NATIONAL POLICY FORUM
ON CRITICAL CARE AND ACUTE RENAL FAILURE

Report of the Delegates

February 7, 2017

Ronald Reagan Building and International Trade Center

Washington, DC

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Background on the National Policy Forum

Leaders in the fields of critical care medicine and acute kidney injury gathered on February 7th, 2017 at the Ronald Reagan Building and International Trade Center in Washington, DC for the first-ever **National Policy Forum on Critical Care and Acute Renal Failure.**[1]

The event, moderated by Dr. John Kellum – Professor and Vice Chair for Research and Director of The Center for Critical Care Nephrology at the University of Pittsburgh Medical Center – was structured as a roundtable dialogue among 28 discussants. Panelists and delegates included 4 intensivists, 10 nephrologists, 3 patient/advocates, 6 clinical health advocacy organizations, and 3 representatives of payer and industry organizations. Among the policy leaders were a senior representative of the Pittsburgh Veterans Administration/VA Hospital system and a top nephrologist from the staff of the Centers for Medicare and Medicaid Services.

Leslie Meigs, a 26-year-old acute kidney injury ("AKI") survivor who was left in a month-long coma when her kidneys failed at the age of 8, noted it is past time for leaders to work together to identify policy strategies to help patients and their families, but also said there is ample opportunity now to make a difference. Meigs said, "My health today is a direct effect of the care I received" nearly two decades earlier, and underscored the importance of patient-focused care and knowledgeable clinicians, crediting the quality of care she received as a pediatric AKI patient, and a subsequent kidney transplant recipient, to her recovery and good health today.

Following Meigs' imperative that the group begin to identify approaches for how to bring that level of quality and patient-centricity to the challenge of AKI prevention and treatment more broadly, the day's discourse was parsed into several core topics: In Session one, the delegates reviewed what is currently known about acute kidney injury, including the importance of recognizing and preventing the condition, treatment options available for patients, and the strain it places on the healthcare system; in Session two, they discussed the relative benefits of various treatment approaches to renal replacement therapies for specific patient subpopulations; in Session three, a dialogue advanced on the topic of optimizing and measuring outcomes for patients through clinician education and training efforts. All the sessions helped to inform a cross-stakeholder vision for policy action that crystallized in the final session of the day.

AKI: The Policy Imperative

Spiraling numbers of U.S. patients suffer from acute kidney injury, also known as acute renal failure. AKI can be triggered by serious injuries, sepsis, and many chronic conditions.

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[1] The National Policy Forum on Critical Care and Acute Renal Failure was sponsored with funding from Baxter Healthcare Corporation and the Foundation on National Critical Care Policy.

Many post-operative patients suffer from AKI – including those recovering from cardiovascular surgery. In its most severe form, patients suffering from AKI require dialysis treatment. With nearly four million AKI patients each year in U.S. hospitals – 1.2 million of whom get AKI during their hospital stay – and about 300,000 AKI deaths annually, the condition has reached epidemic proportions.

Each year, death rates from AKI are higher than the death rate of patients from diabetes, heart failure, prostate cancer and diabetes *combined*, making it perhaps the deadliest condition in our nation today. Just as troubling is that there has been a 13% surge in AKI among U.S. patients since only 2013, a fact made more striking when considering that a patient with AKI ends up staying an extra 3.5 days in the hospital, and that AKI adds about $9 billion in system costs each year.

These trends underscore the urgent challenge for clinicians, patients, hospitals and payers alike to identify steps that can be taken to raise awareness, bolster prevention and improve treatment options.

Federal Policy Action is Needed: Priority Action Areas Emerge

With this sense of urgency and opportunity for impact in mind, delegates at the **National Policy Forum on Critical Care and Acute Renal Failure**, a first-ever meeting on the topic, came together to identify areas of opportunity for national policy action. As discussions continued through the day, eight key themes emerged as areas of broad agreement and concern:

- **Modernizing treatment guidelines and metrics should be a goal across stakeholder interests.** While panelists agreed there is no 'magic bullet' for treatment, they also raised concern about the lack of national quality metrics. Many participants expressed strong interest in seeing new information generated from existing data as well as in the value of additional research. Driving best practices and metrics should not, discussants agreed, wait exclusively on future data. As one panelist noted, "The knowledge we are gaining in practice is often wasted." Another said, "We need to leverage the data we have against the mission we're trying to accomplish."

- **We must address the paucity of data** on patients, treatment modalities, risk factors and outcomes. A strategic effort to fund, generate and effectively distribute data, both retrospective and prospective, is crucial and time-sensitive, and can help clinicians and policymakers meet the challenge of developing and disseminating metrics and best practices. Retrospective analysis in particular will allow hospitals to benchmark how they are doing. As one nephrologist stated, "If the survival in your unit is equal or above the large multicenter studies, then you're probably doing a good job." Furthermore, there has been inadequate attention on AKI from federal funding agencies, and this too must be an area of change.

- **Steps can also be taken to break out data that will bolster knowledge and patient care**. Currently, there are real barriers in policy and practice: CMS reimbursement codes for renal replacement therapies and conditions related to AKI today combine too much information and thus prevent a line of sight into outcomes from different treatment modalities. Privacy restrictions may inadvertently hinder access to needed data in electronic health records. Lack of integration of laboratory data within integrated health systems may also limit what is knowable about AKI patients. Concrete policy steps to unlock this and other extant data should be a priority.

- **There is value in focusing on high-risk patient subpopulations as we examine best practices with different renal replacement treatment modalities**. Data and guideline development as well as clinician and policymaker education considering what types of modalities are appropriate for what types of patients should be elevated for patient subsets where AKI is most prevalent and high-risk – including, but not limited to, hemodynamically unstable patients; patients with low urine output (one panelist urged that urine output be monitored as a "sixth vital sign"); patients with sepsis; and open heart surgery patients (for whom the rate of AKI ranges between 5 percent and up to 60 percent, one expert noted, rising as patients remain on cardiac bypass for increasingly long periods of time). Most clinicians urged that modality-focused guideline development not be overly rigid, to allow, as one nephrologist urged, for treatment of "what the patient needs at a given point in time."

- **Preventing AKI, or the progression of AKI, is as vital as treating it more effectively.** The rising tide of AKI patients, the serious long-term health effects on AKI survivors and the systemic costs triggered by growing rates of AKI remind us that there is much to be gained by policy and practice supporting prevention. Among other things, providers can work with policymakers to examine practices that are causing hospitalized patients who are admitted with normal kidney function to suffer from AKI during their stay. Since *1.2 million cases of AKI every year occur among patients admitted to the hospital for another condition*, more must be done to assess the risk of "nephrotoxic" therapeutic interventions (i.e., vancomycin) against the associated and often elevated risk of a patient developing AKI.

- **Strategies to effectively train clinicians within and across specialty groups are a must.** AKI affects patients across therapeutic categories, and it is a multi-factorial condition. As a leading pediatric nephrologist commented, coordinating discussions must be promoted within care teams early and often to identify treatment goals – for example, identifying targeted net fluid balances - and this in turn can help optimize treatment interventions. A second clinician noted that more can be done to train clinicians on how to optimize renal replacement therapies consistently across different circumstances. And finally, a third commented, more structured training

and credentialing mechanisms for renal replacement therapies deserve consideration.

- **Policy measures can help address dangerous and costly long-term health risks of AKI for surviving patients.** Rates of chronic kidney disease, increased cardiovascular risk and other comorbidities among AKI survivors – and attendant, often staggering long-term costs they carry – warrant policies that compel us to follow these patients more closely after discharge, including through registries and other such approaches.

- **Changes to reimbursement policy and other incentives should be on the table.** Hospitals operating under a capitated payment system may be disadvantaged when needed, but oftentimes costly, technologies are being considered. One expert urged that we should understand more about how and whether DRGs hinder treatment approaches as well as quality assurance initiatives, which many clinicians agreed were vital. A leader of the hospital community added, "If we are to improve, we must measure. If we are to sustain, we must incentivize."

NEXT STEPS

Delegates urged a strong, thoughtful, and continued dialogue within and across the relevant stakeholder community – clinicians, patients and families, providers, industry leaders, and public health advocates. Such a dialogue would hone more granular and targeted policy proposals and broaden outreach to advance beneficial, needed policy changes. More work, said participants, clearly lies ahead, but the importance of building awareness of this issue and momentum for policy change means that work must continue. Many delegates expressed a strong desire to continue to be involved in this work and follow-on discussions are to be scheduled in the weeks and months ahead.

DELEGATE LIST

Dr. Robert Bartlett – University of Michigan*

Donna Bednarski – American Nephrology Nurses Association

Robert Blaser – Renal Physicians Association

Dr. Michael Connor Jr. – Emory University*

Paul Conway – American Association of Kidney Patients*

Guy D'Andrea – Discern Health

Dr. Sevag Demirjian – Cleveland Clinic

Dr. Mary Gellens – Baxter Healthcare Corporation

Dr. Stuart Goldstein – Cincinnati Children's Hospital Medical Center*

Natalie Graves – American Hospital Association

Dr. Raymond Hakim – Vanderbilt University Medical Center

Dr. John Kellum – University of Pittsburgh*

Richard Knight – American Association of Kidney Patients

Tomas Leon – American Hospital Association

Dr. Kathleen Liu – University of California, San Francisco*

Dr. Ravindra Mehta – University of California, San Diego*

Leslie Meigs – former AKI patient

Dr. Mark Okusa – University of Virginia

Dr. Paul Palevsky – VA Pittsburgh Healthcare System

Dr. Ben Peck – Discern Health

Dr. Jesse Roach III – Centers for Medicare and Medicaid Services

Dr. Rajiv Saran – University of Michigan/Kidney Epidemiology and Cost Center

Bela Sastry – Baxter Healthcare Corporation*

Stephanie Silverman – Venn Strategies, LLC

Dale Singer – Renal Physicians Association

Dr. Ashita Tolwani – University of Alabama, Birmingham*

Dr. Sean Townsend – California Pacific Medical Center/Sutter Health*

Dr. Leslie Wong – Cleveland Clinic

Troy Zimmerman – National Kidney Foundation*

**Member of the Steering Committee*

PROGRAM AGENDA

WELCOME, OVERVIEW, AND INTRODUCTIONS

John Kellum, MD, FACP, MCCM, *Director, Center for Critical Care Nephrology, University of Pittsburgh Medical Center*

SESSION I: **WHAT WE KNOW ABOUT AKI IN THE INTENSIVE CARE UNIT**
Discussion Leader: John Kellum, MD, *University of Pittsburgh Medical Center*

Panelist: **Stuart Goldstein, MD, FAAP, FNKF**, *Director, Center for Acute Care Nephrology, Cincinnati Children's Hospital*

Panelist: **Leslie Meigs,** *former AKI patient*

Panelist: **Michael Connor Jr., MD**, *Assistant Professor of Medicine, Department of Medicine Renal Division, Emory University*

DELEGATE ROUNDTABLE DISCUSSION

SESSION II: **EFFECTIVE STRATEGIES TO MANAGE AKI PATIENTS IN THE ICU**
Discussion Leader: John Kellum, MD

Panelist: **Sean Townsend, MD**, *Vice President of Quality and Safety, California Pacific Medical Center/Sutter Health*

Panelist: **Ben Peck, PhD**, *Project Director, Discern Health*

DELEGATE ROUNDTABLE DISCUSSION

SESSION III: **OUTCOME IMPROVEMENTS THROUGH BETTER EDUCATION & TRAINING**
Discussion Leader: Ravindra Mehta, MD, *Professor of Clinical Medicine, University of California-San Diego School of Medicine, Division of Nephrology-Hypertension*

Panelist: **Ashita Tolwani, MD**, *Professor of Medicine, University of Alabama at Birmingham (UAB)*

Panelist: **John Kellum, MD**, *University of Pittsburgh Medical Center*

Panelist: **Mary Gellens, MD**, *Medical Director, Baxter Healthcare Corporation*

Panelist: **Kathleen Liu, MD, PhD**, *Professor, University of California at San Francisco School of Medicine, Division of Nephrology*

DELEGATE ROUNDTABLE DISCUSSION

SESSION IV: **POLICY OPPORTUNITIES TO DRIVE OUTCOMES AND INNOVATION**
Discussion Leader: Stuart Goldstein, *Cincinnati Children's Hospital*

Panelist: **Richard Knight**,*Vice President, American Association of Kidney Patients*

Panelist: **Robert Bartlett, MD**, *Professor Emeritus of Surgery, Section of General Surgery, Division of Acute Care Surgery, University of Michigan*

Panelist: **Jesse Roach III, MD**, *Medical Officer, Center for Clinical Standards and Quality, Centers for Medicare and Medicaid Services*

DELEGATE ROUNDTABLE DISCUSSION

PLENARY: **AREAS FOR ENGAGEMENT, ACTION, AND NEXT STEPS**