



NTDS

NEPHROLOGISTS
TRANSFORMING
DIALYSIS SAFETY

2017 ANNUAL REPORT

Promoting Infection Prevention In Dialysis Facilities

July 2016 – July 2017

August 15, 2017

SUBMITTED BY

American Society of Nephrology
Nephrologists Transforming Dialysis Safety

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202-604-7789

Contract No. 200-2016-88832

ASN



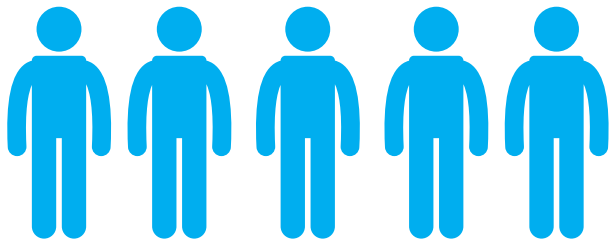
Engaging nephrologists
as team leaders to
“target zero infections”
by actively pursuing the
elimination of preventable
infections in dialysis facilities.



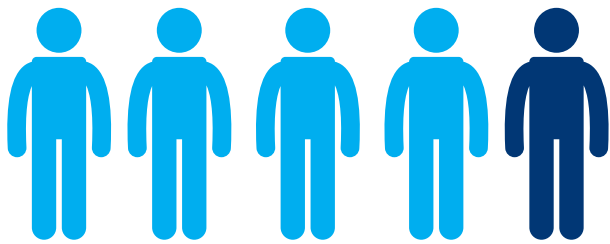
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Why NTDS?



Approximately 10% of individuals with end-stage renal disease (ESRD) died in 2012 due to infections.*



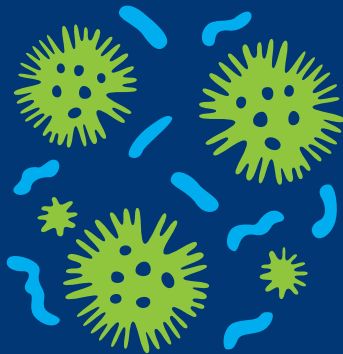
Approximately



63,690

dialysis patients died from infectious complications in 2012. *

While overall mortality rate and death from heart disease have improved in recent years, **infection-related morbidity and mortality have not.***



“ Stopping these infections requires us to transform how we detect and manage infection. ”

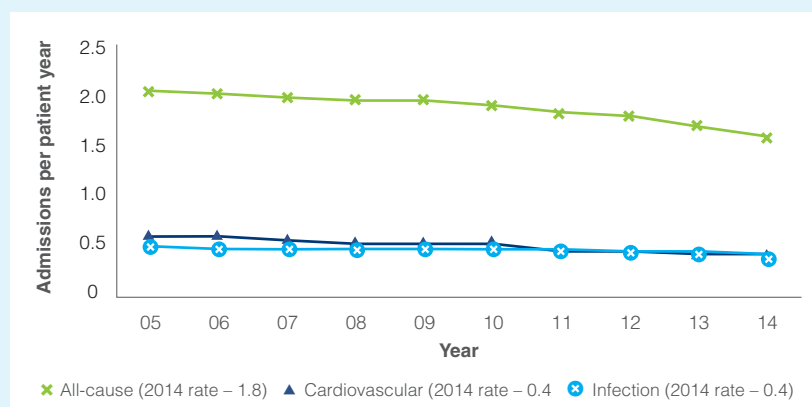
Alan S. Kliger, MD
Chair, NTDS Project Committee

* United States Renal Data System. 2014 Annual Data Report: Atlas of Chronic Kidney Disease and End-Stage Renal Disease in the United States. Bethesda, MD: National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases, 2014.

Background

According to the Centers for Disease Control and Prevention's (CDC's) Division of Healthcare Quality Promotion (DHQP), controlling all infectious threats to patients and staff in US healthcare facilities is an urgent need.

Figure 1: Adjusted all-cause & cause-specific hospitalization rates for ESRD patients, by treatment modality, 2005-2014, All ESRD



Hemodialysis all-cause hospitalization rates have been declining, but hospitalizations for infections have not improved and are now as frequent as CVD hospitalizations.

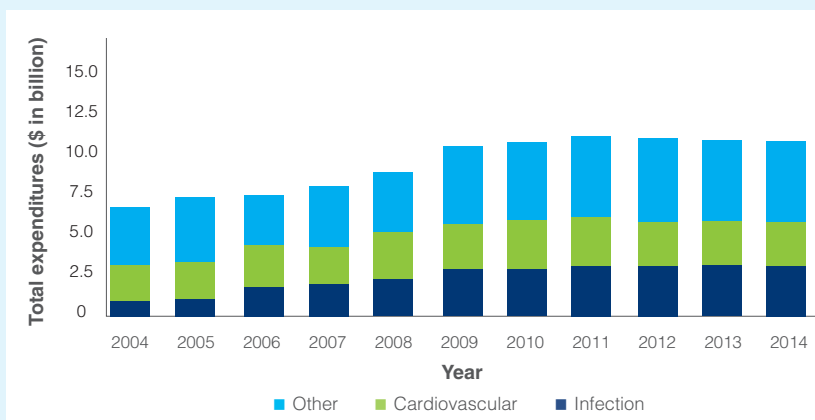
Data Source: Reference tables: G.1, G.3, G.4, G.5, and special analyses, USRDS ESRD Database. Period prevalent ESRD patients; adjusted for age, sex, race, primary diagnosis, & their two-way interactions; ref: ESRD patients, 2011. Abbreviations: ESRD, end-stage renal disease.

USRDS Disclaimer: The data reported here have been supplied by the United States Renal Data System (USRDS). The interpretation and reporting of these data are the responsibility of the author(s) and in no way should be seen as an official policy or interpretation of the U.S. government.

Figure 2: Total Medicare fee-for-service inpatient spending by cause of hospitalization, 2004-2014

Medicare fee-for-service inpatient spending on infections in dialysis units has nearly doubled since 2004, and is approaching the cost of cardiovascular disease.

Data Source: USRDS ESRD Database. Total Medicare costs from claims data. Abbreviation: ESRD, end-stage renal disease. Unknown hospitalization cost (<0.01%) was combined with 'Other'.



CDC supports several initiatives aimed at improving infection-control practices in dialysis facilities across the United States. For several years, CDC has worked with dialysis companies to promote recommended practices that prevent bloodstream infections (BSI) and hepatitis C virus (HCV) infections. To facilitate prevention efforts, CDC has developed publicly available prevention tools to reduce BSI in dialysis facilities.

Nephrologists Transforming Dialysis Safety is an initiative funded by CDC that engages nephrologists to not only promote, but to lead, infection prevention efforts in dialysis facilities. Directly involving nephrologists will accelerate reduction of the burden of BSI and other healthcare-related infections in dialysis patients. NTDS engages and recruits nephrologists whose influence and leadership will strengthen the focus on controlling infection risks for these vulnerable patients.

Infection Prevention Project Overview

Project Objective

Improve implementation of infection prevention and control efforts in dialysis facilities across the United States.

Building upon the foundational principles of CDC's Making Dialysis Safer for Patients Coalition, the NTDS project will help transform dialysis care.

Project Funding

Centers for Disease Control and Prevention

Project Lead

American Society of Nephrology (ASN)

Contract Term

July 15, 2016 – July 14, 2019

CDC Contract Overview

July 2016 – July 2019

Project Priority Areas	Task Areas	Deliverables
<ul style="list-style-type: none"> Adhere to recommended infection prevention practices Screen and detect infections Implement clinical protocols to ensure accurate detection and treatment Facilitate collaboration between nephrologists and state/federal healthcare-associated infection (HAI) programs 	<ul style="list-style-type: none"> Communicate with CDC Develop an implementation plan Engage the kidney community to develop and promote best practices in infection prevention Inform content development Disseminate and implement tools 	<ul style="list-style-type: none"> Assemble NTDS Project Team and meet with CDC Provide a platform for regular communication between CDC and Project Team Develop and execute an implementation plan Engage the kidney community to implement infection best practices and identify strategies to address priority and emerging patient safety issues in dialysis Create educational tools and resources as needed Communicate to the ASN members and broader kidney community the importance of the role of physicians in infection prevention Develop quarterly metrics and a yearly summary report

Organization

The NTDS Project Committee began its work on July 27, 2016. Composed of experts who provide a wealth of skills, knowledge, and experience and represent a wide range of training, geography, and expertise, this committee serves as the lynchpin of the NTDS project.

18 Nephrology Community Members

- 9 Nephrologists
- 1 Nurse
- 2 Nephrologists with operational responsibility from dialysis companies
- 1 Technician
- 2 Infectious disease physicians
- 1 Hepatologist
- 1 ASN Councilor
- 1 Nephrology Fellow

6 CDC Representatives

- 3 Physicians
- 1 Infection Preventionist
- 1 Nurse
- 1 Contracting Officers Representative



Leadership

Carrying out the vision of the CDC and NTDS Project Committee are members of four dynamic Workgroups. These Workgroups define, execute, and evaluate the goals of the project. All members of NTDS workgroups understand the ambition, and necessity, of transforming infection control in dialysis, and commit considerable time and expertise to guiding this transformation.

Seven leaders drive the transformative work of NTDS:



Project Committee Chair
Alan S. Kliger, MD
Yale New Haven Health System
New Haven, CT



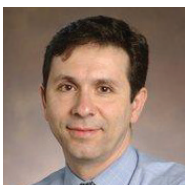
Training Programs Workgroup Chair
Sharon G. Adler, MD, FASN
Harbor-UCLA Medical Center
Los Angeles, CA



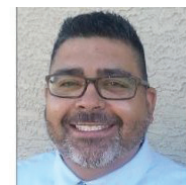
Quality, Assessment, Improvement, & Education Workgroup Chair
Leslie P. Wong, MD, MBA, FASN
Cleveland Clinic
Cleveland, OH



State & Federal HAI Program Workgroup Co-Chair
Anitha Vijayan, MD, FASN
Washington University in St. Louis
MO



Current & Emerging Threats Workgroup Co-Chair
T. Alp Ikizler, MD, FASN
Vanderbilt University School of Medicine
Nashville, TN



State & Federal HAI Program Workgroup Co-Chair
Eugene Livar, III, MD
Arizona Department of Health Services
Phoenix, AZ



Current & Emerging Threats Workgroup Co-Chair
John M. Boyce, MD
J. M. Boyce Consulting, LLC
Middletown, CT

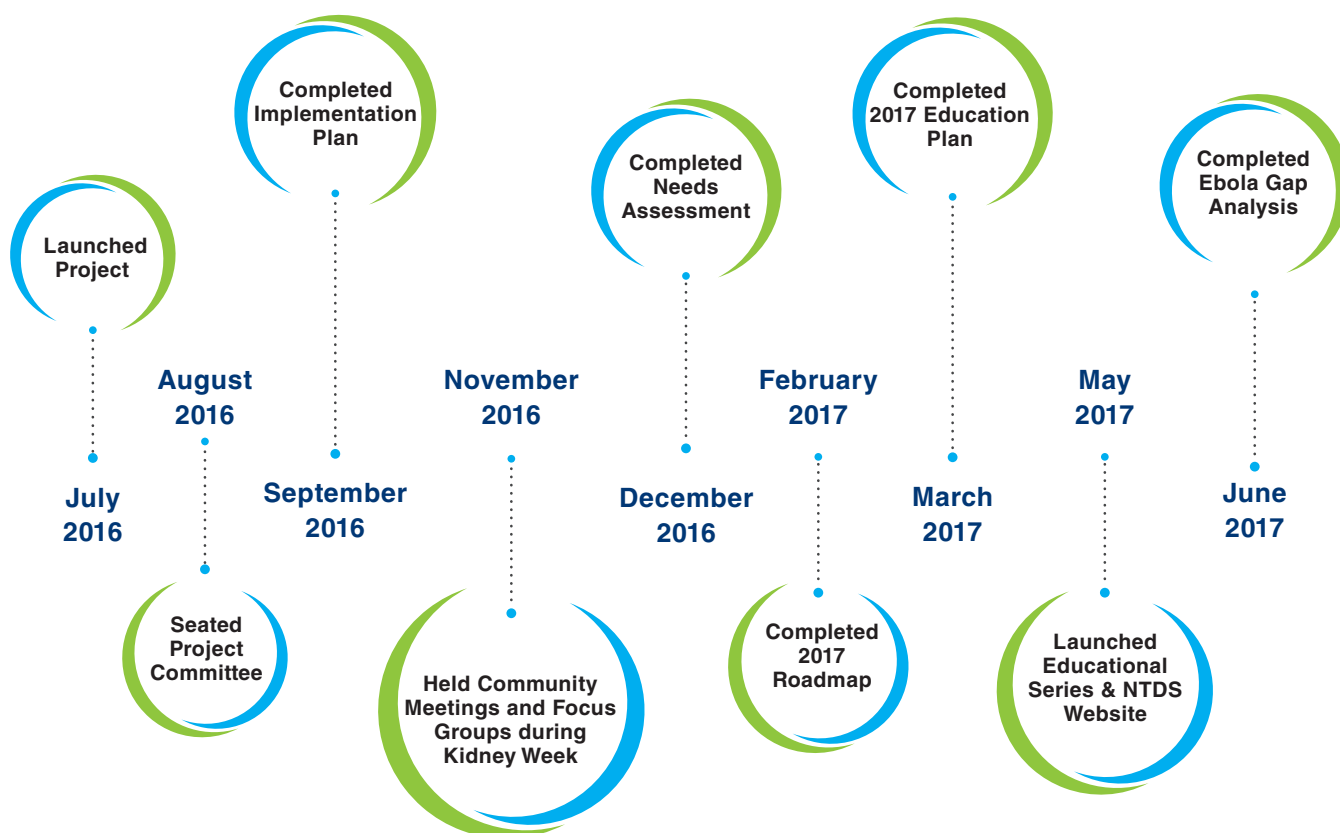
For a listing of Project Committee/Workgroup members please turn to page 19.

Year-One Achievements: Core Tasks and Projects

Cultural change requires thoughtful planning and stakeholder input. In Year One, NTDS successfully reached out to decision makers across nephrology, and incorporated their insights into the work of the Project Committee and Workgroups.

Synthesizing these disparate views, NTDS quickly developed a roadmap to guide the efforts of each workgroup, and launched a robust set of online resources for the growing number of kidney community members now following the progress of NTDS.

The timeline below captures the major achievements of the first project year.



Devised an Implementation Plan

- Determined strategies to implement better infection prevention practices within the nephrology community
- Selected best methods to garner feedback and create tools that are useful to nephrologists who will lead these changes

Conducted a Needs Assessment

- Led a series of community meetings and focus groups that identified infection control challenges, barriers, and opportunities to improve infection prevention practices, methods for early detection, and strategies for proper treatment of bacterial infections in patients undergoing dialysis

TARGET ZERO INFECTIONS

Improved Preparedness for Emerging Threats

- Conducted a gap analysis to identify lessons learned related to the US Ebola response and unaddressed infection prevention and control needs related to dialysis patients and providers
- Began to strengthen the communication bridge between the nephrology community and the state departments of health HAI groups to encourage to rapid mobilization in the event of a new infectious threat

Developed a Roadmap to Zero Infections

- Analyzed the Needs Assessment to identify recurring themes and educational topics
- Utilized this analysis to develop the 2017 Roadmap which guides the work of each of the four NTDS Workgroups

Engaged Nephrologists Who Will Lead Transformative Change

- Created a series of NTDS webpages within ASN's website that includes a resource library of infection prevention tools
- Launched an educational series with a webinar entitled, "Targeting Zero Infections: Where Do We Begin?". Key education points included the virulence of hepatitis C, the role of the nephrologist as a leader, and direction to the online resource library
- Partnered with kidney-related organizations including the Making Dialysis Safer for Patients Coalition, Renal Physicians Association, the ESRD Networks and others to emphasize the critical need for a change in dialysis facility culture to meet the infection prevention challenge

Setting the Project Course: The Needs Assessment Process

To determine barriers to infection prevention and identify recommendations for engagement, the NTDS Project Committee first sought input from its own members, via a root-cause analysis (RCA) exercise. NTDS then augmented those insights by conducting multiple educational and focus group sessions during ASN Kidney Week, ASN's annual meeting for kidney health professionals. Contributing to this effort were 737 physicians, researchers, nurses and nurse practitioners, pharmacists, physician assistants, other healthcare professionals, and trainees.

Process

- Conducted RCA with Project Committee: October 2016
- Solicited community input: November 2016
 - 2016 Kidney Week Town Hall
 - 2016 Kidney Week Focus Group sessions (2)
- Distilled all input into infection prevention barriers and community recommendations documents: November 2016
- Developed a Needs Assessment that identified common themes: December 2016



737

**Healthcare professionals
contributed to the Needs
Assessment**

Analyzing the Landscape

The NTDS team rapidly assembled key data via the Root Cause Analysis (RCA) and needs assessment process and identified six barriers to the current infection prevention process:

- Lack of education and training
- Lack of policies, protocols, and procedures
- Absence of data
- Presence of catheters
- Lack of leadership
- Lack of governmental collaboration

The NTDS Project Committee distilled this list to the project's specific areas of focus:

Education and Training Needs:

- Current guidelines: policies, procedures, and protocols
- Infection prevention and leadership education and training for nephrology fellows
- Hand hygiene
- Education/training—including human factors engineering, continuous quality improvement, and best practices
- State/Federal HAI program introduction and mandates

Policies, Procedures, and Protocols Revision and/or Adoption for:

- Hepatitis C testing
- Antibiotic stewardship
- Hand hygiene
- General infection prevention guidelines
- Healthcare-associated infection reporting

Data Availability and Training Including:

- Infection-related data sources
- Information and techniques for quality improvement

Catheter Reduction Initiatives to Address:

- Reduction of catheter placement
- Innovations for improved catheter-related infection prevention including improved technique

Leadership Mandates to Facilitate:

- Dialysis organization collaboration
- Large scale systems change
- Enhanced lines of communication
- Training for medical directors and fellows
- Identification of a dialysis facility infection control leader/coordinator
- Collaboration with State/Federal HAI programs and renal organizations

Government Collaboration Needed to:

- Reduce inconsistencies between government agencies
- Eliminate knowledge gaps between State/Federal HAI programs and dialysis facilities

Getting There: The Roadmap

Harnessing the extensive data gathered during the needs assessment process, the Project Committee members identified the recurring themes and educational needs that would propel design of the 2017 Roadmap. The roadmap includes program development and educational campaigns for each Workgroup.

Quality, Assessment, Improvement, & Education Workgroup

- General infection prevention education and resource dissemination through the development of an educational series
- Leadership development and culture change education and training
- Quality assessment and performance improvement (QAPI) and continuous quality improvement (CQI) training

Current & Emerging Threats Workgroup

Develop campaigns to highlight:

- High priority threats
- Antimicrobial stewardship
- Hepatitis B and C

Ebola gap analysis

State & Federal HAI Programs Workgroup

- Facilitating education and collaboration between state HAI programs and nephrologists
- Hand hygiene campaign

Training Programs Workgroup

- Develop infection prevention training module for fellows

2017 Educational Series

Building on the creation of the ambitious 2017 Roadmap, the NTDS Project Committee launched an educational series during calendar year 2017.

The first of the series, a webinar held on May 23, took place during Contract-Year One. Promotion via both ASN channels and through partnerships with other members of the kidney community contributed to the webinar's success. NTDS leaders and staff were gratified by the positive feedback summarized below.

Providing useful content to those engaged in dialysis care signaled a tremendous advance to fulfilling the mission of this important project.

WEBINAR 1: May 23, 2017

TITLE: Targeting Zero Infections: Where Do We Begin?

OBJECTIVE: A case-based educational session to address the urgent need to enhance infection control and prevention practices and demonstrate the critical role nephrologists play as team leaders.

PARTNERS IN PROMOTION

American Nephrology Nurses Association, Forum of ESRD Networks, Heartland Kidney Network (ESRD Network 12), Mid-Atlantic Renal Coalition (ESRD Network 5), National Association of Nephrology Technicians, National Renal Administrators Association, Network Coordinating Center, Renal Physicians Association, The Renal Network (ESRD Network 10)

PARTICIPANT OVERVIEW

Medical directors of dialysis units, nephrologists, nephrology fellows, nurses, technicians, and other members of the dialysis healthcare team

PROGRAM EVALUATION

- Almost 100% of participants deemed the educational method—highlighting a case presentation—as effective
- Over 70% of attendees indicated that participation in this activity would improve their team performance and patient outcomes
- More than one-half of all participants felt the education would lead them to change their practice
- Almost 100% of attendees anticipate participating in Webinar 2 (“Targeting Zero Infections: Multi-Drug Resistant Organisms (MDROs) and Antimicrobial Stewardship in the Dialysis Facility”, scheduled for September 27, 2017)

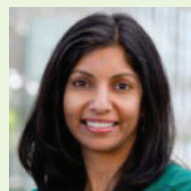


584 Total Attendance

SPEAKERS



Alan Kliger, MD
By the Numbers:
An Urgent Call to Action



Priti Patel, MD, MPH
Infection Prevention:
Proven Interventions



Leslie Wong, MD, MBA, FASN
Nephrologist Leadership

TARGET ZERO INFECTIONS

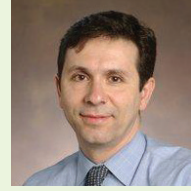
Building on the initial success of the NTDS Educational Series, the team expands this series into Contract-Year Two:

WEBINAR 2: September 27, 2017

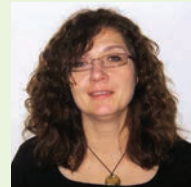
TITLE: Targeting Zero Infections: Multi-Drug Resistant Organisms (MDROs) and Antimicrobial Stewardship in the Dialysis Facility

OBJECTIVE: This educational session will review MDRO prevalence and spread in the outpatient dialysis facility and discuss how to improve antimicrobial prescribing patterns with antimicrobial stewardship programs.

Speakers



T. Alp Ikizler, MD, FASN
Case Presentation



Erika D'Agata, MD, MPH
Antimicrobial Stewardship:
Let's Frame the Problem

ASN Kidney Week: NTDS Early Program

DATE: November 1, 2017

TITLE: The Dialysis Infection Crisis in the United States: A Call to Action

Topics include:

- The Infection Crisis by the Numbers
- The Critical Role of Nephrologists as Change Agents
- The Culture of Safety
- Errors and Accountability: Putting Tools into Action
- Current & Emerging Threats: Steps for Detecting and Managing Patients with Bloodborne Pathogens
- Antimicrobial Stewardship
- A concluding practicum

SPEAKERS:

George Aronoff, MD
Allan Collins, MD
Erika D'Agata, MD, MPH
Renee Garrick, MD
T. Alp Ikizler, MD, FASN
Jerry Jackson, MD, FACP
Alan Kliger, MD
Eduardo Lacson, Jr., MD, MPH
Paul Martin, MD
Priti Patel, MD, MPH
Leslie Wong, MD, MBA, FASN

ASN Kidney Week: Annual Session

DATE: November 3, 2017

TITLE: Infection Prevention: Are You Prepared for the Next Ebola?

Topics include:

- The Infection Crisis in the United States
- Nephrologist Infection Prevention Leadership—Why Should I Care?
- Infectious Disease Threats and Prevention: What's Out There?
- Cases from the Field: Management and Prevention of Infections

SPEAKERS:

Allan Collins, MD
Erika D'Agata, MD, MPH
T. Alp Ikizler, MD, FASN
Doug Johnson, MD
Alan Kliger, MD
Franklin Maddux, MD
Allen Nissenson, MD
Priti Patel, MD, MPH
Brigitte Schiller, MD
Leslie Wong, MD, MBA, FASN

Website and Social Media

Engaging those who will make a difference to care requires a multi-dimensional approach. NTDS has established a presence on diverse communication platforms as it makes the case for better infection control. Metrics help the team assess utilization of the website and reach of social media posts, and inform future outreach.



 **7,714 VIEWS**

Website URL: <https://www.asn-online.org/ntds>

Launched: May 2017

Features: Resource Library highlighting current education on core topics, including date and quality improvement, identification and treatment of bloodborne pathogens, regulations, and leadership and culture

 **26,336 AUDIENCE**

Administered by ASN: www.facebook.com/AmericanSocietyofNephrology

Key posts: ASN President's invitation to the NTDS Town Hall, Town Hall Invitation, links to *Kidney News Online* articles, promotions for the website, and information about Webinar 1

 **12,308 AUDIENCE**

Administered by ASN

Hashtags: #ASN_NTDS and #targetzeroinfections

Key topics: Project Announcement, promotion of NTDS Kidney Week events, links to *Kidney News Online* articles, promotions for the website and Webinar 1, and campaigns for the use of hand sanitizer in dialysis facilities

 **134 MEMBERSHIP**

NTDS Community post highlights:

- NTDS Town Hall
- Regular glove use vs. sanitizer use
- ClearGuard HD Antimicrobial Barrier Cap
- Anti-infection or infection resistant surfaces

Publications and Presentations

Through every step of the launch, needs assessment and early implementation processes, NTDS leaders and staff created content to inform, engage and interest members of the kidney community. Vehicles included “ASN In the Loop,” ASN website front page ads, popups, *Kidney News* and *Kidney News Online* articles, house ads, broadcast emails, and Kidney Week app alerts.

Feature Publications

Kidney News:

Distribution to approximately 19,000 subscribers.

ASN, CDC Effort to Prevent Dialysis Infections Addressed at Kidney Week Town Hall (January 2017) Author: Dawn McCoy

How To Make Handwashing a Fun Experience for Patients in the Dialysis Unit (Fellows' Corner feature, May 2017) Author: Cheng Chu, MD

Kidney News Online:

Annual visits 51,000

Leadership, Motivation, and Transformational Change: What's In It For Nephrologists? (February 2016)

Authors: Leslie Wong, MD, MBA, FASN, and George Aronoff, MD

Improving Care for Children on Dialysis (February 2016) Authors: Alicia Neu, MD, and Bradley Warady, MD

Announcement: Targeting Zero Infections: A NTDS Webinar Event on May 23 (Parts I and II) (April 2016)

Author: Jerry Jackson, MD, FACP

Nephrology News & Issues:

Approximate distribution of print issues is 26,000

Initiative Aims to Significantly Reduce Infection Rate in Dialysis Patients (November 2016)

Author: Rebecca Zumoff

Putting HAI's, The Nephrologist at Center Stage (March 2016) Authors: Alan Kliger, MD, Susie Stark, BA, Darlene Rodgers, BSN, RN, CNN, CPHQ

The NTDS Project Committee and staff present at local, regional, and national conferences as well as via national webinars, to spread information about infection prevention. These presentations reached over 1,700 members of the kidney community during the first year.

Making the Case: Feature Presentations

Arizona Dept. of Health ESRD HAI Subcommittee Meeting

Darlene Rodgers, BSN, RN, CNN, CPHQ
September 6, 2016

DCI Medical Director Conference

Alan Kliger, MD
September 30, 2016

City-Wide Clinical Renal Conference

Leslie Wong, MD, MBA, FASN
October 26, 2016

Nephrology Ground Rounds, Harbor-UCLA Medical Center

Sharon Adler, MD, FASN
October 31, 2016

Nephrology Nursing Certification Commission (NNCC)

Danilo Concepcion, CBNT, CCHT-A, FN
November 12, 2016

SCOPE Collaborative

Alicia Neu, MD, and Bradley Warady, MD
January 31, 2017

NCC Discovery Event—Antimicrobial Stewardship

Erika D'Agata, MD, MPH
March 30, 2017

ANNA Symposium

Priti Patel, MD, MPH, Nicole Gualandi, MS/MPH, RN, CIC, and Darlene Rodgers, BSN, RN, CNN, CPHQ
April 7, 2017

Renal Grand Rounds: Washington University School of Medicine

Anitha Vijayan, MD
April 13, 2017

ESRD Network 10 Medical Review Board

Alan Kliger, MD, and Susie Stark
May 19, 2017

ESRD NCC HAI Learning & Action Network Discovery Event – Infection Prevention: Leadership, Intervention, Results

Alan Kliger, MD
June 20, 2017

In Year Two, NTDS will launch an infection prevention series in the *Clinical Journal of the American Society of Nephrology* (CJASN), and publish an infection prevention curriculum for fellows.

Looking Ahead: 2018 and Beyond

In the coming years the NTDS Project Committee will build on its early success gathering data, engaging with the community and providing key resources, to ensure that the Roadmaps for 2018 and 2019 accelerate the pace of productive change to dialysis care.

Key areas of focus for Year Two

- Continuing the Educational Series to reduce central venous catheter use, a key concern identified by the community in the 2017 Needs Assessment
- Establishing productive relationships between nephrologists and state and federal HAI professionals
- Developing community consensus on a standardized blood culture policy for use in the outpatient hemodialysis setting
- Updating hepatitis C screening algorithm information for review and subsequent adoption by the CDC
- Providing ongoing education on the critical role of hand hygiene in preventing infections
- Developing analyses of, and community education on, current and emerging threats, including Multi-Drug Resistant Organisms (MDRO's)
- Developing a special edition of NephSAP, which will be published in January 2019, aiming to reinforce infection prevention and treatment knowledge through testing
- Informing the community through articles published in leading nephrology journals, including CJASN
- Maintaining a vital presence at ASN's Kidney Week, where a Focus Group Session and Annual Session will be offered for the second consecutive year
- Maintaining a vital presence at ASN's Kidney Week, where the first NTDS Early Program will be offered
- Using community forums, including webinars and in-person meetings and conferences, to educate nephrologists on the key role of physician leadership

Key areas of focus for Year Three

- Continuing the Educational Series to address key findings in the 2018 Needs Assessment including ongoing education on the critical role of hand hygiene in preventing infections
- Promoting productive relationships between nephrologists and state and federal HAI professionals
- Expanding antibiotic stewardship in the dialysis setting
- Publishing a NTDS special edition of NephSAP
- Continuing to inform the community through articles published in leading nephrology journals
- Maintaining a vital presence at ASN's Kidney Week, where an Early Program will be offered for the second consecutive year
- Maintaining a vital presence at ASN's Kidney Week, where a Focus Group Session and Annual Session will be offered for the third consecutive year
- Using community forums, including webinars and in-person meetings and conferences, to educate nephrologists on the key role of physician leadership
- In partnership with the CDC, establishing subcommittees on Blood Culture Standardization and a Screening Algorithm for Hepatitis C

Project Committee/Workgroup Membership

Quality, Assessment, Improvement & Education Workgroup

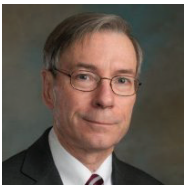
Chair: Leslie P. Wong, MD, MBA, FASN



**George Aronoff, MD, MS,
FACP**
DaVita Kidney Care
Lakewood, CO



Priti Patel, MD, MPH
(CDC liaison)
Atlanta, GA



Jerry Jackson, MD, FACP
Fresenius Medical Care
Birmingham, AL



Sally Hess, MPH, CIC
(CDC liaison)
Atlanta, GA



**Eduardo K. (Jay-r) Lacson,
Jr., MD, MPH, FACP, FASN**
Tufts University School
of Medicine
Boston, MA



Nathaniel Reisinger, MD
University of Pennsylvania
Philadelphia, PA



Bradley A. Warady, MD
Children's Mercy Hospitals
and Clinics
Kansas City, MO

TARGET ZERO INFECTIONS

Training Programs Workgroup

Chair: Sharon G. Adler, MD, FASN



Anupam Agarwal, MD, FASN
University of Alabama at
Birmingham



Edward R. Jones, MD
Delaware Valley Nephrology
Philadelphia, PA



Gregory L. Braden, MD
Tufts University School of
Medicine
Springfield, MA

Ibironke (Ronke) Apata, MD
(CDC liaison)
Atlanta, GA



Danilo Concepcion,
CBNT, CCHT-A, FNKF
St. Joseph Hospital
Orange, CA

State & Federal Healthcare-Associated Infections (HAI) Programs Workgroup

Co-Chair: Anitha Vijayan, MD, FASN

Co-Chair: Eugene Livar, MD



Debbie Cote,
MSN, RN, CNN, NE-BC
University of Virginia Health
System
Charlottesville, VA



Nicole Gualandi,
MS/MPH, RN, CIC
(CDC liaison)
Atlanta, GA

Current & Emerging Threats Workgroup

Co-Chair: T. Alp Ikizler, MD, FASN

Co-Chair: John M. Boyce, MD



Erika D'Agata, MD, MPH

Brown University
Providence, RI



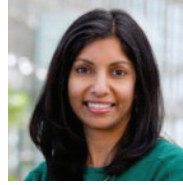
Paul M. Palevsky, MD

University of Pittsburgh School
of Medicine
PA



Raymond Heilman, MD

Mayo Clinic
Phoenix, AZ



Priti Patel, MD, MPH

(CDC liaison)
Atlanta, GA



Paul Martin, MD

University of Miami
FL

Ibironke (Ronke) Apata, MD

(CDC liaison)
Atlanta, GA



Alicia Neu, MD

Johns Hopkins University
School of Medicine
Baltimore, MD



Duc Nguyen, MD

(CDC liaison)
Atlanta, GA

NTDS Staff



Project Director

Susan A. Stark, BA

NTDS is led by Susan A. Stark. Ms. Stark has over 35 years of experience working in healthcare administration and quality. Prior to being named to this position, Ms. Stark served as Executive Director of multiple end-stage renal disease (ESRD) Networks.



Nurse Consultant

Darlene Rodgers, BSN, RN, CNN, CPHQ

Ms. Rodgers has over 30 years of experience in clinical nephrology nursing practice and healthcare administration, including serving as Executive Director of two ESRD Networks for 15 years.



Project Coordinator

Bonnie L. Freshly, MEd, CMP

Ms. Freshly has worked in the kidney community for over 15 years, specializing in conference management, publications, and project development.



Project Assistant

Katie Rogers, BS

Ms. Rogers has a strong interest in the intersection of biomedical engineering and public health.

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