have been constructed that sit over the laptop keyboard.

Some of the laptops have an external hard-disk lock that must first be accessed. This means that the USB ports DO NOT work (so the Cleankeys will NOT work) until the user first logs into the laptop. This

was discovered when we installed the keyboards. This was explained to the users multiple times and yet Kathy and Fabian both reported that users still seemed to struggle with understanding this concept.

Compliance with protocol for cleaning Cleankeys keyboards:

- **Significant boost in compliance. The majority of Cleankeys users (5/9 or 56%) reporting that they clean the Cleankeys keyboard as per policy (i.e. after every patient).**
- **This is up from only 1/9 users (or 11%) cleaning the conventional keyboards as per policy.**
- **This is a greater than 5-fold increase in cleaning compliance**
- of note, the other users reported this parameter as a # of times per day and this may well correspond to the # of patients they see in a day – which would mean they are ALSO at 100% compliance with protocol
- however, about these individuals we can still say that their compliance increased – they went from cleaning it not at all or less than 1x/day to cleaning it from 1 to as many as 5x per day...for some users that's a 200-500% increase in cleaning compliance. From NO cleaning to multiple cleanings a day.
- **ALL users (100% of uses) reported an increase in the frequency with which they clean the Cleankeys keyboard compared to the frequency of cleaning the conventional keyboard.**

Time required to clean a Cleankeys keyboard:

- The majority of users (8/9 or 89%) reported taking 1 minute or less to clean the Cleankeys keyboard
- The average time for cleaning by all users was less than 1 minute
- This is an average time savings of 4 minutes cleaning time per keyboard cleaning
- This represents a savings of ?? (need calculate labour cost) in staff time per keyboard cleaning event

Supplies required to clean Cleankeys keyboards:

- Only 1/9 users was non-reporting
- The majority of reporting users (7/8) used only 1 wipe per cleaning
- The average number of wipes used per cleaning was 1
- This means that the cleaning supplies consumed per keyboard cleaning event was cut by 50% just by having the easy to clean Cleankeys keyboard
- This represents a savings of ??? (need calculate supplies cost) per keyboard cleaning event.

Difficulty in cleaning a Cleankeys keyboard:

- The majority of users (8/9 or 89%) rated the ease of cleaning of the Cleankeys keyboard as (1/5 with 1 being "very easy")
- The average ease of cleaning rating was 1/5 with 1 being "very easy"

Ease of use of Cleankeys keyboard:

- The majority of users (3/5 or 60%) who tried the installation reported that the Cleankeys keyboard is very easy to install (5/5 with 5 being very easy***)- with the average ease of installation being 4.4 on a 5 point scale (with 5 being easiest)
- **The majority of users (6/9) were returned to 50% or greater of their conventional typing speed with only 5 days of periodic use of the Cleankeys keyboard**

- *The majority of users (8/9) (all users except 1) experienced successive increases in their typing speed while adapting to typing on the Cleankeys touch surface over the first 5 days of periodic use*
- *One user was fully restored to full typing speed (as compared to typing speed on a conventional keyboard)*
- *One user approached (84% of normal) their full typing speed return by Day 5*

RESULTS:

Ease of cleaning a Cleankeys keyboard:

- The majority of users (8/10 or 80%) rated the ease of cleaning of the Cleankeys keyboard as between 4 and 5 with 5 being “very easy”
- The average ease of cleaning rating was 4.35 with 5 being “very easy”
- Of note, this is very close to the “ease of cleaning” rating after the first two weeks (despite the reversed scales) – which means that frustrations with typing speed and the software do NOT negatively impact the perception of cleanability.

Ease of use of a Cleankeys keyboard:

- After 8 weeks of use, (periodic) users were not yet fully adjusted to typing on the Cleankeys keyboard
- the average rating for ease of typing on the Cleankeys keyboard was only 2.3 on a scale of 1-5 with 5 being “very easy”
- The majority of users (9/10 or 90%) were able to make adjustments to the sensitivity
- Despite difficulty typing, users rated the keyboard 2.9 out of 5 (with 5 being “very helpful) for effectiveness in helping them carry out their daily activities. This suggests that there was NOT a significant perception of reduced productivity.

GENERAL FEEDBACK:

- *The majority of users (6/10 or 60%) had previous experience with other cleanable keyboards and 5 of these 6 (83%) reported that Cleankeys was superior for cleanability and convenience as compared to other cleanable keyboards. (the 6th user did not provide a written comparison). (Though it should also be noted that some users also commented on the typing challenges – though some did note that the trade-off was worth it).*

Sample keyboard comparison quotes:

“washable keyboard - still not as easy or convenient as Clean keys (sic) to get clean + stay clean”

“The Cleankeys is way better! No comparison.”

“it is better because you can use cavi-wipes and it is thorough (sic)”

“Cleankeys is easier”

“easier to clean”

- The best feature about the Cleankeys keyboard, by far, related to the cleanability with the majority of users (9/10 or 90%) citing the ease of cleaning as the best feature.
- The majority of respondents (7/10 or 70%) indicated that they would recommend/tell colleagues about the Cleankeys keyboard
- One of 10 users would be willing to provide a testimonial. (though it was not provided on the form – I will collect it later).

Case Study – Audiology Department, Rehabilitation Hospital*