Point of Care Testing (POCT): Developing an Institutional Strategy for Use

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Background

- Point of Care Testing (POCT) is laboratory testing performed at or near the site of healthcare delivery (e.g. physician office, clinic, mobile van, hospital unit, etc.).
- Its primary goal is to reduce the time from testing to treatment.
- The POCT program at Stanford Children's Health (SCH) serves 49 sites and is growing. The rate of growth is not sustainable under the current programmatic models of productivity and staffing.
- Institutional strategic planning models include efforts to increase the number of healthcare delivery sites and services within the northern California region. POCT to meet laboratory testing needs is an attractive option to promote clinical operational efficiency, avoid laboratory testing delays and increase patient satisfaction.

Objective

The objective of this project is to develop a SCH institutional strategy for POCT use by:

1. Establishing a best practice model for the use of POCT versus the hospital clinical laboratory
2. Educating healthcare practitioners regarding the optimal use of POCT versus the hospital clinical laboratory
3. Encouraging hospital strategic planning partners to incorporate decisions regarding testing type (POCT vs. hospital clinical laboratory) at each proposed new healthcare site

Methods

1. Collaborate with the Laboratory Finance & Business Operations team and other leaders to obtain current and historical POCT volume and financial data
2. Collaborate with members of key hospital planning sections (e.g. Strategic Planning Office, Space Planning Office, etc.) to gain insight into projected SCH expansion efforts
3. Survey the scientific literature to determine the current standards/best practice models for maintaining POCT programs within Pathology departments
4. Survey peer institutions to develop best practice models, staffing models and performance dashboards

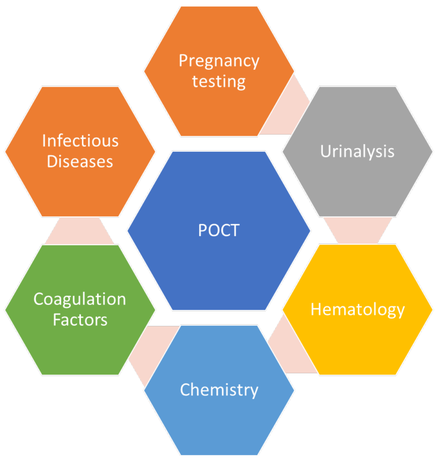

Figure 1. Examples of POCT Clinical Applications

Results

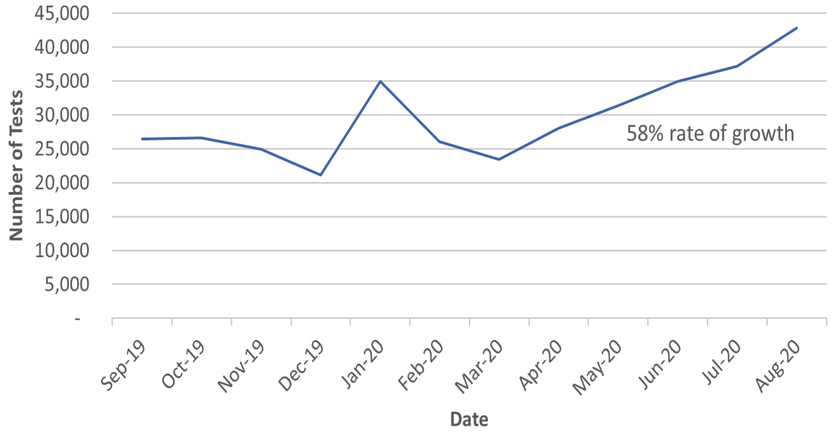

Figure 2. Stanford Children's Health POCT Volume per Month (Fiscal Year 2020)

Results

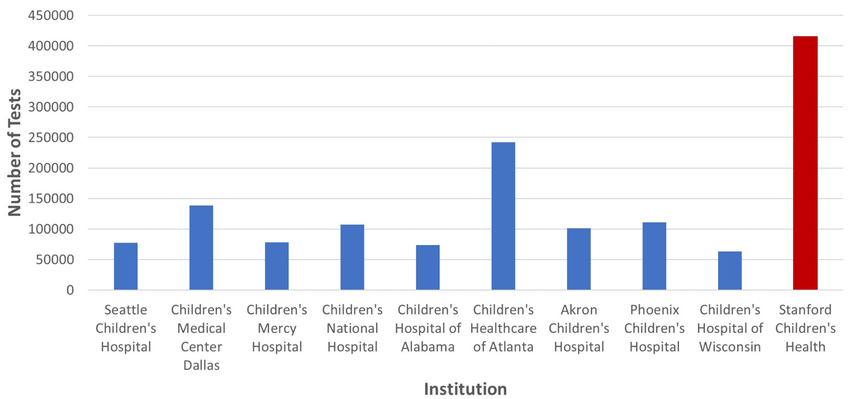

Figure 3: 2020 POCT Volume of Peer Institutions and Stanford Children's Health

Conclusions

1. The POCT program at SCH grew in volume by 58% during Fiscal Year 2020
2. The total volume of all tests (POCT + Clinical Laboratory) grew by 12%
3. Impact of COVID-19:
   - Cancellation of elective surgeries resulted in a marked decrease in total tests performed
   - The marked increase in POCT testing facilitated total test volume increase by 12%
4. Compared to surveyed peer institutions, SCH has the largest POCT program by volume.

Discussion

1. A best practice model for SCH will require focus on:
   - Maintenance of state/federal quality standards
   - Implementation of inventory management system (real time supply inventory and longitudinal waste analytics)
   - Clinical operational efficiency (turn around time requirements, patient acuity, hospital regulations, POCT error rates)
   - Transparency of hospital laboratory testing analytics (turn around time, error rates)
2. Consider mini satellite laboratories in new sites as alternative to POCT

Collaborators

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