

# Identifying Communication Gaps for Solid Organ Transplant Infection Transmission among Infectious Disease Physicians: an Emerging Infections Network Survey



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## Abstract

**Background:** Over 28,000 solid organ transplants (SOTs) are performed in the US annually. Efforts to increase organ availability may also increase transmission of infectious pathogens due to suboptimal donors. Some organs are accepted for transplantation with knowledge of positive donor screening tests and/or behavioral risk factors, increasing potential transmission. This survey sought to identify if knowledge gaps exist among infectious disease physicians (IDPs) concerning management of potential transplant-transmitted infections (TTIs).

**Methods:** 1339 IDPs were surveyed through the Emerging Infection Network (EIN) in 02/2010. Based on cumulative responses to 4 questions which assessed SOT-related clinical exposures and experience, respondents were divided into 3 groups: expert, some, or little experience. Knowledge of donor screening practices and access to donor information was also assessed.

**Results:** 684 (51.1%) responded to the survey. 146 (22%) are routinely involved in the management of transplant infections; 302 (45%) never manage transplant patients. 85 (12%) of IDPs had expert SOT experience, while 302 (44%) had little experience. Regardless of experience, rapid access to donor data was identified as the most important factor when evaluating possible TTIs. IDPs with little experience recommended a "1-800 donor hotline"; IDPs with some experience endorsed improved communication with Organ Procurement Organizations (OPO) as tools to assist with TTIs. 65% of experts had direct access to the OPO, while other IDPs had less or no access (p<.0001). Expertise also was associated with involvement with a potential donor-related transmission (41% v. 20%, p<.0001). Reported TTIs included various viruses, bacteria, fungi and parasites (n=28 unique pathogens).

**Conclusions:** Communication gaps in the management of SOT infections exist, particularly for TTIs. Improved access to donor information and transplant related educational resources may allow IDPs to optimally manage suspected TTIs and more easily communicate potential TTIs to the appropriate agency.

## Background

- Although over 28,000 solid organs are transplanted in the United States annually, the demand for solid organ transplants exceeds availability
- Recent reports of infections unexpectedly transmitted via donor organs include HIV, Hepatitis C virus (HCV), West Nile virus, rabies virus, lymphocytic choriomeningitis virus (LCMV), and tuberculosis
- Although the potential for donor-derived infection are communicated to transplant centers when risk is identified through screening, often the risk is unknown or totally unrecognized
- Infectious disease physicians (IDPs) may be asked to provide clinical expertise regarding donor suitability and the management of solid organ transplant recipient infections, but may be unsure how to obtain and report pertinent donor and recipient information

## Objectives

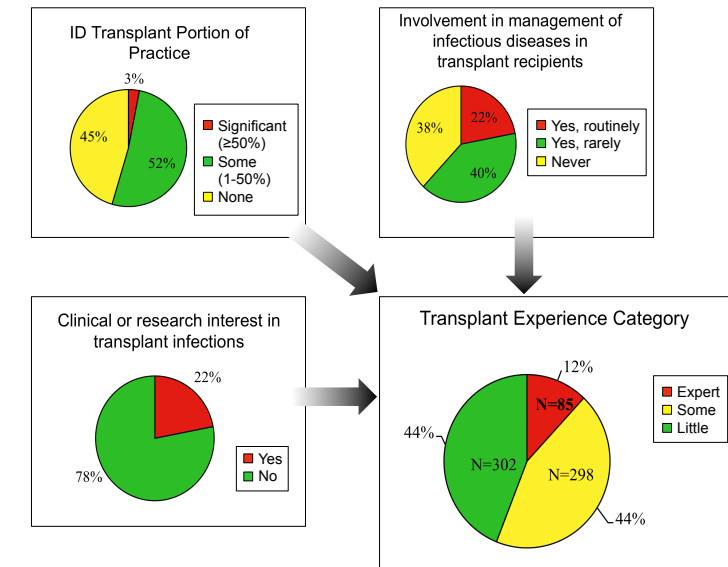
- To determine if information gaps for IDPs exist concerning management of potential transplant-transmitted infections (TTIs)
- To identify and provide resources to assist IDPs with TTI management

## Methods

- The Infectious Diseases Society of America's Emerging Infections Network (EIN) is a CDC-funded sentinel network of infectious disease consultant physicians who regularly engage in clinical activity and who volunteer to participate
- The survey was sent in February/March 2010 to all 1339 EIN members reporting an adult or pediatric infectious diseases practice
- Participants responded regarding their experience with solid organ transplant infections, local donor screening practices, frequency of involvement in potential TTIs, access to donor information and factors which they would find most useful to evaluate a possible TTI

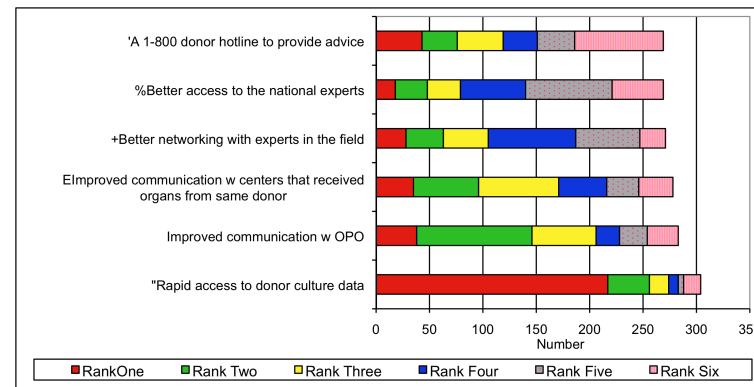
• 684 (51%) physicians responded

### Results 1. Development of transplant experience categories



### Results 2. Rank order of factors most useful to IDPs in evaluating a possible TTI

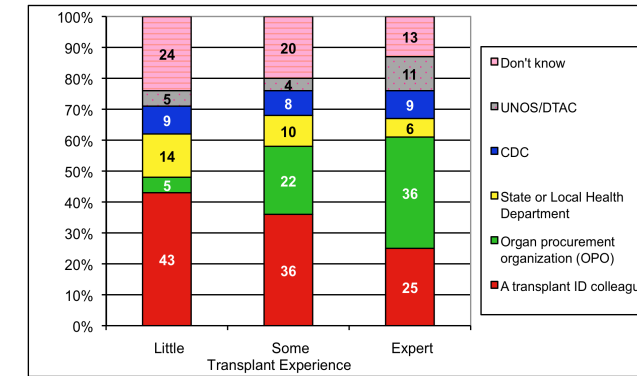
[Rank 1 = most useful, Rank 6 = least useful]



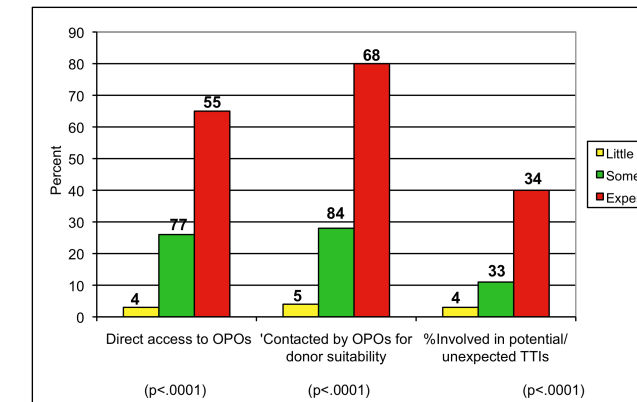
- IDPs with little experience recommended a "1-800 donor hotline" to assist in the real-time management of transplant recipients through communication on appropriate donor history and medical information
- IDPs with some experience endorsed improved communication with Organ Procurement Organizations (OPO) as tools to assist with TTIs

## RESULTS

### Results 3. IDPs preferred contacts outside of their center for assistance in potential TTIs



### Results 4. OPO contact and involvement with TTIs by level of transplant experience



### Organism/disease involved in potential transplant-transmitted infection:

<i>M. tuberculosis</i>	15 cases
West Nile virus	7 cases
Histoplasmosis	6 cases
Hepatitis C virus	4 cases
Gram-negative bacilli ( <i>Pseudomonas</i> , <i>Serratia</i> , <i>Aeromonas</i> )	4 cases
<i>Candida</i> spp. (parapsilosis and not specified)	4 cases
Influenza, including H1N1	3 cases
Pneumococcal meningitis	3 cases
HIV	3 cases

### Results 5. Various organizations involved in the detection, communication, and investigation of transplant-transmitted infections

Name	Website	Role
United Network for Organ Sharing	<a href="http://www.unos.org">http://www.unos.org</a>	Private, non-profit organization managing the US organ transplant system under contract with Human Resources and Services Administration, a federal government agency
Organ Procurement and Transplant Network (OPTN)	<a href="http://optn.transplant.hrsa.gov">http://optn.transplant.hrsa.gov</a>	UNOS operated organization regulating organ allocation & placement
US Transplant Centers	<a href="http://optn.transplant.hrsa.gov/members/search.asp">http://optn.transplant.hrsa.gov/members/search.asp</a>	Phone listing of all US transplant centers
OPTN Reporting Line	<a href="http://optn.transplant.hrsa.gov/resources/professionalResources.asp?index=6">http://optn.transplant.hrsa.gov/resources/professionalResources.asp?index=6</a>	Reporting mechanism for potential patient safety issues and OPTN policy violations
Disease Transmission Advisory Committee (DTAC)	1-866-787-4909 <a href="http://optn.transplant.hrsa.gov/members/committeesDetail.asp?ID=95">http://optn.transplant.hrsa.gov/members/committeesDetail.asp?ID=95</a>	OPTN committee which compiles all potential TTI cases reported to UNOS
Council of State and Territorial Epidemiologists; Centers for Disease Control and Prevention	Report to state and local health department; <a href="http://www.cste.org">http://www.cste.org</a> CDC provides assistance to health depts.; <a href="http://www.cdc.gov">http://www.cdc.gov</a>	Public health reporting and investigation of notifiable diseases and suspected illness clusters
Organ Procurement Organizations	<a href="http://organdonor.gov/organizations/organ_procurement.htm">http://organdonor.gov/organizations/organ_procurement.htm</a> <a href="http://www.aopo.org/click-state-fund-opc-a6">http://www.aopo.org/click-state-fund-opc-a6</a>	Contact and background information for US OPOs

## Conclusions

- Communication gaps in the management of solid organ transplant infections exist for transplant-transmitted infections
- Despite varying experience in managing transplant-transmitted infections, ID physicians are frequently asked for their opinion regarding potential donor organ suitability prior to organ procurement, and are sometimes asked to consult on recipient management of possible transplant-transmitted infection
- ID physicians across all levels of experience have incomplete access to Organ Procurement Organizations, the agency to whom suspected transplant-transmitted infections should first be reported
- Improved access to donor information and transplant related educational resources may allow ID physicians to optimally manage suspected transplant-transmitted infections and more easily coordinate investigation of such infections to the appropriate agencies, including Organ Procurement Organizations and public health authorities