The 2020 AST Education Needs Assessment Survey was distributed to all AST members from February 6 to March 6, 2020. The survey included a topical specialty section based on each of AST's Communities of Practice (COP).

293 participants began the “Infectious Disease” specialty section and 275 completed the section. A breakdown of the information gathered from these participants is provided in this report.

I. “Infectious Disease” Specialty Section Participants

Role of Participants:

Participants were asked, “Which best describes you? (please choose one).” Based on the 293 participants who started the IDCOP specialty section, the chart below outlines the roles that were represented (results from all participants in the survey are provided for comparison).

<table>
<thead>
<tr>
<th>Role</th>
<th>Specialty Participants</th>
<th>Overall Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physician/Primarily Research</td>
<td>23 (7.9%)</td>
<td>65 (8.7%)</td>
</tr>
<tr>
<td>Physician/Primarily Clinical</td>
<td>145 (49.5%)</td>
<td>316 (42.4%)</td>
</tr>
<tr>
<td>Surgeon/Primarily Research</td>
<td>2 (0.7%)</td>
<td>12 (1.6%)</td>
</tr>
<tr>
<td>Surgeon/Primarily Clinical</td>
<td>11 (3.8%)</td>
<td>45 (6.0%)</td>
</tr>
<tr>
<td>Administrator</td>
<td>6 (2.1%)</td>
<td>34 (4.6%)</td>
</tr>
<tr>
<td>Advanced Practice Provider</td>
<td>23 (7.9%)</td>
<td>43 (5.8%)</td>
</tr>
<tr>
<td>Histocompatibility Specialist</td>
<td>4 (1.4%)</td>
<td>23 (3.1%)</td>
</tr>
<tr>
<td>Nurse/Transplant Coordinator</td>
<td>6 (2.1%)</td>
<td>16 (2.1%)</td>
</tr>
<tr>
<td>Pharmacist</td>
<td>63 (21.5%)</td>
<td>104 (14.0%)</td>
</tr>
<tr>
<td>Psychologist/Psychiatrist</td>
<td>0</td>
<td>12 (1.6%)</td>
</tr>
<tr>
<td>Social Worker</td>
<td>0</td>
<td>19 (2.6%)</td>
</tr>
<tr>
<td>Researcher/Scientist</td>
<td>6 (2.1%)</td>
<td>37 (5.0%)</td>
</tr>
<tr>
<td>Other</td>
<td>4 (1.4%)</td>
<td>19 (2.6%)</td>
</tr>
</tbody>
</table>
**Affiliation of Participants:**

Participants were asked what is their "Affiliation (please choose one.)" Based on the 293 participants who started the IDCOP specialty section, the chart below outlines the affiliations that were represented (results from all participants in the survey are provided for comparison).

<table>
<thead>
<tr>
<th>Affiliation</th>
<th>Specialty Participants</th>
<th>Overall Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic</td>
<td>181 (61.8%)</td>
<td>427 (57.3%)</td>
</tr>
<tr>
<td>Government or Military</td>
<td>1 (0.3%)</td>
<td>9 (1.2%)</td>
</tr>
<tr>
<td>Hospital</td>
<td>98 (33.5%)</td>
<td>256 (34.4%)</td>
</tr>
<tr>
<td>Industry</td>
<td>4 (1.4%)</td>
<td>16 (2.1%)</td>
</tr>
<tr>
<td>Organ Procurement Organization</td>
<td>3 (1.0%)</td>
<td>15 (2.0%)</td>
</tr>
<tr>
<td>Stand-alone Private Practice</td>
<td>5 (1.7%)</td>
<td>13 (1.7%)</td>
</tr>
<tr>
<td>Other</td>
<td>1 (0.3%)</td>
<td>9 (1.2%)</td>
</tr>
</tbody>
</table>

**Experience Level of Participants:**

Participants were asked to “Please enter your level of experience/years in practice." Based on the 293 participants who started the IDCOP specialty section, the chart below outlines the levels of experience that were represented (results from all participants in the survey are provided for comparison).

<table>
<thead>
<tr>
<th>Level of Experience</th>
<th>Specialty Participants</th>
<th>Overall Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not yet in training</td>
<td>0</td>
<td>5 (0.7%)</td>
</tr>
<tr>
<td>In training (resident)</td>
<td>6 (2.1%)</td>
<td>16 (2.1%)</td>
</tr>
<tr>
<td>In training (fellow)</td>
<td>14 (4.8%)</td>
<td>46 (6.2%)</td>
</tr>
<tr>
<td>&lt;5 years</td>
<td>87 (29.7%)</td>
<td>182 (24.4%)</td>
</tr>
<tr>
<td>6-10 years</td>
<td>50 (17.1%)</td>
<td>147 (19.7%)</td>
</tr>
<tr>
<td>11-15 years</td>
<td>50 (17.1%)</td>
<td>123 (16.5%)</td>
</tr>
<tr>
<td>16-20 years</td>
<td>35 (12.0%)</td>
<td>81 (10.9%)</td>
</tr>
<tr>
<td>21+ years</td>
<td>51 (17.4%)</td>
<td>145 (19.7%)</td>
</tr>
</tbody>
</table>
II. IDCOP’s “Infectious Disease” Specialty Section Data

A list of important and timely topics was created for the 2020 Needs Assessment Survey specialty sections by IDCOP Leadership and the AST Education Committee. Participants were asked to “Rate each educational topic’s importance to you” as either 1) “Not interested,” 2) “Interested but have sufficient knowledge” or 3) “Interested & want/need to learn more.”

Here are the results from the 275 participants who completed this specialty section.

**IDCOP Specialty Topics – Overall Ranking:** The topic list has been ranked below based on a weighted mean score of up to 3.0, with “Interested & want/need to learn more” weighted highest, “Interested but have sufficient knowledge” weighted next highest, and “Not interested” weighted lowest (out of 275 results).

1. (Tied) **Multidrug Resistant Organisms** (for example: Donor infection with MDROs, Risk factors and outcomes associated with MDRO infection, Treatment of MDRO infections, New strategies such as FMT and phage therapy) - 2.76
   (Tied) **Donor-Derived Infections** (for example: Risk stratification of donors and strategies to minimize risk of transmission, Upcoming changes to PHS increased risk criteria) - 2.76
2. **PTLD/EBV** (for example: EBV viral load monitoring and/or antivirals as prevention, Role of cell-based therapies, Indications for rituxan prior to the development of PTLD) - 2.74
3. **Fungal infections** (for example: Indications for antifungal prophylaxis, Role of diagnostic tests such as beta-d-glucan, New antifungals) - 2.72
   **CMV** (for example: Optimal preventative strategies, Role of immune based assays, Use of new antivirals and cell-based therapies, Role of CMV vaccine) - 2.72
4. **Vaccination** (for example: Ideal timing and schedule (both before and after transplantation), Use of live viral vaccines (MMR, travel vaccines) post-transplant, New vaccines such as protein subunit herpes zoster vaccine) - 2.67
5. **Respiratory Viruses** (for example: New agents, Strategies to minimize transmission) - 2.66
6. **Hepatitis C virus** (for example: Timing of HCV treatment after HCV+ to HCV- transplantation, “Real world” outcomes and challenges to HCV+ to HCV- transplantation, Duration of HCV treatment post-transplant) - 2.59
7. **Mycobacterial infection** (for example: Best approach to screen donors and recipients for tuberculosis, Atypical mycobacterial infections and cystic fibrosis pre-transplant considerations) - 2.54
8. **HIV and transplantation** (for example: Risk factors for rejection in HIV+ recipients, HIV+ donors and increasing awareness of this option for both potential donors and recipients) - 2.53
9. **Diagnosis - General** (for example: Role of multiplex syndromic panels, Direct sample tests) - 2.46
10. **Ventricular assist device infection** (for example: Pre-transplant treatment strategies) – 2.00
IDCOP Specialty Topics – “Interested and want/need to learn more” Only: The topic list has been ranked below based exclusively on the number of “Interested and want/need to learn more” results (out of 275 results).

1. Multidrug Resistant Organisms (for example: Donor infection with MDROs, Risk factors and outcomes associated with MDRO infection, Treatment of MDRO infections, New strategies such as FMT and phage therapy) - 222
2. Donor-Derived Infections (for example: Risk stratification of donors and strategies to minimize risk of transmission, Upcoming changes to PHS increased risk criteria) - 218
3. PTLD/EBV (for example: EBV viral load monitoring and/or antivirals as prevention, Role of cell-based therapies, Indications for rituxan prior to the development of PTLD) - 215
4. Fungal Infections (for example: Indications for antifungal prophylaxis, Role of diagnostic tests such as beta-d-glucan, New antifungals) - 211
5. (Tied) Respiratory Viruses (for example: New agents, Strategies to minimize transmission) - 204
   (Tied) CMV (for example: Optimal preventative strategies, Role of immune based assays, Use of new antivirals and cell-based therapies, Role of CMV vaccine) - 204
7. Vaccination (for example: Ideal timing and schedule (both before and after transplantation), Use of live viral vaccines (MMR, travel vaccines) post-transplant, New vaccines such as protein subunit herpes zoster vaccine) - 198
8. Hepatitis C virus (for example: Timing of HCV treatment after HCV+ to HCV- transplantation, “Real world” outcomes and challenges to HCV+ to HCV- transplantation, Duration of HCV treatment post-transplant) - 186
9. HIV and transplantation (for example: Risk factors for rejection in HIV+ recipients, HIV+ donors and increasing awareness of this option for both potential donors and recipients) - 182
10. Mycobacterial infection (for example: Best approach to screen donors and recipients for tuberculosis, Atypical mycobacterial infections and cystic fibrosis pre-transplant considerations) - 181
11. Diagnosis - General (for example: Role of multiplex syndromic panels, Direct sample tests) - 177
12. Ventricular assist device infection (for example: Pre-transplant treatment strategies) - 116

IDCOP Specialty Topics – “Not interested” Only: The following topics received the highest number of “Not interested” results (out of 275 results).

- Ventricular assist device infection (for example: Pre-transplant treatment strategies) - 115
- Diagnosis - General (for example: Role of multiplex syndromic panels, Direct sample tests) - 50
- HIV and transplantation (for example: Risk factors for rejection in HIV+ recipients, HIV+ donors and increasing awareness of this option for both potential donors and recipients) - 37
- Mycobacterial infection (for example: Best approach to screen donors and recipients for tuberculosis, Atypical mycobacterial infections and cystic fibrosis pre-transplant considerations) - 32

Note: CMV and Donor-Derived Infections had the smallest number of “Not interested” results at 5 and 9 respectively.

IDCOP Question on Pediatric ID: Participants were asked “Do you need education in pediatric specific transplant infectious diseases?” Here are the results.

<table>
<thead>
<tr>
<th>Need for Pediatric-specific Tx ID Education?</th>
<th>No# of Times Selected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>80 (29.1%)</td>
</tr>
<tr>
<td>No</td>
<td>195 (70.9%)</td>
</tr>
</tbody>
</table>
Please see the pie charts on the following pages for a topic-by-topic breakdown of participant interest in each topic.

If you have follow-up questions, or would like additional details on a result, please contact the AST Education Program Manager, Brian Valeria (bvaleria@myast.org) for more information.
CMV (for example: Optimal preventative strategies, Role of immune based assays, Use of new antivirals and cell-based therapies, Role of CMV vaccine)

- Not interested, 1.82%
- Interested but have sufficient knowledge, 24.00%
- Interested & want/need to learn more, 74.18%

PTLD/EBV (for example: EBV viral load monitoring and/or antivirals as prevention, Role of cell-based therapies, Indications for rituxan prior to the development of PTLD)

- Not interested, 4.36%
- Interested but have sufficient knowledge, 17.45%
- Interested & want/need to learn more, 78.18%
Vaccination (for example: Ideal timing and schedule (both before and after transplantation), Use of live viral vaccines (MMR, travel vaccines) post-transplant, New vaccines such as protein subunit herpes zoster vaccine)

- Not interested, 4.73%
- Interested but have sufficient knowledge, 23.27%
- Interested & want/need to learn more, 72.00%

Multidrug Resistant Organisms (for example: Donor infection with MDROs, Risk factors and outcomes associated with MDRO infection, Treatment of MDRO infections, New strategies such as FMT and phage therapy)

- Not interested, 5.09%
- Interested but have sufficient knowledge, 14.18%
- Interested & want/need to learn more, 80.73%
**Hepatitis C virus** (for example: Timing of HCV treatment after HCV+ to HCV- transplantation, “Real world” outcomes and challenges to HCV+ to HCV- transplantation, Duration of HCV treatment post transplant)

- Not interested, 8.73%
- Interested but have sufficient knowledge, 23.64%
- Interested & want/need to learn more, 67.64%

**HIV and transplantation** (for example: Risk factors for rejection in HIV+ recipients, HIV+ donors and increasing awareness of this option for both potential donors and recipients)

- Not interested, 13.45%
- Interested but have sufficient knowledge, 20.36%
- Interested & want/need to learn more, 66.18%
Fungal infections (for example: Indications for antifungal prophylaxis, Role of diagnostic tests such as beta-d-glucan, New antifungals)

- Not interested, 5.09%
- Interested but have sufficient knowledge, 18.18%
- Interested & want/need to learn more, 76.73%

Mycobacterial infection (for example: Best approach to screen donors and recipients for tuberculosis, Atypical mycobacterial infections and cystic fibrosis pre-transplant considerations)

- Not interested, 11.64%
- Interested but have sufficient knowledge, 22.55%
- Interested & want/need to learn more, 65.82%
Donor-Derived Infections (for example: Risk stratification of donors and strategies to minimize risk of transmission, Upcoming changes to PHS increased risk criteria)

- Not interested, 3.27%
- Interested but have sufficient knowledge, 17.45%
- Interested & want/need to learn more, 79.27%

Respiratory Viruses (for example: New agents, Strategies to minimize transmission)

- Not interested, 8.36%
- Interested but have sufficient knowledge, 17.45%
- Interested & want/need to learn more, 74.18%
Ventricular assist device infection (for example: Pre-transplant treatment strategies)
- Not interested, 41.82%
- Interested but have sufficient knowledge, 16.00%
- Interested & want/need to learn more, 42.18%

Diagnosis - General (for example: Role of multiplex syndromic panels, Direct sample tests)
- Not interested, 18.18%
- Interested but have sufficient knowledge, 17.45%
- Interested & want/need to learn more, 64.36%