DELAYS IN SPECIMEN TRANSPORTATION

- Delays in transporting specimens from hospital units to the laboratory cause delays in receiving laboratory results.
- Discrete event simulation can be used to model how nurses, phlebotomists, and porters collect and transport specimens. Porters are shared among all units and have responsibilities outside specimen transportation.
- This project seeks to improve the pre-analytical phase of laboratory testing (how specimens are collected and transported) to Clinical Pathology laboratories from 21 units encompassing acute care, intensive care, and emergency care.

WORK SCHEDULES AND DATA ANALYSIS REVEAL WAIT TIMES FOR TRANSPORT

- 90% of specimens are transported within 2h 39min.

SIMULATION CONFIRMS HYPOTHESIS

- Hypothesis: Wait times are long due to misaligned porter pick-ups.
- Preliminary testing performed on one unit – surgical oncology.
- While porter transportation time remains consistent (Table 1), wait time for transport is highly variable usually from 3 to 62 mins (Fig 6).

CONCLUSIONS

- Wait times for transport are highly variable and could be decreased by better aligning phlebotomist and porter schedules.
- Assuming the laboratory can handle changes to processing demand, a reduction of total transportation time will allow doctors to receive laboratory results sooner.

FUTURE WORK

- All units in scope will be analyzed for transportation delays.
- Porter pick up schedules will be designed to decrease wasted trips.
- Solutions will adjust factors in porter resource allocation such as: # of trips to the Clinical Pathology laboratory per porter, # of porters available, Scheduled unit visits per trip per porter.

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