

Improving Throughput for a Point of Dispensing

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Saint Louis University hosts a Closed Point of Dispensing (POD) that is designed to provide life-saving medications to faculty, staff, students and contractors and their families in the event of a major bio-terror attack to the area.

It is managed by a team of volunteers representing various functions on campus, including Public Safety, the School of Nursing, and College for Public Health and Social Justice and others, and supported by the City of St. Louis Department of Health, which has provided guidance, counsel and materials. The team conducts at least two exercises annually, one a functional one (such as call down, or set up) and the other a full-scale exercise, which includes activation, set-up, dispensing and demobilization.

Upon activation, the POD expects to dispense more than 50,000 courses of medication to at least 25,000 heads of household, meaning a throughput of more than 1,000 an hour would allow complete dispensing in about 24 hours.

Dispensers are drawn from students in the University's School of Nursing, who all participate in a half-day training session, which legally qualifies them under Missouri law to dispense the medications during an emergency. Including the half-day training as part of the regular nursing curriculum means that several hundred students are available and trained to dispense at any time, since graduating students are replaced by undergrads. Having a ready supply of dispensers allows the POD team to expand the normal lay out of the operation to involve more than 70 screeners/dispensers for each of two shifts.

Earlier exercises used a traditional floor plan for the screener/dispensers, with their tables set up in straight lines. That arrangement led to crowded conditions at the tables, reducing the throughput.

For the fall, 2016 exercise, an innovative table lay out was designed and implemented, using what might be described as a "Christmas Tree" design providing seating for 24 screener/dispensers in each segment (See detail.) Varying length tables are used, with the shorter ones closer to the entry and the longer ones farthest away from the entry point. The layout allows a line monitor to maintain visual contact with the two dozen screener/dispensers in each segment, and to control traffic flow to assure maximum throughput and minimum crowding.

Saint Louis University utilizes a large student recreation center which contains six full-size basketball courts, and uses two of the courts for the screening/dispensing, meaning three 24-seat segments may be utilized, for a total of 72 dispensers. The remaining area is used to queuing for screening/dispensing and an overflow area to accommodate those waiting to enter the queuing area. (See overall floor plan.)

Based on the availability of 72 screen/dispensers and the innovative table lay out, the University was able to realize a throughput of 2,700 an hour at its recent exercise, a significant improvement.

While not all PODs have such a generous supply of screener/dispensers or the same space for dispensing, all PODs may consider adopting a floor plan redesign such as the University uses to improve traffic control and throughput.

