Improving Patient Flow at the Endoscopy Unit

**PROJECT OVERVIEW**

- **Problem Statement**
  Outpatient endoscopic procedures experience frequent delays, which results in:
  - Extended patient wait time, 40% of patients wait 30+ min
  - Both morning & afternoon time blocks delay 60+ min
  - Overwork of healthcare providers

- **Project Scope**
  The project scope is to identify root causes for the process delay and provide potential solutions.

**ENDOSCOPY UNIT PROCESS FLOW & FINDINGS**

**Check-in**
- Triage nurse
- Patient
  - PULL

**Triage Interview**
- Interpreter
- Interpreter (as needed)
- Pre-op nurse
- Pre-op
  - PUSH

**Pre-Op**
- Anesthesiologist
- Anesthesiologist / CRNA (as needed)

**Procedure**
- PACU Nurse
- Procedure nurse
- Provider
  - PUSH

**Recovery**
- Recovery

**Resource utilization rate (Resource)**
- 88% (triage nurses)
- 81% (pre-op bays)
- 61% (procedure rooms)
- 73% (recovery bays)

<table>
<thead>
<tr>
<th>Avg duration of patient stay (min.)</th>
<th>Std Dev (min.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>27</td>
<td>17</td>
</tr>
<tr>
<td>41</td>
<td>33</td>
</tr>
<tr>
<td>31</td>
<td>16</td>
</tr>
<tr>
<td>67</td>
<td>39</td>
</tr>
</tbody>
</table>

**Key Findings**
- Interpreter needs
- Patient healthcare literacy / readiness
- Involves 30 min. patient wait time
- Interpreter needs
- Ad-hoc schedule changes
- Rooms / providers stay idle between procedures
- Procedure delay causes next patient waiting time
- Varying recovery time

**Solution 1: Questionnaire**
- Patient questionnaire handed out to patient upon check-in to collect most patient medical history while patients are waiting in the check-in area (30-60 minutes).

**Solution 2: Provider-Centered Process Flow**
- Provider-centric / procedure-room centric process flow design with designated (one) process flow owner to ensure cross-functional connectivity and patient readiness for procedure performance.

**Solution 3: Variability Tracking Sheet**
- Track the frequency of each source of variability and coordinate stakeholders on a regular basis to solve the root-cause.

**NEXT STEPS**

<table>
<thead>
<tr>
<th>Action Item</th>
<th>Dec</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solution 1: Questionnaire</td>
<td>Plan</td>
<td>Pilot</td>
<td>Eval</td>
<td></td>
<td></td>
<td>Roll out</td>
</tr>
<tr>
<td>Solution 2: Provider-Centered Process Flow</td>
<td>Plan</td>
<td>Pilot</td>
<td>Eval</td>
<td></td>
<td></td>
<td>Roll out</td>
</tr>
<tr>
<td>Solutions 3: Variability Tracking Sheet</td>
<td>Plan</td>
<td>Pilot</td>
<td>Eval</td>
<td></td>
<td></td>
<td>Roll out</td>
</tr>
</tbody>
</table>

**TEAM**

- Nick Quiroz
  - EMBA'18
- Takehito Matsuba
  - Sloan Fellow’18
- Yu-Shan Yang
  - MBA'18
- Jason Troutner
  - LGO’19