Results

Needs Assessment
- 33/53 respondents (response rate 62%)
  - 64% completed fellowship training
  - 54% completed additional robotic training
  - 11/33 (33%) received robotic training in fellowship
  - **13/33 (39%) use robotics in their practice**
- Of the robotic users (n=13), 85% reported having robotic certification
  - 31% completed in residency
  - 39% completed in fellowship
  - 15% completed in practice

Program Development
- Obtained robotic surgery simulator with support of Intuitive
- Started annual robotic intern orientation with the support of the department of surgery
- Started annual robotic wet labs at the Center for Surgical Innovation
- Wrote and implemented PGY-based curriculum with milestone assessments
- Supported hiring of robotic RNFs by the hospital → August 2021
- Petitioned ACGME to enable robotic case logging → enabled January 2022

Implications
- Of the general surgery residency graduates from 2021 and 2022, 14/21 (67%) obtained robotic certification.
- Given the frequency of robotic use in general surgery and current lack of standardization, formal guidance from the ACGME specifically regarding robotic education in general surgery residency is warranted.

Background
- Robotics comprises 15% of all general surgery operations
- There are no ACGME robotic requirements for general surgery residency
- We asked:
  - How many residents use robotics after graduation?
  - Do we need a formal robotic educational curriculum?
- We conducted a needs assessment to determine if and how our residency alumni used robotics after graduation
- We developed a general surgery robotic educational curriculum

Methods
- Web-based surveys were sent to general surgery graduates from the University of Colorado from 2015-2021.
  - Participants received a $10 Amazon gift card for participation
- Support was solicited from Intuitive Surgical, the ACGME, the University of Colorado hospital, and the Department of Surgery
- A curriculum including online modules, intern orientation, dry and wet labs, simulation, milestone assessments, and case log minimums was written and executed by the robotic educational committee.

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When Robotic Users Completed Certification

Preparedness after General Surgery residency for robotic use in fellowship vs independent practice

<table>
<thead>
<tr>
<th></th>
<th>Residency</th>
<th>Fellowship</th>
<th>Practice</th>
</tr>
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<tbody>
<tr>
<td>2015-2021</td>
<td>31,36%</td>
<td>39,46%</td>
<td>15,18%</td>
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Prepared

Somewhat Prepared

Not Prepared

- **Only 30% of residents felt prepared for robotics in practice after graduating from residency**

These findings prompted development of a general surgery robotic educational curriculum at the University of Colorado.