Agenda

• What is this call about?
• Today’s speaker:
  ▪ Subodh Saggi, MD, MPH, FACP, FASN
    - State University of New York (SUNY) Downstate Professor of Clinical Medicine
    - SUNY Downstate Medical Center (DMC) Fellowship Director, Nephrology
    - SUNY DMC Pancreas Transplant Program Medical Director
• Topic: Improving Mortality Outcomes in Dialysis Facilities During a Pandemic With Early Process Improvements
• Questions and Answers (Q&As) from chat and Q&A panels
What Is This Call About?

• Hear from stakeholders and peers in the ESRD community who are adapting to COVID-19.
• Share examples and provide real-world strategies for facilities to use.
• Engage in bi-monthly calls on varying topics.
Improving Mortality Outcomes in Dialysis Facilities During Pandemic With Early Process Improvements

Carter E, Barber M, Dieng A, Moller D, Berig M, Saggi SJ.
Disclosure Statements

Subodh Saggi, MD, MPH, FACP, FASN, author of this article, is employed by the SUNY DMC, Brooklyn, NY. Financial: None
Nonfinancial: Member, Board of Directors, IPRO ESRD Network 2 but receives no compensation. Subodh J. Saggi and all other authors on this abstract have no relevant financial or nonfinancial relationship(s) within the services described, reviewed, evaluated, or compared in this presentation.
Session Objectives

1. Describe how to rapidly implement process improvements to support patients and staff during a pandemic.

2. Define early intervention to monitor success and sustain change for optimal infection control.

3. Outline effects on staff and patient wellness, and efforts to maintain safety during a crisis situation.
Why Am I Showing These 2 Pictures?
## Census Chart

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Borough</th>
<th>2010</th>
<th>2020</th>
<th>Change in Percent - 2010-2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>New York City</td>
<td>8,242,624</td>
<td>8,550,971</td>
<td>3.74%</td>
</tr>
<tr>
<td>Total</td>
<td>Bronx</td>
<td>1,385,108</td>
<td>1,446,788</td>
<td>4.45%</td>
</tr>
<tr>
<td>Total</td>
<td>Brooklyn</td>
<td>2,552,911</td>
<td>2,648,452</td>
<td>3.74%</td>
</tr>
<tr>
<td>Total</td>
<td>Manhattan</td>
<td>1,585,873</td>
<td>1,638,281</td>
<td>3.3%</td>
</tr>
<tr>
<td>Total</td>
<td>Queens</td>
<td>2,250,002</td>
<td>2,330,295</td>
<td>3.57%</td>
</tr>
<tr>
<td>Total</td>
<td>Staten Island</td>
<td>468,730</td>
<td>487,155</td>
<td>3.93%</td>
</tr>
</tbody>
</table>

Source: Census.gov. Available at https://www.census.gov/quickfacts/NY.
## Trends in Populations in the U.S. and New York City Versus Other Cities

### New York City - Historical Population Data

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
<th>Growth Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2021</td>
<td>18,823,000</td>
<td>0.10%</td>
</tr>
<tr>
<td>2020</td>
<td>18,804,000</td>
<td>-0.01%</td>
</tr>
<tr>
<td>2019</td>
<td>18,805,000</td>
<td>-0.07%</td>
</tr>
<tr>
<td>2018</td>
<td>18,819,000</td>
<td>0.30%</td>
</tr>
<tr>
<td>2017</td>
<td>18,762,000</td>
<td>0.30%</td>
</tr>
<tr>
<td>2016</td>
<td>18,705,000</td>
<td>0.31%</td>
</tr>
<tr>
<td>2015</td>
<td>18,648,000</td>
<td>0.31%</td>
</tr>
<tr>
<td>2014</td>
<td>18,591,000</td>
<td>0.31%</td>
</tr>
<tr>
<td>2013</td>
<td>18,534,000</td>
<td>0.30%</td>
</tr>
<tr>
<td>2012</td>
<td>18,478,000</td>
<td>0.31%</td>
</tr>
<tr>
<td>2011</td>
<td>18,421,000</td>
<td>0.30%</td>
</tr>
<tr>
<td>2010</td>
<td>18,365,000</td>
<td>0.31%</td>
</tr>
</tbody>
</table>

### Other Cities in United States

<table>
<thead>
<tr>
<th>City Name</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>New York City</td>
<td>18,823,000</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>12,459,000</td>
</tr>
<tr>
<td>Chicago</td>
<td>8,877,000</td>
</tr>
<tr>
<td>Houston</td>
<td>6,491,000</td>
</tr>
<tr>
<td>Dallas-Fort Worth</td>
<td>6,397,000</td>
</tr>
<tr>
<td>Miami</td>
<td>6,167,000</td>
</tr>
<tr>
<td>Atlanta</td>
<td>5,911,000</td>
</tr>
<tr>
<td>Philadelphia</td>
<td>5,734,000</td>
</tr>
<tr>
<td>Washington DC</td>
<td>5,378,000</td>
</tr>
<tr>
<td>Phoenix</td>
<td>4,584,000</td>
</tr>
<tr>
<td>Boston</td>
<td>4,315,000</td>
</tr>
<tr>
<td>Detroit</td>
<td>3,530,000</td>
</tr>
<tr>
<td>Seattle</td>
<td>3,461,000</td>
</tr>
</tbody>
</table>

Where in the World Are We?

Source: Pixabay. Wuhan University (left); Travel Architecture City Tourism (right).

11.08 MILLION RESIDENTS
Dec. 30, 2019: Chinese Doctor Sounds the Alarm

1. Chinese MD ophthalmologist exposed to SARS COVID.

2. Chinese MD reports emergence of infectious agent.
December 31, 2019: Chinese Health Authorities Notice Mysterious Cases of Pneumonia

Source: Pixabay
January 4, 2020: World Health Organization (WHO) Starts Tracking Illnesses in Wuhan

Source: Pixabay. World Picture (left); Mask-pyrometer-temperature-flu-mask (right).
January 13, 2020:
The Virus Spreads to Other Countries

Source: Pixabay. Grand Palace Bangkok Temple (left); Temple Thailand Chiang (right).
January 23, 2020: Wuhan Is Locked Down

Source: Pixabay coronas shutdown shield symbol
Source: Pixabay Wuhan
February 4, 2020: U.S. Entry Ports Locked Down

Source: Pixabay. Cruise ship.
1. Websites open: national and worldwide
2. Reports available for comparison
3. Planning based on trends
4. Preparation of huddles
5. Hospital ICU beds planning
6. Personal protective equipment (PPE) training and inventory
7. Local planning in units

• Where do you begin?
• What strategies to use?
• What resources do you have?
Hospital/Emergency Department/Staff/Faculty Redeployments Begin

Source: Dr. Saggi
March 14, 2020: First Death From Corona Virus in New York City

- Overnight change
- Engage stakeholders
- Begin huddles
- Damage control
- Create teams
- Knowledge
- Centers for Disease Control and Prevention (CDC)
- Department of Health (DOH)
- Networks

Source: Pixabay
CDC Offers Guidelines and Problems Faced by Dialysis Facilities

- Concerns
- Proximity
- 4-hour contact time
- Repeated exposure
- Multiple tasks
- Rapid turnaround
- No respiratory isolation
• Contact exposure items in dialysis units
• Sources of contact exposure
Multiple Contact Interventions

Know Other Methods of Disease Transmission


What Matters in Pandemics?

- Emergency preparedness measures?
- Time for implementation?
- Identifying critical nodes of transmission?
- Dissemination of knowledge?

Source: Pixabay. White house.
• Offered masks after screen since November 2019.

• Offered hand sanitizer since November 2019.

• Creation of isolation room at point of entry.
Seating Inside Hemodialysis Unit (Waiting Area)

Source: Dr. Saggi
Outpatient Hemodialysis Unit Preparedness during COVID 19 Pandemic in Several Dialysis Units in New York State

D. Sainvilien, I. Mohamed, J. Durani, E. Carter, J. Bascombe-Gordon, J. Wagner, A. Guressner, S. J. Saggi

Background
Hemodialysis units are clustered close contact environments where prolonged and repeated exposure to blood borne pathogens occurs. Weeks into the COVID-19 pandemic, wide disparities in rates of death and exposure of staff and patients amongst Hemodialysis units in the same zip code of an epicenter in New York.

Methods
HD units in Brooklyn and New York City were surveyed as to when and what infection control measures the different centers implemented. A questionnaire was developed and sent out to the dialysis centers. The centers reported anonymously directly to the survey in REDCap.

All analysis of the responses were performed

Results
16 dialysis center of different sizes responded to the survey. The average monthly census before COVID-19 ranged between 19 and 240 cases and the reported average patient age was between 55 and 80 years.
All facilities reported outbreaks of 4 to 30 cases per facility. The center reported between 2 and 100 missed HD sessions due to COVID-19.

Figure 1, 2, and 3 shows the center preparedness for COVID-19 and the first reported cases for the units.

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81% of all centers had an Infection Control Preventionist and of those centers’ problems were addressed in their monthly QA meetings. All center reported frequent direct observation and reporting of staff performing infection control measures. 94% of center provided a waiting area which was cleaned between 1 to 5 times per day.
69% of centers employed a patient educator.

During the time of the survey, all centers reported infections. The number of infected patient ranged between 4 and 30 patients per center.
One center had no patient death, but the rest reported between 1 and 15 patient death due to COVID-19. In addition, 4 of 16 facilities reported deaths of family members of exposed patient.

All center reported COVID-19 positive staff members. The number ranged between 1 and 10 infection. This resulted in 7 to 30 sick days per person.

Conclusions
Maintenance of strict hand hygiene, proper air flow, repeated environmental surface cleansing, availability of PPE, and patient and staff education remain the corner stone in preventing infections from spreading. Lack of leadership support and failing to share best practices between dialysis units in the US remains prohibitive but must be encouraged and standardized.
• Does your facility have an Infection Control Preventionist?
• When did your facility implement the wearing of masks by patients during their treatment?
• Did your facility distribute education materials to patients during the COVID-19 pandemic from March 1, 2020, to May 1, 2020, regarding infection control education and social distancing at home?
Early Implementation Is Important

- Only 16 facilities responded.
- Survey sent to more than 26 facilities.
- Large dialysis unit refused.
- Cumulative cases 4–30 per facility.
- Variation in case numbers related.
- Timeline implementation mattered.
- Hand sanitizer was the most crucial intervention.

Source: Dr. Saggi
Mask Implementation

- Mask provision timeline
- Cases of COVID-19
- No correlation

Source: Dr. Saggi
PPE Provision Delayed

- PPE provision time
- No correlation

Source: Dr. Saggi

PPE = personal protective equipment
Infection Preventionist Role

- Most crucial player
- Monitoring
- Educating
- Data collecting
Study Limitations

• Limitations to our study:
  • Sample size: Type I and Type II error
  • Bias in response
  • Refusal to respond
  • Replication from other cohorts
Next Pandemic Solutions

• What else might work in the next pandemic?
• Immediate information, rapid dissemination
• Receptive audience and stakeholders
• All hands-on team approach
• Leadership support
What’s Next?

• What else is on the horizon for prevention?
• Vaccination?
• Repeated testing for screening?
Is Vaccinating the Best Strategy?

- Refusal
- Response
- Side effects

Source: Dr. Saggi
Is Testing the Best Strategy for Screening?

• Rate of false negative
• Timing of test
• Follow up

Source: Pixabay. COVID-19 preventions and testing (upper left); test tube with swab (upper right); test tube being held by healthcare provider in whitecoat (lower left).
What Is Then the Alternative Strategy?

- Installation of airflow and HEPA filters
- Cleaning in between shifts
- Validating cleaning efficacy

Source: Pixabay. Air conditioner (left); cleaning crew (middle); hazmat workers (right).
It takes not a village, but a whole world to work together.
Thank You

Questions?
• Take-home points:
  • Leadership involvement
  • Awareness of new information
  • Sharing of information
  • Timing of implementation
  • Data collection and assessment
  • Team effort
  • Recognition and support of staff
  • Showing empathy for losses
Let Us Hear From You

• Q&As from Chat and Q&A Panels
Flu Vaccination Toolkit

Influenza toolkit for providers featuring:
• Flu facts and taglines
• Social media content
• Flu videos
• Print-ready materials
• On-demand training and educational events

Visit esrdncc.org/flu today!
Inspirational Posters

• Evidence-based 12” x 18” posters
• PDF format for on-demand printing
• Focus on psychological/physical health, emergency preparedness, and COVID-19.

To view, visit https://esrdncc.org/professionals/inspirational-posters/.
The Kidney Hub

• The Kidney Hub—Mobile-friendly web tool created with patients, for patients.
• Links to new videos and helpful resources added.
• Visit www.TheKidneyHub.org today!
Our Next COVID-19 Webinar Events

• Patient-focused event: March 16, 2021, 4 p.m. ET
• Provider-focused event: March 24, 2021, 3 p.m. ET

Visit kidneyCOVIDinfocenter.com to register.
Thank You!

NCCinfo@hsag.com
844.472.4250
813.865.3545
www.esrdncc.org

Additional COVID-19 resources for patients and providers:


www.kidneyCOVIDinfocenter.com

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