Streamlining inter-hospital communication by reducing avoidable switchboard delays:

**Phase 1 of the National Switchboard Audit**

**BACKGROUND**
- Patients on the Acute Medical Unit (AMU) require cross-specialty input
- This frequently requires the use of an external hospital switchboard
- Avoidable switchboard delays (figure 1) may defer contact with the target clinician and therefore disrupt patient care

**AIMS**
- To measure the time taken to reach a switchboard operative capable of delivering bleeps for every hospital in England
- To analyse sources of avoidable switchboard delay for each hospital
- To identify trends as targets for future quality improvement measures

**METHODS**
- 180 acute hospital switchboards in England were contacted externally on 6 occasions:
  - 2 x weekday morning (excluding Monday) (8-11am)
  - 2 x weekday evening (6-8pm)
  - 2 x weekend (10-12am)
- Calls were terminated once an operative capable of delivering bleeps or calls was contacted
- The contents and duration of the call were documented electronically
- The project was registered with the Clinical Effectiveness Team and HQIP were consulted for ethical guidance

**RESULTS**
- The mean delay before speaking with a switchboard operative was 55±32 (1SD) seconds (range 3-248 seconds).
- The longest delay was encountered on weekday mornings (61 seconds, p=0.002), followed by weekday evenings (57 seconds) and weekends (48 seconds).
- Of the 115 hospitals (64%) with robot operators, only 70 (61%) offered contact with a switchboard operator as the first keypad option, and 34 (30%) had mandatory infection control messages.
- Use of a robot operator introduced an additional 40 second delay when compared with humans (mean 70.3 seconds vs 30.1 seconds, p=0.0001).
- Multivariate analysis identified use of a robot operator (Hazards Ratio (HR) 5.1, p=0.0001) and mandatory infection control messages (HR 2.9, p=0.003) as powerful predictors of switchboard delays over 60 seconds.

**TIME TO CONTACT WITH BLEEP OPERATOR FOR 180 ACUTE HOSPITAL SWITCHBOARDS IN ENGLAND (AVERAGE OF 6 CALLS)**

**CONCLUSIONS**
- There are significant avoidable switchboard delays throughout England
- This is in part driven by mandatory infection control messages and inefficient automated triage
- Human operated switchboards outperformed robot operators
- The cumulative time wasted by healthcare professionals across England as a result of avoidable delays should be considered a key target for efficiency savings

**FUTURE DIRECTIONS**
- All NHS trusts in England will be sent the above data
- Quality Improvement Representatives will be contacted to discuss improvement strategy
- For automated switchboards, a national gold standard will be recommended which gives healthcare professionals the option to skip past avoidable delays
- Repeat data collection will take place from June 2019

**HELP WANTED!**
If you or a team member would like to help improve switchboard performance in your hospital, please take our contact details.

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**Key**

- Hospital switchboard identifier (see key)

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