Delivery of Care Through Telehealth

Will this be the standard of for the home dialysis care patients in the future and will it be a factor in modality choice?

Brent Miller, MD
Friday March 5, 2021
Home Dialysis Symposium
1110-1130 AM

Objectives

- Early Use of Telehealth in Dialysis
- Adoption of Telehealth in Dialysis (2017 Chronic Act)
- Changes in Telehealth with COVID19 Pandemic
- Best Practices of Telehealth in Home Dialysis
- Future Practice of Telehealth in Home Dialysis

Early Use of Telehealth in Dialysis

- Some insurances require certification of each originating sites and providers
- Consents
- Medicare Telehealth Payment Eligibility Analyzer (As of 1/2016 CMS added the 90963-66 as a covered home dialysis code for telemedicine).
 - Has to be outside of a metropolitan statistical area
 - http://datawarehouse.hrsa.gov/tools/analyzers/geo/Telehealth.aspx
 - 90963,64,65, and 66 with the GT modifier
 - Originating site- Q3014
 - Require synchronous interactive videoconferencing

2017 Chronic Act

- Home Dialysis Telehealth Starts January 2019
- Rules
- Uptake and Effect

2020 COVID19 Effects Upon Telehealth

- Rationale for changes
- Changes in regulations
- Uptake
- Effect

Best Practices for Telehealth

- Scheduling
- Technology
- Visit

Future Directions

- Technology
- Regulations
- What works best in-person?



Myths and Barriers Related to Home Dialysis: How Can We Overcome Them

Annual Dialysis Conference

Home Dialysis Symposium March 5, 2021

Brigitte Schiller MD

Kidney Transplant

Prevalence





Peritoneal Dialysis





10.6%

1.9%

87.5%

Home Hemodialysis





In-Center Hemodialysis

Conservative Care







USRDS 2020

CKD

Progression

Barriers of Home Dialysis

The system is not intuitive for home dialysis in the US AAKI initiated change and mandates the system to change We are clear on what we need to accomplish – now it's time to execute



Patients



Nephrologists



Providers

Barriers

Patients

- Modality Education, Access to home therapies
- Fear
- Support at home burden to others
- Home environment economic reality

Physicians

- Education training
- Experience expertise
- Support by surgeons (PD)
- Believes about home
- Economics

Provider

- HD centric approach
- Home dialysis expertise limited
- Scaling centers with sufficient patient numbers for high quality care
- Economics

It's complicated!

Factors which affect PD patient numbers

- Industry
- Health-care System
- Patient
- Facility



Li, P. K.-T. et al. (2016) Changes in the worldwide epidemiology of peritoneal dialysis Nat. Rev. Nephrol. 13(2), 90–103

F

Patient, facility,
health-care
system and
industry factors
that can influence
the recruitment
and retention of
patients on
peritoneal dialysis

Li, P. K.-T. et al. (2016) Changes in the worldwide epidemiology of peritoneal dialysis Nat. Rev. Nephrol. 13(2), 90–103

Industry factors

- Local fluid manufacture
- Ability to match demand with supply
- Cost of peritoneal dialysis solutions

Health-care system factors

- Financial incentives
- Clinician reimbursement
- Universal health-care coverage
- Peritoneal dialysis first or peritoneal dialysis favoured policy

Patient recruitment and retention on peritoneal dialysis

Patient factors

- Comorbid illnesses
- Physical ability (visual acuity, dexterity and mobility)
- Cognitive function
- Confidence and bias
- Awareness of peritoneal dialysis as a treatment option
- Support from family or carer
- Financial status

Facility factors

- Clinician bias and attitude
- View of the clinician on the eligibility of the patient for peritoneal dialysis
- Experience of the clinician
- Surgeon availability
- Infrastructure support for urgent-start peritoneal dialysis
- Training processes
- Continuous quality improvement processes
- Adherence to clinical guidelines
- Clinical governance

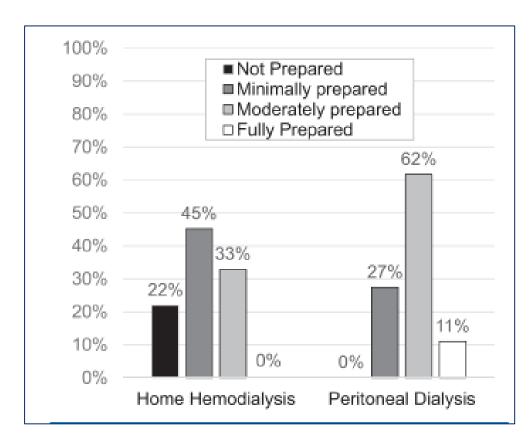
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How
Australian
nephrology
nurses view
home dialysis:
Results of a
national
survey.

Do you receive adequate support from? HD PD **Director of Nephrology** 74% 65% Other renal physicians within your Unit 77% 68% 50% 57% Access surgeons Social work 74% 73% Psychology/psychiatry 34% 35% **Dietitians** 81% 80% 89% Maintenance technicians Water set-up/treatment advice 76% Business staff with purchasing equipment 48% 87% Supply of APD machines Home visits 79% 79% 41% 30% Respite care Nursing administration 60% 60% 51% Medical administration 48% Area health service 44% 40% Federal government 22% 19% Industry 49% 63%

Lauder, L. A. et al (2011). Renal Society of Australasia Journal, 7(1), 6–12.

Perceptions of Home Dialysis Training and Experience Among US Nephrology Fellows



	Comfortable	Not Comfortable	Not Sure
PD			
Catheter outflow problems	75%	4%	21%
Hernias in PD	49%	14%	37%
Cutaneous leaks	48%	11%.	41%
Drain pain	64%	4%	30%
Home hemodialysis			
Writing and adjusting prescription	36%	38%	26%
Vascular access	47%	23%	30%
Water quality	22%	38%	40%
Knowledge about machines	34%	36%	30%

Abbreviation: PD, peritoneal dialysis.



Why Patients With ESRD Do Not Select Self-Care Dialysis as a Treatment Option

Variable	able Reference Group	
Fear of change in general	No fear of change in general	5.86 (1.72, 19.93)†
Fear of social isolation	No fear of social isolation	3.36 (1.32, 8.49)‡
Not prepared to stay awake on dialysis	Prepared to stay awake on dialysis	4.54 (1.16, 17.76)‡
Time constraints prevent doing self-care	Time constraints do not prevent doing self-care	2.93 (0.98, 8.70)
Needle phobia	No needle phobia	5.62 (2.03, 15.55)†
Age/fear of substandard care (interaction)		1.14 (1.05, 1.24)†
Charlson comorbidity score		0.94 (0.71, 1.24)

McLaughlin K, Am J Kidney Dis 41:380-385. 2003

Focus group with patients training for HHD

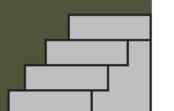
- Hypothesis:
 - Technology-related fears and concerns pose the greatest potential barrier to the training of patients and caregivers to selfadminister home hemodialysis.
- However, the primary topics volunteered by the participants in the present study were psychosocial in nature rather than technological.
- Technology-related factors were discussed only when the interviewer posed a direct question concerning the HD machine.

Wong, J. et al (2009). Patients' experiences with learning a complex medical device for the self-administration of nocturnal HHD. NNJ 36(1), 27–32.

Overcoming Barriers for Uptake and Continued Use of Home Dialysis: An NKF-KDOQI Conference Report.

- Education tools to increase knowledge about home dialysis modalities.
- Implementation of a hub and spoke model, pairing smaller and/or newer home programs with larger more sophisticated programs.
- Peer support to patients, and support and respite to care partners to increase the number of patients who choose home dialysis and to improve retention in home programs.
- Anticipating and understanding both patient and care partner burden is important for the development and implementation of patient- and care partner—centered support programs.
- Aligning Medicare reimbursement to support increased home dialysis uptake to prioritize transplantation and home dialysis as the first-line treatments for kidney failure.
 Chan, C. T., et al (2020). Am J Kidney Dis, 75(6), 926–934

Advancing American Kidney Health CALLING THE ESKD COMMUNITY



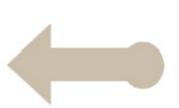
To realize the goal of 80% of incident ESKD patients starting with a pre-emptive transplant or home dialysis by 2025*:



Home (PD)

78,000 (6x current)

additional ESKD patients starting on Peritoneal dialysis (PD)



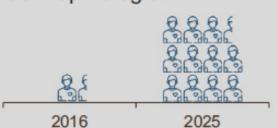
Transplants (2)

6550 (2x current)

additional pre-emptive kidney transplants

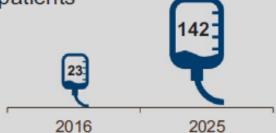


additional patients referred to PD by each US Nephrologist



119 million

liters of PD fluid needed to support the additional PD patients





1700

weekly PD catheter placements



Home nurses needed for patient care



Abra, Schiller Seminars in Dialysis 2020

"The boldness and audacity of this order should not temper our joint efforts to improve the lives and care of our patients"

How do we make decision?

https://www.professionalacademy.com/blogs-andadvice/marketing-theories---explaining-the-consumerdecision-making-process

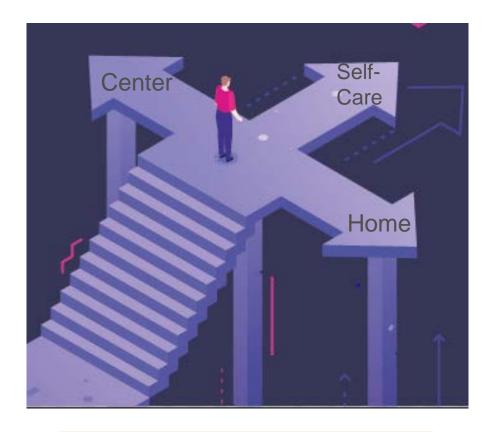
THE CONSUMER BUYING PROCESS



SATELLITE HEALTHCARE ©2020 Satellite Healthcare

Decision Making – Compromise Effect





GOOD_BETTER_BEST

Kidney Transplant

Prevalence





Peritoneal Dialysis





10.6%

1.9%

87.5%

Home Hemodialysis





In-Center Hemodialysis

Conservative Care







USRDS 2020

CKD

Progression

Patient Activation Measure

Level 1

DISENGAGED AND OVERWHELMED

"My doctor is in charge of my health."

Individuals are passive and lack confidence. Knowledge is low, goal-orientation is weak, and adherence is poor.

Healthcare utilization:

Very high ED/ER use, very high risk of Ambulatory Care Sensitive (ACS) utilization, very high risk of readmission, very low use of preventive care and screens.

Level 2

BECOMING AWARE BUT STILL STRUGGLING

"I could be doing more for my health."

Individuals have some knowledge, but large gaps remain.
They believe health is largely out of their control, but can set simple goals.

Healthcare utilization:
High ED/ER use, high risk of
ACS utilization, high risk of
readmission, low use of preventive care and screens.

Level 3

TAKING ACTION AND GAINING CONTROL

"I'm part of my health care team."

Individuals have the key facts and are building self-management skills. They strive for best practice behaviors, and are goal-oriented.

Healthcare utilization:
Low ED/ER use, low risk of
ACS utilization, low risk of
readmission, good use of preventive care and screens.

Level 4

MAINTAINING BEHAVIORS AND PUSHING FURTHER

"I'm my own health advocate."

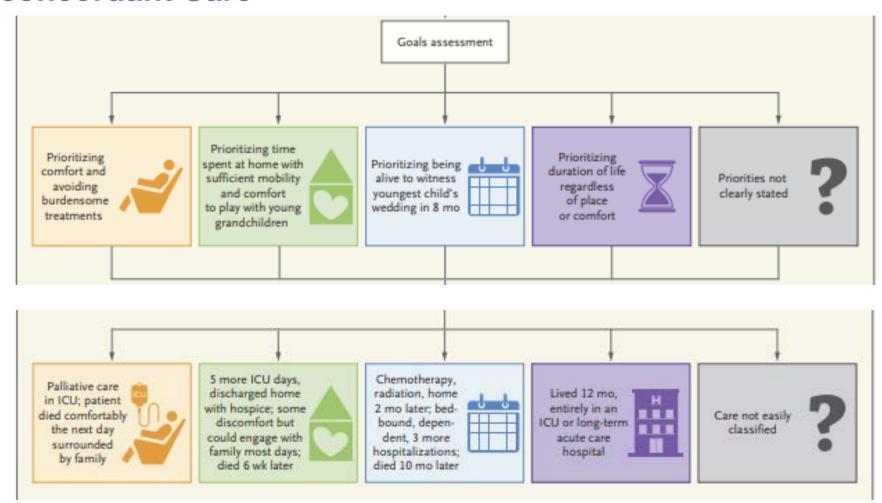
Individuals have adopted new behaviors, but may struggle in times of stress or change. Maintaining a healthy lifestyle is a key focus.

Healthcare utilization:

Very low ED/ER use, very low risk of ACS utilization, very low risk of readmission, very good use of preventive care and screens.

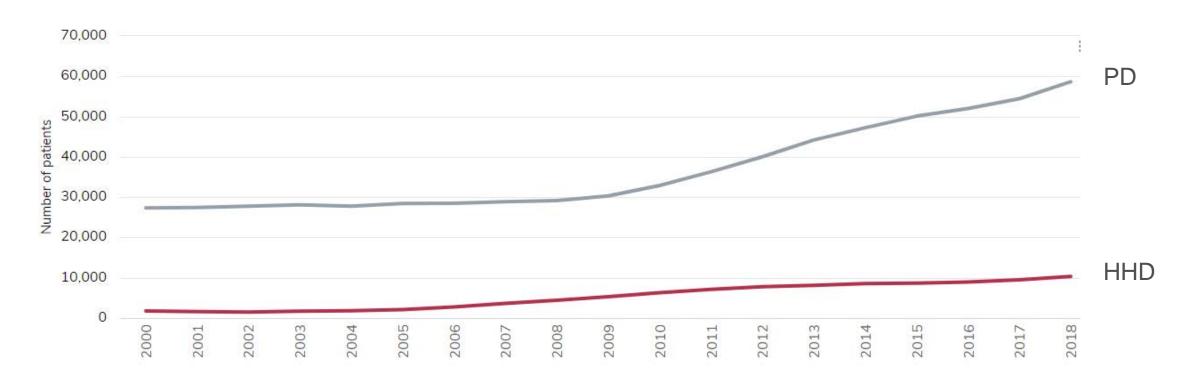
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Goal-concordant Care





Number of patients undergoing PD or HHD increases – 44% and 40% since 2010.





The Myths Geography - Size

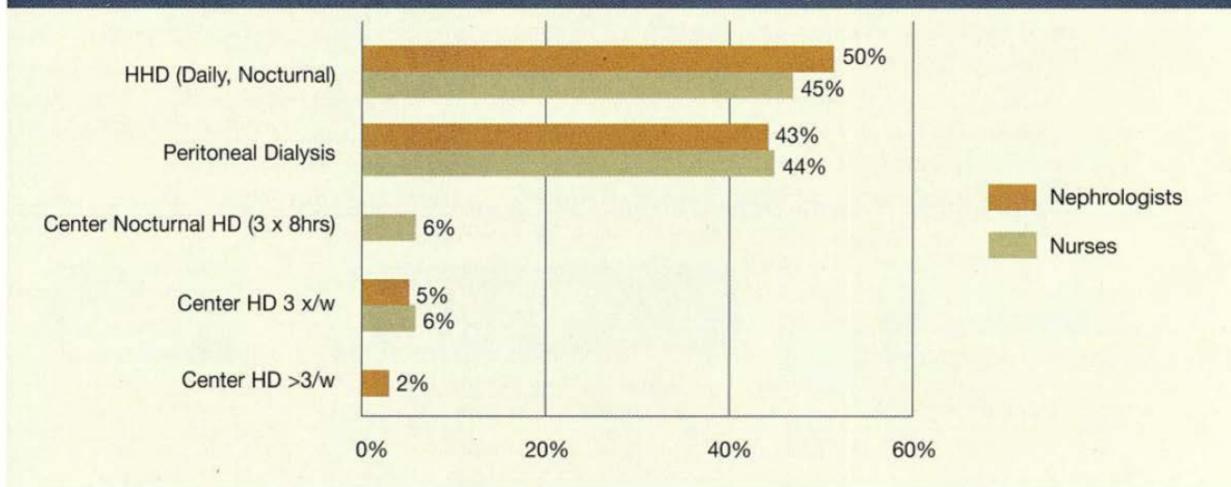








Figure 1: If you were told that you need renal replacement therapy, what form of dialysis would you choose while waiting for a transplant?



Schiller NN&I 2011



Life in the Time of COVID: Emerging Trends in Home Dialysis

Suzanne Watnick, MD, FASN

Northwest Kidney Centers

University of Washington





On the front lines....

• Friday Feb 28th at 9PM, the phone rang:

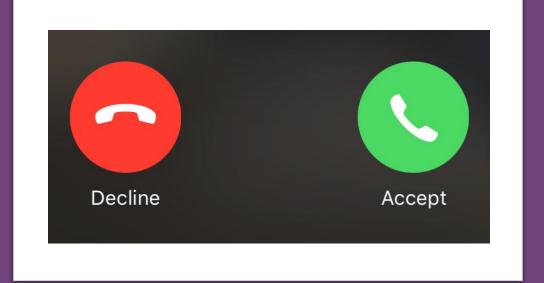
Evergreen Hospital, Kirkland WA

 The first reported patient had died from COVID-19 in the country

He was our patient.

Disbelief → Acceptance





What Next?

- Set up our Emergency Operations Center (EOC)
- Arrived on-site to the dialysis facility at 0445 on Sunday morning
 - ✓ Provided face-to-face communication & letters to patients
 - ✓ Included information to the Home Dialysis patients
- Home & in-center patients screened
- First COVID+ home patient 2 months later – April 2020



Three Guiding Principles - Objectives

- ✓ Provide care to patients with COVID-19
 - Honor our obligation Home & In-center focus
- ✓ Lean into the Science
 - Follow Infection Prevention and Control
 - Adhere to Highest Standards of Care
- ✓ Leadership provision is critical
 - Utilize direct, organizational, and strategic perspectives
 - Communicate, be transparent & educate
 - Support patients, dialysis and medical staff





The Critical Need for Partnership to Lead

Liz McNamara, RN MN

Chief Nursing Officer and VP of Patient Care Services

Northwest Kidney Centers

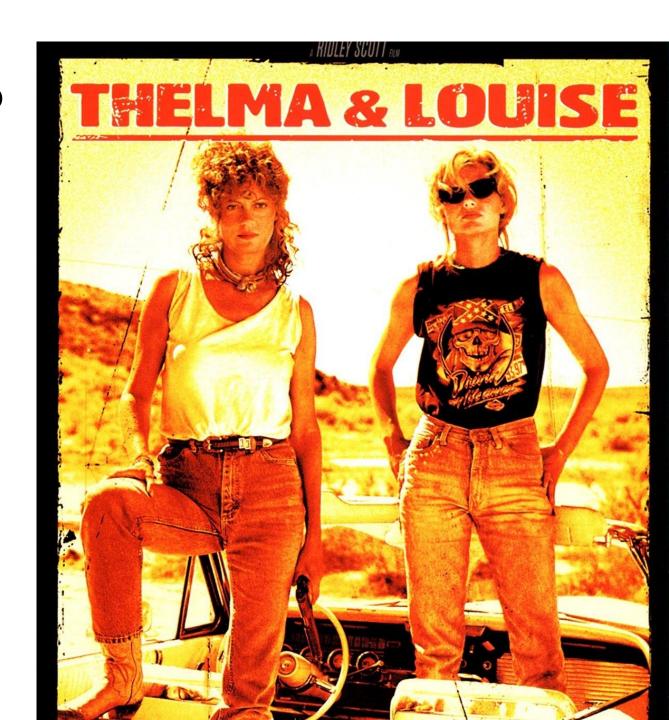
My Dyad Partner



How Did We Really Feel?

- No Guidelines
- No Phone-a-Friend
- Relied on Experience &...
- We asked the Audience
 - ✓ Called King-County Public Health next morning
 - ✓ CDC arrived Sunday night
 - We were assigned 2 of 10

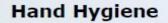




Creating a Safe Environment









Physical Distancing

- · Stay home if sick
- · Meet via video conferencing or telephone
- · Stay 6 feet apart whenever possible
- · Telemedicine visits as clinically indicated

COVID-19 Prevention & Control Bundle



Personal Protective Equipment (PPE)

- · Masking for staff in clinical areas
- Masking of patients on dialysis
- Don and doffing of isolation gowns
- Cloth masks/facial covering for non-clinical areas



Laboratory Testing

 Ensure patients and staff are referred to testing as indicated



Education, & Communication

- · NKC guidelines and policies & procedures
- · Healthcare worker education on safe masking
- · Frequent multi-platform communication

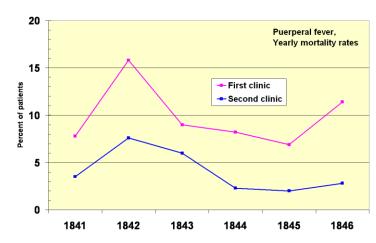


Environmental Cleaning

Handwashing – campaign & re-education

- Handwashing can prevent infections
- Written and verbal education
- Stickers, buttons, cookies & education!



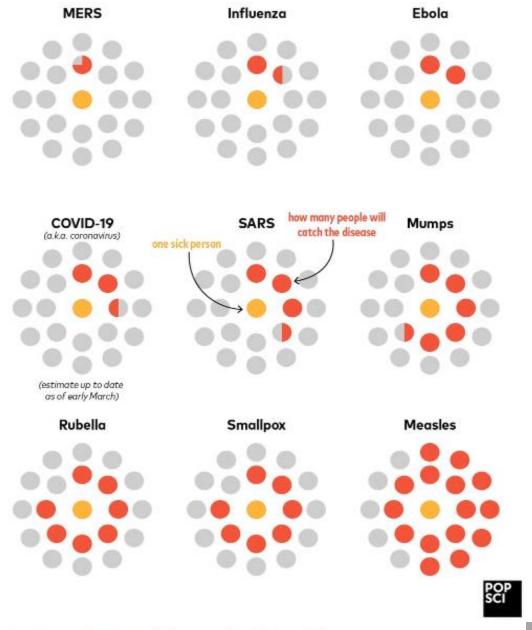


Ignaz Semmelweis



Just How Contagious is COVID-19?

- Image source: "Just How Contagious is COVID-19? This Chart Puts it in Perspective", Matthew R. Francis, March 20, 2020.
- https://www.popsci.com/story/health/how-diseasesspread/







Hand Hygiene



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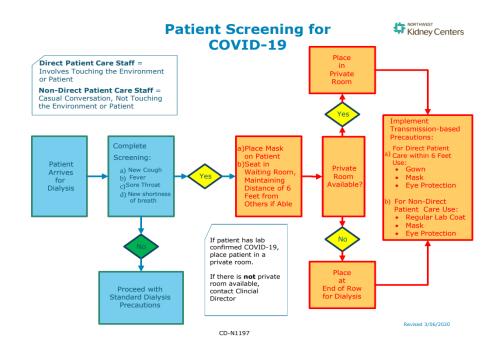
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Home Dialysis Screening

- Same as in-center HD
- Provided screening prior to visits
- Encouraged patients to get tested and reschedule
- If patient had symptoms, treated as a PUI



created with CDC oversight, all dialysis facilities perform a version of this now





Hand Hygiene



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Laboratory Testing

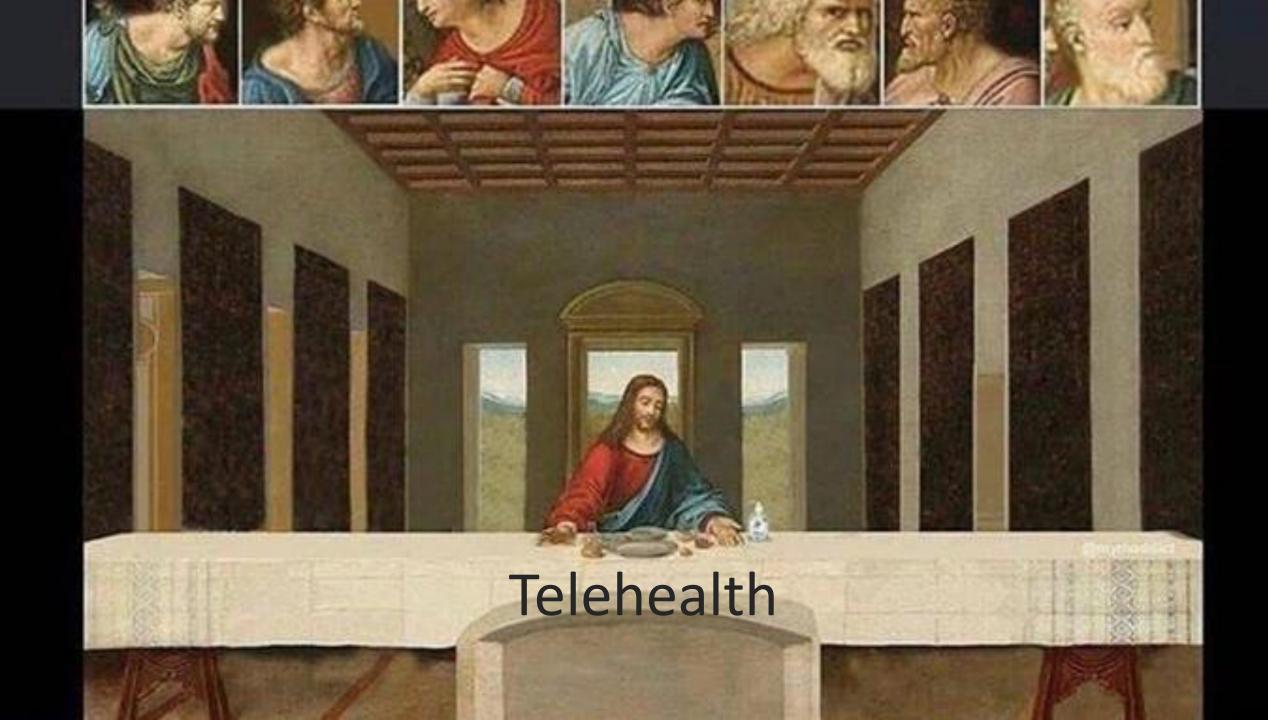
 Ensure patients and staff are referred to testing as indicated



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Telehealth for ESKD Patients





Standing up Telehealth at NKC

Modality	Telehealth	How
Home Hemodialysis	Allows patient to stay home	If no in-person needs: Labs and assessment remotely
Peritoneal Dialysis	Minimizes time In- Center	'Quick Visits' instituted: Labs & Supply visit in-person, rest via Telehealth
Chronic Kidney Disease (CKD)	Broadens programs' reach	Remote face-to-face. Adds flexibility for patients, grows home dialysis
In-Center Hemodialysis	Facilitates Care	Physician makes appt in-center, computer at chairside. May allow more physician interactions, greater satisfaction





Hand Hygiene



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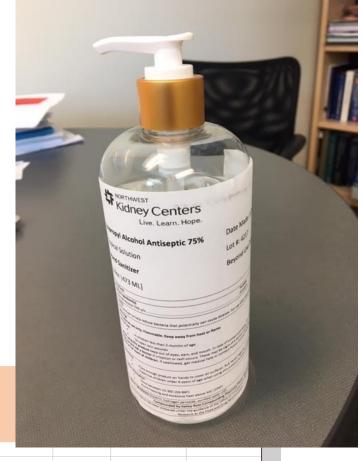
Our Policies Drove Practice

PPE: Day-by-day

Home Staff developed kits for PPE

- Masks Educated temporarily on repeat use
- Hand Sanitizer 'Private Reserve' to Home pts





Critical Supply Dashboard

					-
CHG Soap -Sinkside pump bottle	Quart	1.91	480	251.43	
CHG Soap - Wall Dispenser	Liter	1.64	576	352.00	
Sanitizer - Mobile Cart	9 oz.	11.55	2887	250.06	
Sanitizer - WallMount	17 oz.	3.64	581	159.78	
Sanitizer Wipe - Blue Top (sub box of 100)	Tub 220	1.00	1	1.00	
CalStat Sanitizer - HH Dept. Small Pump	Pump 15oz	0.36	107	294.25	





Hand Hygiene



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CDC Guidelines – COVID-19 v1, v2, v3...

Special Considerations for Patients on Home Dialysis:

- Ensure supplies available
 - Work with suppliers re:shortages, e.g. Solutions and PPE
 - Consider delivery concerns
- Educate on prevention 'the bundle'
 - Reduce exposures
 - Consider telehealth & remote care
 - Evaluate patients for COVID sxs before appointments
- Know the symptoms of COVID-19 and steps to take
 - Determine who can help if caregivers become sick
- Consider extra medications and supplies



Courtesy B. Schiller





Hand Hygiene



Physical Distancing

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Tools for Patient Education – Patient safety



Everyday Steps and Extra Steps When Someone Is Sick

How to clean and disinfect clean and disinfect

· Clean surfaces using soap and water. Practice routine cleaning of frequently touched surfaces.

Tables, doorknobs, light switches, countertops, handles, desks phones keyboards. toilets, faucets, sinks, etc.

- · Clean the area or item with soan and water or another detergent if it is dirty. Then, use a household disinfectan
- Recommend use of EPA-registered household disinfectant.

to ensure safe and effective use of the product.

Many products recommend:

- Keeping surface wet for a period of time (see product label)
- Precautions such as wearing gloves and making sure you have good ventilation during use of the product



Check to ensure the pr expiration date. Une will be effective against properly diluted. Follow manufacturer

Diluted household ble

application and proper v household bleach with a other cleanser

Leave solution on the s 1 minute

To make a bleach solu

- 5 tablespoons (1/3rd of water
- OR
- 4 teaspoons bleach p Alcohol solutions with

Soft surfaces For soft surfaces such as car floor, rugs, and drapes

· Clean the surface usin soap and water or with cleaners appropriate for on these surfaces.



Coronavirus Disease 2019 (COVID-19) **Keeping Patients on Dialysis Safe**

COVID-19 is a respiratory illness that can spread from person to



Take Everyday Precautions

- Wash your hands often with soap and water for at least 20 seconds or use hand sanitizer
- · Avoid touching your face.
- · Avoid close contact with people who are sick.
- Avoid crowds and keep at least six feet of space between yourself and others if COVID-19 is spreading in your community.
- When you cough or sneeze, cover your mouth and nose with a tissue or use the inside of your elbow.
- » Throw used tissues in the trash and immediately clean your hands
- Routinely clean and disinfect surfaces you often touch, such as cell phones, computers, countertops, handles, and light switches.

Preparing the Facility

You may see changes as the dialysis facility prepares to keep you safe during treatment.

- · Signs with special instructions for patients with symptoms of COVID-19.
- · Additional education about hand hygiene and cough etiquette
- Additional space in waiting rooms for ill patients to sit separated
- A change in patient chair locations, treatment times, or days
- · A change in the gowns, facemasks, and eye protection that the





What You Can do if You are at Higher Risk of Severe Illness from COVID-19

Are You at Higher Risk for Severe Illness?



Based on what we know now those at high-risk for severe illness from COVID-19 are:

- People aged 65 years and older

People who live in a nursing home or long-term carefacilit

People of all ages with underlying medical conditions. particularly if not well controlled, including:

- People with chronic lung disease or moderate to severe asthma . People who have serious heart conditions
- People who are Immunocompromised - Many conditions can cause a person to be immunocompromise inducting cancer treatment, smoking, bone marrow or organ transplantation, immune defidencies, poorly controlled HIV or AIDS, and prolonged use of corticosteroids and other immune weakening medications.
- People with severe obesity (body mass index [BWI] of 40 or higher People with diabetes
- People with chronic liddney disease undergoing dialysis - People with liver disease

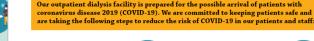


Here's What You Can do to Help Protect Yourself



Stay home if possible.

How our facility is keeping patients safe from COVID-19



 We are providing extra training for staff and education for patients about the importance of hand hygiene, respiratory hygiene and cough etiquette.

Tissues, alcohol-based hand sanitizer, and trash cans will be provided in the waiting area and treatment area Soap and water will continue to be available at all handwashing sinks and in the restro

We are monitoring healthcare personnel for symptoms of respiratory infection.

We are instructing staff who have fever, cough, or shortness of breath to stay home and not come

 We are monitoring patients or dialysis and visitors for sympton of respiratory infection.

Call ahead if you have fever, cough, or shortness of breath This allows us to plan for your arrival and take infection prevention steps to keep you safe.

 We are prepared to quickly identify and separate patients with respiratory symptoms

Patients with respiratory symptoms will be asked

- We are training staff about proper use of personal protective equipment for COVID-19.
- You may see a change in the personal protective equipmen (i.e. gowns, masks, gloves) that staff wear or that you are asked to wear to protect other patients.
- We are continuing our routine cleaning and disinfection procedures as they are also the procedures recommended for protecting patients from COVID-19 in dialysis settings.

Any surface, supplies, or equipment located within the national station will continue to be disinfected or discarded. We will ensure any surface, supplies or equipment located within 6 feet of an ill patient is disinfected or discarded.

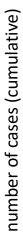
We may restrict visitor access to protect patients. We are adjusting visitor access

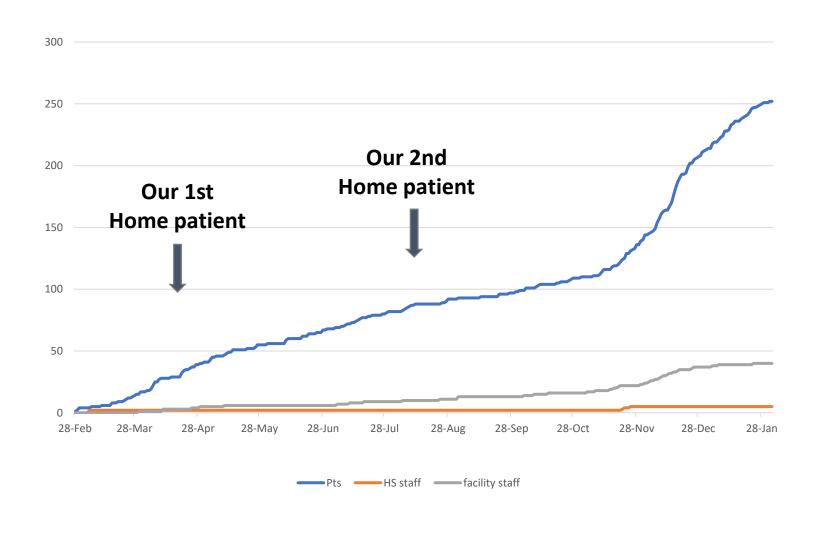
respiratory infection



We are encouraging patients and staff to share all Don't be afraid to use your voice. It is okay to ask staff questions about treatment changes and ways

https://www.cdc.gov/coronavirus/2019-ncov/downloads/healthcare-facilities/316158-A FS ProtectSelfAndFam.pdf https://www.cdc.gov/coronavirus/2019-ncov/downloads/COVID19-What-You-Can-Do-High-Risk.pdf https://www.cdc.gov/coronavirus/2019-ncov/downloads/healthcare-facilities/316157-A FS KeepingPatientsSafe.pdf https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/disinfecting-your-home.html





COVID-19 Cases

Dates	2/20 -7/20	8/20 – 2/21
Home Dialysis Cases	1	14
Total Cases	83	171
Percent	1.2%	8.2%
NKC Home Dialysis	13-14%	15-16%

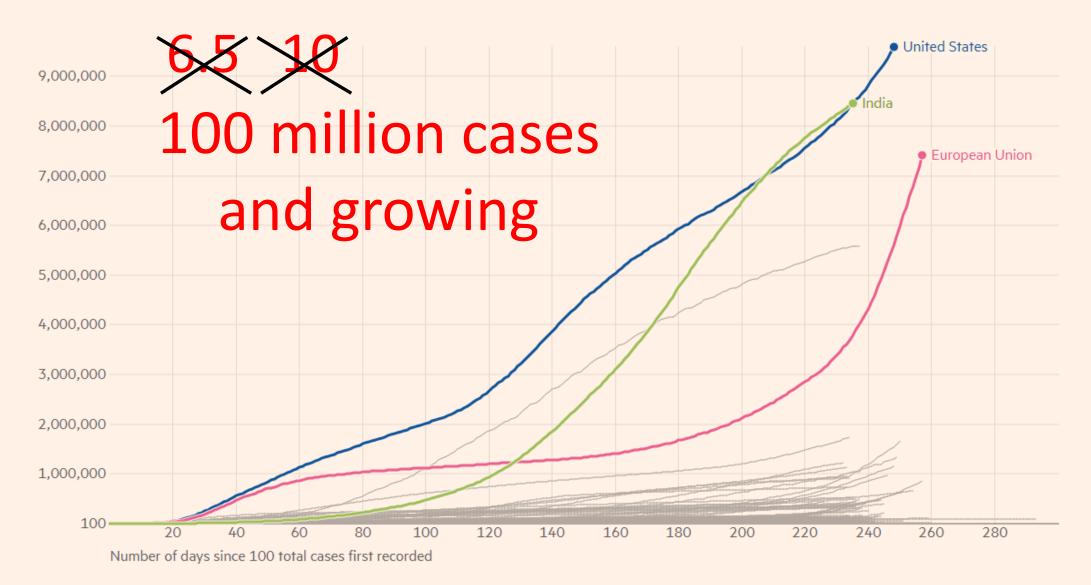
COVID-19 Cases among ESKD Patients

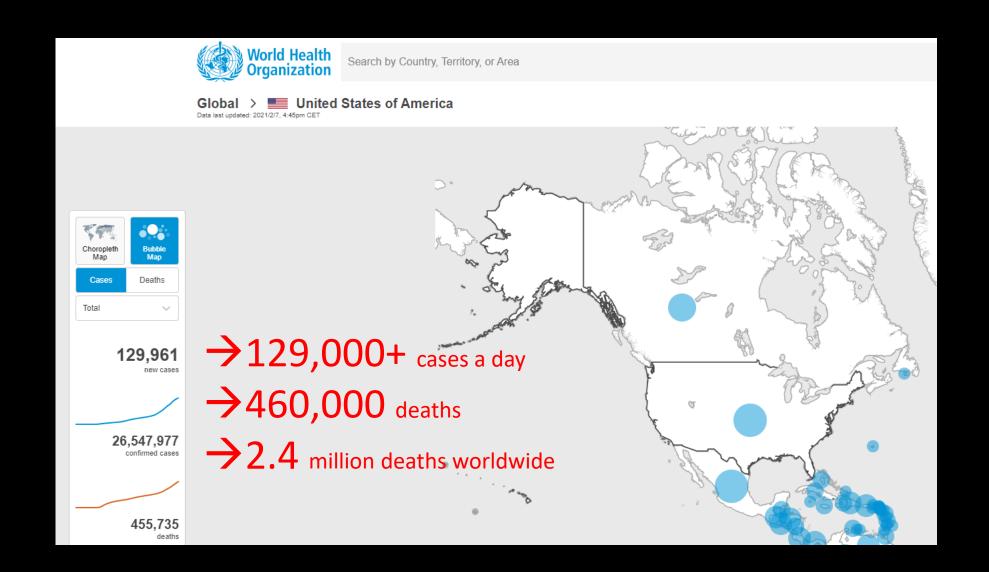
- Home Dialysis Cases:
 - Became more prevalent as COVID-19 spread throughout the community
 - Were less common than in-center cases throughout the pandemic
- Home Dialysis appears 'protective'
 - Not surprising given better ability to stay safe & stay home
 - Data from NY and Canada confirm
 - In Center HD w/OR of 2.54 (95% CI 1.59-4.05) for COVID in Canada
 - Data from non-profit LDO and SDO similar in US

Oliver & Crabtree, CJASN 2021 Taji, CMAJ, 2021 Daniel Weiner, personal communication

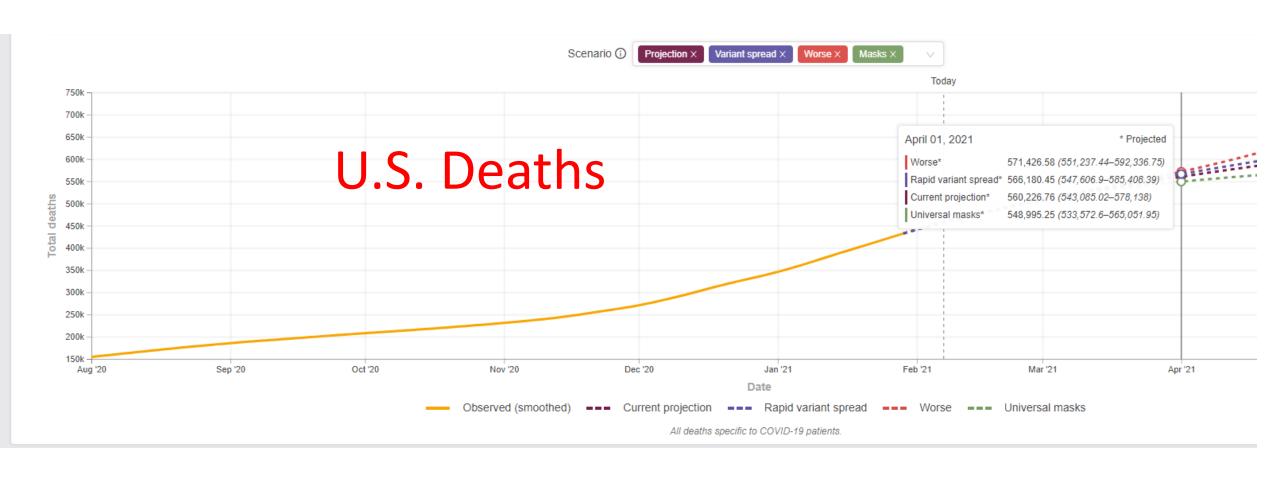
Cumulative confirmed cases of Covid-19 in United States, European Union and India

Cumulative cases, by number of days since 100 total cases first recorded





Current Projection: 560,000+ Deaths by April





COVID-19 compared to other Pandemics

Preliminary CMS COVID-19 Related Findings *Among Medicare beneficiaries*

For encounters from Jan 1 to Nov 21, 2020, with claims received by Dec 18, 2020:

Covid-19 cases per 100k beneficiaries:

6567 for ESRD patients

2172 for patients who qualified for Medicare based on age 2007 for patients who qualified based on disability.

COVID-19 related hospitalization rate per 100k beneficiaries:

4721 for ESRD patients

732 for patients who qualified for Medicare based on age 699 for patients who qualified based on disability

Convincing for Patients to GO HOME

- Underlying forces already in play to grow Home Dialysis
 - PPS 2011
 - AAKH initiative, July 2019
- Growth plans in place prior to pandemic
 - Infrastructure critical nursing staff in place
 - Physician training initiatives
- COVID-19 Pandemic
 - Dialysis organization environment was ready to grow home programs
 - The Pandemic was a strong fertilizer

Dialysis Organization Growth

Dialysis Organization	January 2020	December 2020	Percent Growth
N	258	300	16%
R	227	247	9%
D			8%



With Gratitude

All patients, colleagues, & trainees
Without whom, I would not understand
the true meaning of teamwork







COVID-19: Open Discussion



