



## **AST 2015 EDUCATIONAL NEEDS ASSESSMENT SURVEY SUMMARY REPORT**

AST conducted a comprehensive survey in February and March 2015 to measure AST members' educational needs, programming preferences, and gaps in current knowledge. The Education Committee developed the survey with input from AST's specialty-focused groups, the Communities of Practice (COPs). In all, 527 respondents (16% of the membership) completed the entire survey.

The results will be used to determine if proposed education activities meet the needs of the members, and ensure appropriate delivery methods are deployed. More specifically, the COPs will be able to ascertain if the educational topics AST provides are ones members truly value. The society will also use data from the survey in support of pharmaceutical grant applications because it showed members prefer education from AST over other providers.

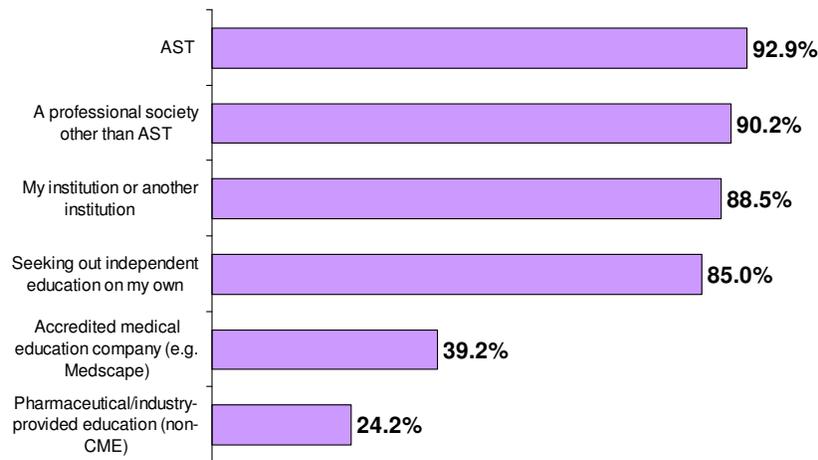
The entire 16-page report is available upon request, and results can also be segmented in a variety of ways if needed, for any interested AST member. Highlights of the survey are listed below.

### **AST is the Primary Source for Education**

The survey showed AST is very well positioned to be the educational home for transplantation, but supports the rationale for strategic partnerships with other societies and providers. While 93% of respondents said AST was important or very important to their education, 90% are also accessing instruction from other societies, 88% said their own institution's was primary, and 85% said seeking education on their own was important/very important. Less popular were accredited medical education company activities (39%) and non-CME pharma activities (24%). Based on these results, AST will need to make sure any partnership with these two types of organizations does not overshadow the society.

## AST's Influence in Members' Educational Development

(rating "very important" or "important")

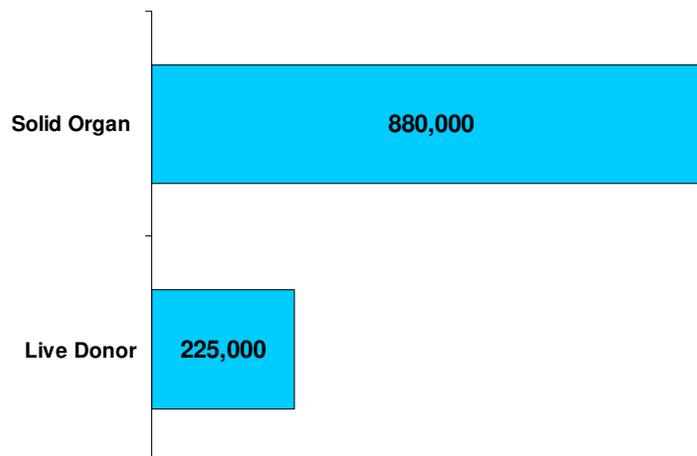


### AST Members Influence the Care of More Than a Million Patients

The survey also demonstrated the extent of the society's impact in the transplant arena. Extrapolating from the survey, it can be seen that AST members influence the care of approximately 880,000 solid organ transplant patients and around 225,000 living donor patients each year.

### Impact of AST Members

#### Number of Transplant Patients



### On-Demand Formats Preferred

Members frequently participate in a range of educational activities. Members reported greater participation in on-demand activities (80%) versus live/scheduled ones (50%), so AST will continue to offer on-demand activities and archives of live activities. More frequent attendance at national (88%) than local (65%) meetings supports the rationale for national meetings such as the AST Cutting Edge of Transplantation meeting held annually in February. Staff will encourage the development of on-demand type activities, and also ramp up efforts to market activities which have not been consumed at a high rate in the past.

Most survey respondents are experienced clinicians who require less case-based or reference tools, but these members need to keep up to date with literature reviews and treatment guidelines. The availability of CE credit is not critical to attract attendees; however CE credit is always a benefit, and special groups such as pharmacists welcome credit opportunities in transplant.

### Time is the Most Important Factor

In evaluating factors influencing participation in an educational activity, it seems shorter modules would work best. The most noticeable trends in how members choose activities are: acceptable time commitment, and the availability to review and complete instruction at their own convenience (on demand). Thought leaders/expert faculty, and costs being within budget were also factors in participation. Respondents did not select “an interactive format” or “the availability of accompanying resources and tools” as important factors with significant frequency.

The greatest barriers to applying new knowledge/skills into practice in a clinical or research setting were lack of time, limited staff/manpower, and financial resources.

### Demographics of Respondents: Experienced Clinicians

An online survey link was distributed by email to AST members from February 4 to March 9, 2015, and the link was also made available on the society's website.

At the time of the survey, the available pool of possible respondents was approximately 3,300 active AST members. The overall participation rate was in the generally accepted range, as 527 members (16%) completed the entire survey.

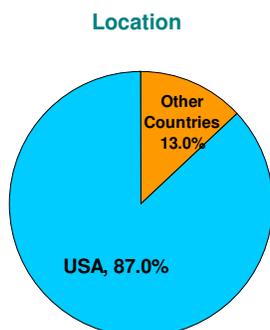
The survey respondents were compared demographically with the overall AST membership, and were generally a good enough representation of the member composition to make inferences and take action based on the survey results. Like most surveys, highly engaged members were likely the ones expressing their views.

Respondents were primarily based in the US (87%), and matched the membership closely on a state-by-state basis. The majority of respondents are in clinical practices and in academic centers.

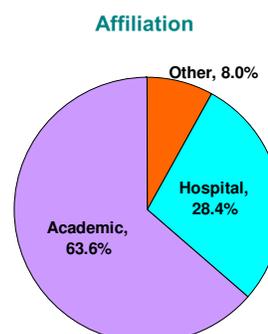
While the respondents skewed to very experienced clinicians, new transplant professionals were also offered an opportunity to express their needs. Those who answered “not yet in training,” “in training (resident),” “in training (fellow),” or “less than 5 years” indicated they need more career oriented resources such as networking opportunities with peers and faculty, knowledge about funding pathways and opportunities, and information on choosing and working with mentors.

## SNAPSHOT OF SURVEY RESPONDENTS

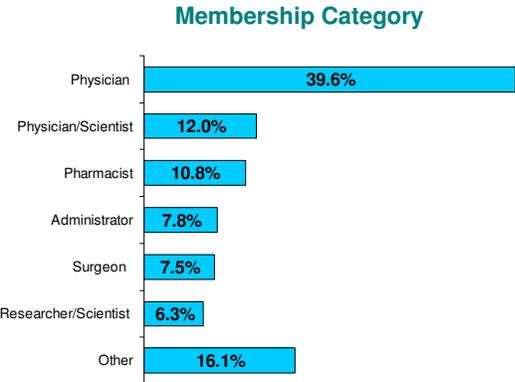
Primarily based in the U.S.



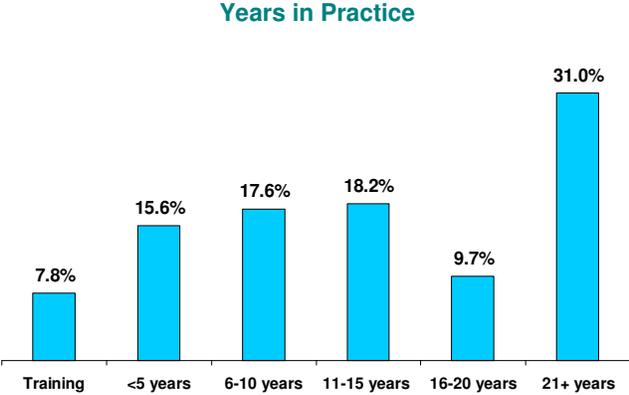
Majority in clinical and academic centers



**Respondents are Primarily Physicians**



**Very Experienced in the Field**



## Measuring Knowledge Gaps and Educational Needs by Specialty

Respondents were presented with a list of specialty areas that mapped against AST's Communities of Practice. They were asked to select the subjects in which they require educational instruction, and for each area they chose, they were presented with a list of topics developed by that COP and asked to rank each topic. Altogether, respondents reported an average of three specialty areas where they needed additional instruction.

Instead of asking for a direct rating of importance, individuals were asked to note whether they needed more education in this area, or if they felt they had sufficient resources (or were not interested at all). The intention of framing the questions in this way was to hopefully identify gaps in educational offerings available, not just see what topics interested people.

It was also decided early in the planning stages to have the COPs develop these lists rather than allow respondents to freely type in responses, as this format allows for faster analysis and saves time for the respondent filling out the survey. Respondents were given the opportunity to add additional topic suggestions in an open-ended section. Most topics were ranked highly, and no topics were entirely unpopular.

For each specialty area represented by one of AST's COPs, the top five "interested and want/need to learn more" answers are listed below. Full topic ratings are listed in the full 16-page survey report available upon request. Additional segmentations can be explored if requested by an AST member.

### Basic science:

- Improved fundamental understanding of human immune responses
- Genetic analysis in transplantation: benefits and pitfalls of different platforms (microarray, nano string)
- Micro RNA-mediated control of alloimmunity
- Power calculations and biostatistics for experimental transplant immunology
- Computational immunology

### Cardiology:

- Approach to the sensitized patient awaiting thoracic organ transplantation:
- Novel immunosuppressants: Applicability to thoracic organ transplantation?
- Understanding thoracic organ primary graft dysfunction
- Short term support for failing patients: Role of VV and VA ECMO
- Significance, identification and treatment of post-thoracic transplant circulating antibodies (includes HLA, non-HLA, non-specific and donor-specific antibodies)

### Pulmonology/Critical Care:

- Microbiome of the heart and lung transplant recipient and impact on outcome
- Pulmonary hypertension – Management approach including thoracic organ transplantation
- Novel immunosuppressants: Applicability to thoracic organ transplantation?
- Update on immune monitoring of the thoracic organ recipient
- Significance, identification and treatment of post-thoracic transplant circulating antibodies (includes HLA, non-HLA, non-specific and donor-specific antibodies)

#### Diagnostics/pathology:

- Current concepts in donor specific antibody testing
- Borderline change and T cell mediated rejection in renal allografts in the era of donor-specific antibodies
- Antibody-mediated rejection in non-renal transplants
- Molecular microscope as a diagnostic tool in renal allograft biopsies
- Molecular methods of HLA typing

#### Infectious disease:

- Donor-derived infections – what infected donors can be accepted for organ transplantation and what strategies are known to minimize risk of transmission?
- PTLD/EBV – what are the best preventive strategies? What are the indications for rituximab?
- Vaccines and optimizing immune response before and after transplantation – what is the ideal timing and schedule for vaccines in transplant recipients?
- Fungal infections and prophylaxis – what are the indications for antifungal prophylaxis in SOT recipients?
- MDRO – what is the impact of pre- and post-transplant MDRO colonization? What are the risk factors and outcomes associated with MDRO?

#### Living donors:

- Risk associated with donation
- Variable renal risks in living kidney donor candidates
- Maximizing efficient living donor evaluations and care
- Current resources and future efforts to minimize the financial impact of living kidney donation
- Paired donation (KPD) versus desensitization for immunologically incompatible pairs

#### Liver and intestinal:

- DSA in liver and liver-kidney transplant patients
- Biomarkers in diagnosis, treatment, and management of solid organ transplant recipients
- ICU care of pre and post liver transplant recipients: when is the patient too sick to transplant
- HCV treatment in solid organ transplant patients
- Obesity management pre and post-transplant

#### Kidney/pancreas:

- Measurement of donor specific antibodies monitoring and treatment strategies, and how to integrate into clinical practice, treatment decisions, and monitoring
- Management of immunosuppression in the setting of acute infectious complications and malignancy
- Best management of chronic humoral rejection
- Medicine non-adherence and tools to improve medication adherence in high risk patient populations
- Evaluation and management of a failing allograft

#### Pediatrics:

- Prevention, diagnosis and management of antibody-mediated graft injury
- Infectious disease issues: Prevention of infection (resistant infections) in hospitalized transplant patients and best strategies for maximizing vaccination and vaccination response pre- and post-solid organ transplant
- Who, when, and how to ensure best outcome in re-transplantation

#### Pediatrics (continued):

- Data regarding outcomes of pediatric recipients post-transition, metrics for successful transition, and activities, programs and tools (print, Web, mobile, etc) providing the most impact on transition readiness, healthcare self-management and adherence
- Immunosuppression withdrawal/minimization: Which to try, who to try it for, and how to do it

#### Pharmacy:

- Decision support tools to guide transplant medication prescribing
- Patient education best practices
- Managing adverse effects/toxicity of immunosuppression
- Pharmacist/physician collaborative practice agreements, benefits of these arrangements and strategies for implementation
- Ambulatory transplant pharmacy hot topics (insurance issues, patient assistance programs, clinic expansion and/or coverage)

#### Psychosocial:

- Strategies to improve recipient readiness and reduce disparities
- Assessment issues for patients requiring re-transplant, esp. in cases where self-care problems contributed to graft failure
- Psychosocial aspects of transition of the newly adult, new patient
- Reducing disparities in access to and outcomes of transplantation
- Optimizing informed consent to inform donors and recipients about possible psychological and financial risks

#### Regenerative medicine:

- What are the strategies to induce enhanced engraftment and organ repopulation after cell therapy?
- What is the transplantability of bioengineered organs?
- What are the major obstacles to transplant functional bioengineered organs?
- What are the regeneration-responsive capabilities of Pluripotent stem-derived cells after transplantation in disease models?
- What are the best cell sources to bioengineer organs?

#### Transplant administration:

- Improving competence and performance
- Building blocks of a transplant QAPI plan/FQAPI
- Understanding and complying with the Medicare Cost Report, acquisition cost centers, Standard Acquisition Charge development and application
- Strategies to deal with administrative issues in KPD
- Change management

#### Vascular composite allotransplantation

- Immunosuppression minimization and tolerance protocols
- Complications in VCA recipients secondary to immunosuppression
- Immunosuppression protocols in VCA: What are the current standards?
- Treatment of cell- and antibody-mediated rejection
- Immune monitoring, predictive biomarkers, and non-invasive imaging strategies after VCA

#### Women's health

- Optimizing birth control for the transplant recipient
  - Sexual health and functioning post-transplant (male and female)
  - Fertility issues after organ transplantation
  - Update on management of pregnancy in transplant recipients including: immunosuppression for stable patients, managing rejection during pregnancy, and obstetrical complications in recipients
  - Bone health in the transplant recipient
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**If you have questions, or are a member who would like to request the full report, please contact the AST National Office at [info@myAST.org](mailto:info@myAST.org) and mention “AST Educational Needs Assessment” in the subject line.**