







Canadian Society of Nephrology/ Société canadienne de néphrologie



### **THE COVID-19 PANDEMIC:**

### How it turned our world upside-down and what nephrologists can learn from each other

### LEARNING OBJECTIVES:

**CANADA** Understand Australia's second wave, what was expected and unexpected with concurrent flu season

### **AUSTRALIA** Understand Canadian provincial strategies and experiences from hard-hit centre(s)





Sanjay Pandeya CSN President, co-chair



Neil Boudville ANZSN President, co-chair





Dr. Kevan Polkinghorne

Dr. Kate Wyburn





Dr. Peter Mount



Mark McDonald

Dr. Peter Blake



Dr. Adeera Levin

www.csnscn.ca

www.csncommunity.ca

www.nephrology.edu.au





### WEBINAR AGENDA

### The COVID-19 Pandemic:

### How it turned our world upside-down and what we can learn from each other.

Co-Chairs: Dr. Neil Boudville (ANZSN President)

Dr. Sanjay Pandeya (CSN President)

- Introduction to Webinar (Sanjay Pandeya 5 mins)
- > Differences between Australian and Canadian systems (Neil Boudville 5 mins)
- > Describe Australian first wave experiences (Kevan Polkinghorne 10 mins)
  - o planning, interventions, numbers
  - o focus on chronic HD patients/AKI
  - comment on kidney transplantation (Kate Wyburn 5 mins)
- Australian data overview including capabilities (Mark McDonald 5-10 mins)
- Canadian experiences with first wave
  - Provincial plans and lessons learned from hard hit centre(s)
    - BC (Adeera Levin 10 min)
    - Ontario (Peter Blake 10 min)
- > Australian [Victoria] second wave and winter season experiences (Peter Mount 5-10 mins)
  - $\circ \quad$  what is different than assumed
  - consideration of flu season
- Summary lessons learned (Neil Boudville / Sanjay Pandeya 5 mins)
- Q&A (15 mins)



Australian and New Zealand Society of Nephrology



## **Dr. Neil Boudville** ANZSN President



### Australian and New Zealand Society of Nephrology











### Dr. Kevan Polkinghorne

Nephrologist Monash Medical Centre Adjunct Professor at Monash University Canberra, Australia

### Mr. Mark McDonald

National Manager of Analytics and Technology Australian Organ and Tissue Donation and Transplantation Authority (OTA) Sydney, Australia

### Dr. Kate Wyburn

Senior Staff Specialist Nephrologist and Director of Kidney Transplantation at Royal Prince Alfred Hospital Sydney, Australia

### Dr. Peter Mount

Deputy Director of Nephrology Austin Health Melbourne, Australia

## HEALTHCARE FUNDING IN AUSTRALIA/NEW ZEALAND VS CANADA

Neil Boudville (I am not a Health Economist!)

## AUSTRALIAN AND NEW ZEALAND HEALTHCARE SYSTEM

- Australia is a federation of 6 states and 2 territories.
  - Healthcare delivery is through a combination of federal and state led programs
  - While the states and territories contribute financially to healthcare delivery there is considerable federal funding as well
  - For most of the dialysis services this is delivered at a state or territory basis
- New Zealand
  - Universal health coverage thru a mostly publicly funded, regionally administered delivery system.
  - General taxes fund most services
  - National govt sets and annual budget, district health boards are charged with planning, purchasing and providing health services at the local level

### Figure 2.1.1: Main roles of government in Australia's health system

### Australian Government

- sets national policies
- is responsible for Medicare (including subsidising medical services and joint funding, with states and territories, of public hospital services)
- funds pharmaceuticals through the Pharmaceuticals Benefits Scheme
- funds community-controlled Aboriginal and Torres Strait Islander primary health care
- supports access to private health insurance
- regulates private health insurance
- organises health services for veterans
- is a major funder of health and medical research, including through the National Health and Medical Research Council
- regulates medicines, devices and blood

### Shared

- regulation of health workforce
- education and training of health professionals
- regulation of pharmaceuticals and pharmacies
- support improvements in safety and quality of health care
- funding of public health programs and services
- funding of Aboriginal and Torres Strait Islander health services

#### Sources: Biggs 2013; COAG 2012; Department of Health 2015b; Duckett & Willcox 2015; PM&C 2014.

#### State and territory governments

- manage public hospitals
  license private hospitals
- are responsible for public community-based and primary health services (including mental health, dental health, alcohol and
- drug services) • deliver preventive services
- and immunisation programs
- are responsible for ambulance services
- are responsible for handling health complaints

### Local governments

- provide
- environmental health-related services (for example, waste disposal, water fluoridation, water supply, food safety monitoring)
- deliver some community- and home-based health and support services
- deliver some public health and health promotion activities

## HEALTH SPENDING IN AUSTRALIA 2017-18

- 2/3 of health spending is from government
  - \$77.1 billion by the Federal government
  - \$49.5 billion by the State and Territory governments
- 1/3 of health spending is from non-government entities
  - Private health insurance providers
  - Injury compensation insurers
  - Individuals
  - Other

## CANADIAN HEALTHCARE SYSTEM

- Canada is a federation of 10 provinces and 3 territories
- Public health insurance plans administered by the provinces and territories are funded by general taxation.
- Federal transfers to provinces and territories in support of health care are conditional on the requirements set out in the Canada Health Act.
- Provinces and territories have primary responsibility for the organisation and delivery of health services.

### Figure 5 Who is paying for these services?



### Source

National Health Expenditure Database, Canadian Institute for Health Information



Australian and New Zealand Society of Nephrology



Dr. Kevan Polkinghorne Nephrologist Monash Medical Centre Adjunct Professor at Monash University Canberra, Australia

## Australian COVID-19 First Wave Experiences

6/7<sup>th</sup> October 2020

Kevan Polkinghorne

Department of Nephrology, Monash Medical Centre, Clayton, VIC Department of Medicine, Monash University, Clayton, VIC Chair ANZSN COVID-19 Working Group

## Outline

- Australian COVID-19 First Wave Numbers
  - Total Case Numbers & Deaths
- Australian Government Response (Brief)
- ANZSN COVID-19 Response
  - COVID-19 Forum
  - COVID-19 Work Group
  - Dialysis/AKI planning

# By the end of Australia's first wave in early June, approximately how many COVID-19 cases were there:

- A) 5300 cases ~ 20.9 cases per 100,00 population
- B) 7300 cases ~ 28.7 cases per 100,00 population
- C) 9300 cases ~ 36.7 cases per 100,00 population
- D) 11,300 cases ~ 44.6 cases per 100,00 population

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- B) 7300 cases ~ 28.7 cases per 100,00 population
- C) 9300 cases ~ 36.7 cases per 100,00 population
- D) 11,300 cases ~ 44.6 cases per 100,00 population

## COVID-19 Cases Australia: Jan-Sept 2020



By the end of Australia's first wave in early June, approximately how many COVID-19 deaths were there:

- A) 105 deaths
- B) 120 deaths
- C) 140 deaths
- D) 160 deaths

By the end of Australia's first wave in early June, approximately how many COVID-19 deaths were there:

• A) 105 deaths

- B) 120 deaths
- C) 140 deaths
- D) 160 deaths

## Australian Government Response



## Initial ANZSN Response

- 4<sup>th</sup> March: ANZSN Council Canvassed members
- Was clear that no coordinated approach had been instigated.



## Initial ANZSN Response

- 4<sup>th</sup> March: ANZSN Council Canvassed members
- Was clear that no coordinated approach had been instigated.
- 18<sup>th</sup> March: ANZSN Council held a members only virtual meeting – "The COVID-19 Forum"



## First COVID19 Forum

- Interview Nephrologist Working in Switzerland just north of Italian border
- Clear that the Society was not prepared for the COVID-19 infection
- Considerable anxiety amongst the members



## First COVID19 Forum

• Directed the ANZSN Council to create a COVID-19 Working Group



- Work Group composition:
  - nephrologists, renal nursing and patient advocacy expertise
  - geographic representation across Australia and New Zealand
- Work Group Tasked:
  - assist the ANZSN Council to provide considered advice on the management of renal patients at risk or affected by COVID-19

## COVID19 WG: 3 Broad Functions

- 1. Monitor and remain informed of the COVID-19 situation:
  - specific focus on the issues impacting the care of patients with all forms chronic kidney disease (CKD) and/or acute kidney injury (AKI)
- 2. Facilitate the identification and discussion of common issues requiring a coordinated response at a renal unit, and/or State or National level
- 3. To provide a vehicle for the discussion, development, and dissemination of information including guidelines and protocols to support renal units.



## COVID19 WG

- First Meeting 31<sup>st</sup> March
- COVID-19 Forum continued weekly (all members)
- Real-time feedback to WG



## COVID19 WG: 3 Major Focus Area's

- 1. Facility Dialysis Preparedness
- 2. Workforce capacity
- 3. Acute Kidney Injury



## Facility Dialysis Preparedness\*

• Adapted for local use from the CDC COVID-19 Outpatient Dialysis Facility document.



- Intended for use by renal unit senior management to assist them in COVID-19 contingency planning
- Recognised that each unit will have specific circumstances and challenges that will require local solutions.
- The checklist is for general information only and not a mandatory list

\* https://www.nephrology.edu.au/covid-19-updates.asp

## Workforce capacity\*

 The loss of front line dialysis nursing staff due to COVID-19 infection with expertise that is not easily replaceable was of great concern.



- Particularly acute for the smaller regional and remote facilities
- The need for additional staff was also highlighted given the overseas experience with increased numbers of dialysis dependent AKI patients.
- Workforce preparedness checklist developed

\* https://www.nephrology.edu.au/covid-19-updates.asp

## Acute Kidney Injury\*

 Dialysis dependent AKI within the ICU is primarily managed by the ICU physicians using CRRT and/or SLED



- AKI preparedness checklist was developed.
- Checklist covers a range of aspects including liaising with ICU on the capacity to manage such patients, assessing the capacity of the renal unit to perform intermittent HD in AKI patients post ICU, as well as the ability to perform acute peritoneal dialysis if needed.

## Other Issues

- All elective surgery was temporally ceased across Australia
- Dialysis access surgery (AVF/AVG, Tenckhoff catheter placement) in most but not all centres has continued due to the urgent nature of the surgery.
- Outpatient clinic services have been largely converted to phone and telehealth consultations except where on site assessment is deemed absolutely essential.
- The ANZSN Council also met with key personnel of dialysis companies to ensure that adequate supply chains for dialysis were present and that business continuity plans were created.
- ANZDTA Registry facilitated real time tracking of COVID-19 infection in the dialysis and transplant population.

## Timelines



By the end of Australia's first wave in early June, how many dialysis and transplant had been infected with COVID-19:

- A) 5 dialysis, 3 transplant, 2 deaths
- B) 15 dialysis, 9 transplant, 6 deaths
- C) 5 dialysis, 8 transplant, 3 deaths
- D) 20 dialysis, 15 transplant, 11 deaths

By the end of Australia's first wave in early June, how many dialysis and transplant had been infected with COVID-19:

- A) 5 dialysis, 3 transplant, 2 deaths
- B) 15 dialysis, 9 transplant, 6 deaths
- C) 5 dialysis, 8 transplant, 3 deaths
- D) 20 dialysis, 15 transplant, 11 deaths

## Summary

- The national forum and working group likely served as a catalyst to stimulate the various jurisdictions into action and provided opportunity for people to feel supported and unified in dealing with the pandemic.
- By the end of the first wave Australia was relatively spared in terms of the case load seen in other countries
- As a result of the ANZSN initiatives, Australian (and New Zealand) nephrology units are now well placed to ensure the best possible care for their patients, should the case load increase.
- The rapid cooperation and support seen in response to the crisis has been an illustration of how nephrologists and nursing staff can come together for a common goal to ensure ongoing quality care to dialysis and transplant patients.

## Acknowledgements

### COVID-19 Working Group:

Dr Kevan Polkinghorne (Chair) Dr Kate Wyburn (Deputy Chair) Dr Neil Boudville Dr Nicholas Gray **Dr Andrew Henderson** Dr Stephen McDonald Dr Peter Mount Dr Kelum Priyadarshana Dr Rajesh Raj Dr Yvonne Shen Dr Suda Swaminathan Dr Girish Talaulikar Dr Martin Gallagher Dr Lukas Kairaitis

Dr Charlotte Ogilvy Dr Shilpa Jesudason Ms Leanne Brown Ms Fiona Donnelly Ms Gillian Gorham Mr Jonathan Hosking Ms Joanne Kok Ms Sonia Mupotaringa Ms Karen Oliver Ms Yulan Shen Mr Michael Campbell

### **ANZSN Council**



Australian and New Zealand Society of Nephrology



Dr. Kate Wyburn Senior Staff Specialist Nephrologist and Director of Kidney Transplantation at Royal Prince Alfred Hospital Sydney, Australia
## COVID-19 impact on Kidney Transplantation in Australia

A/Prof Kate Wyburn Head of Kidney Transplantation Royal Prince Alfred Hospital Sydney Australia Deputy Chair of ANZSN COVID-19 Working Group Member of National Transplantation and Donation Rapid Response Taskforce-COVID-19

# **The Australian Picture**

Daily count and total COVID-19 cases since 20 Feb 2020, by date and status: Australia





### 01 March 2020

### 22 March 2020





### 16th March

Transplantation Society of Australia and New Zealand (TSANZ) and Australian Organ and Tissue Authority (OTA) formed National Transplantation and Donation Rapid Response Taskforce-COVID-19









Transplant surgeons and physicians (all organs and paeds) Donation and ICU specialists OTA – Governmental links Data analysist Infectious disease specialist Tissue typing Research

### Taskforce

- 1. Cases/outcomes in Australian and New Zealand -general community, transplant recipients and dialysis patients
- 2. ICU, hospital bed and staff capacity and access to PPE and testing
- 3. Transplantation and donation activity logistical challenges
- 4. Global COVID-19 epidemiology
- 5. COVID-19 research/trials, publications and media
- 6. Weekly communiqué

# 22<sup>nd</sup> March

# 30<sup>th</sup> April











## Organ Transplants (per week)





### Deceased Organ Donation 2015-2020





### Kidney Transplant Recipients 2015-2020





# Impact on Live Donor Transplants





# The Second Wave

Daily count and total COVID-19 cases since 20 Feb 2020, by date and status: Australia





# Summary of Experience

- Impact on transplant and donation activity
  - Strong collaborations
  - Agile
  - Challenges when resuming transplant activity
  - Variation in response at 1<sup>st</sup> and 2<sup>nd</sup> wave
- Kidney transplantation activity down ~30%
- Impact of suspension on waitlisted patients
  - Anxiety and importance of consistent information
- 20 kidney transplant recipients infected with COVID-19
- One transplant recipient death
- Incidence comparable to gen population
- 13 dialysis patients contracted COVID-19 (7 died)

### Lessons

- Adaptability and responsiveness
  - Collaborations/ transport and travel logistics/ coordinated approach
- Clear communication
- Broad inclusion of groups in understanding local issues and decision making
- Nurses' role and Patient perspectives
- Balance "consistent approach" but not "one-size fits all"
- "Cost" of suspending transplantation
- Resumption can be trickier than suspension of transplantation
- Hot-spot approach (esp in second wave)
- Next phase: Maintaining vigilance/ Pre and post Tx clinics reimagined/ Protocols/ Immunity?/ Immunisation roll-out

# Acknowledgements

- Canadian Society of Nephrology
- ANZSN President Prof Neil Boudville
- TSANZ President Prof Toby Coates
- RTAC committee and State TACs
- Transplant and Dialysis Nurses
- OTA Lucinda Barry
- OTA Mark McDonald
- TLRG Chair Prof Steven Chadban
- KHA A/Professor Shilpa Jesudason
- Donation Coordinators and Tissue Typing Labs
- ANZDATA Registry Prof S McDonald
- Patients and carers and donor families



Australian and New Zealand Society of Nephrology



Mr. Mark McDonald National Manager of Analytics and Technology Australian Organ and Tissue Donation and Transplantation Authority (OTA) Sydney, Australia



# Donation, Transplantation and COVID

Mark McDonald National Manager Analytics mark.mcdonald@donatelife.gov.au October 2020







# The Organ and Tissue Authority

- Established in 2009 to increase organ donation rates in Australia
- Support DonateLife agencies in each State and Territory (8)
- Support Donation Specialist doctors and nurses in 95 (DonateLife Network) hospitals across Australia. These hospitals represent 98% of organ donation activity.
- Partner with donation and transplant outcome registries including the Australia and New Zealand Dialysis and Transplant Registry (ANZDATA) to collect, analyse and report activity and outcomes.
- Implement and manage systems to support organ donation (Transplant Connect) and allocation (OrganMatch)





### Deceased organ donation and transplant recipients 2000–2019

**Australian Government** 

**Organ and Tissue Authority** 



donate life 📿

57

Deceased organ donors







# **Data Visibility**

- International Trends (Cases, Testing, Mortality, Controls) BNO News, WHO, JHU
- Domestic Cases (numbers, source of transmission) Department of Health National Incident Room
- Hospital Environment (Cases, ventilators, PPE, staff impacts) Australia and New Zealand Intensive Care Society (ANZICS)
- Patient Outcomes (Cases and outcomes, dialysis and transplant) Australia and New Zealand Dialysis and Transplant Registry (ANZDATA)
- Donation and Transplant Activity (near to real time) Electronic Donor Record





## **The International Picture**







Source: Johns Hopkins University

# **The International Picture**

1900 India 580,060 US 299.494 1100 Brazil 219,571 France 95,575 Spain 75.632 Colombia 45,411 Part 85 222 Iran 24,42 BOOK Mexico 33,16 rag 30.34 ania 57.712 Tes 17.103 United Kingdom 43.601 2001 1008 OK U 100 24 3 Ap 18 40 16 Aug 31 Aug 15 Sep 30 500

Count of weekly new COVID-19 cases



### Daily count and total COVID-19 cases since 20 Feb 2020, by date and status: Denmark



Daily count and total COVID-19 cases since 20 Feb 2020, by date and status: Switzerland



Source: Johns Hopkins University



# **The Domestic Picture**

Daily count and total COVID-19 cases since 20 Feb 2020, by date and status: Australia





\* Australian Government • Organ and Tissue Authority



Sources: Johns Hopkins University Commonwealth Dept of Health

# **The Hospital Picture**





\* Australian Government \* Organ and Tissue Authority



Source: ANZICS







What proportion of kidneys donated (deceased donors) in Australia are transplanted interstate (Canada 11%\*)

A) 5%

**B) 10%** 

**C) 15%** 

### D) 20%

**Source** Canadian Organ Replacement Register, Canadian Institute for Health Information, 2020.





What proportion of kidneys donated (deceased donors) in Australia are transplanted interstate (Canada 11%\*)

A) 5%

**B) 10%** 

**C) 15%** 

### D) 20% - (actually 21%)

**Source** Canadian Organ Replacement Register, Canadian Institute for Health Information, 2020.





Like Canada, Australia has had internal border travel restrictions, varying in nature and timing . Our domestic flights have reduced by....compared to 2019

A) 30%

**B) 50%** 

**C) 70%** 

### D) 90%

**Source** Australian Government Department of Infrastructure, Transport, Regional Development and Communications





Like Canada, Australia has had internal border travel restrictions, varying in nature and timing . Our domestic flights have reduced by....compared to 2019

A) 30%

**B) 50%** 

**C) 70%** 

### D) 90%

**Source** Australian Government Department of Infrastructure, Transport, Regional Development and Communications





# **Logistics Challenges**



Capacity, measured by available seat kilometres (ASKs), decreased by 90.1 per cent compared with June 2019 to a total of 694.5 million.



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Canadian Society of Nephrology/ Société canadienne de néphrologie CSN/SCN



Dr. Adeera Levin Head, UBC Division of Nephrology St. Paul's Hospital Executive Director, BC Renal Vancouver, BC, Canada

# Some Facts

## Canada

9.98 M km2 ; 37 M pop 4 time zones, coast to coast

## Australia

7,741,220 sq km, 24.5 M pop 3 time zones coast to coast






# BC Renal Response to COVID-19

Rapid mobilization of a mature network to support a high-risk, life-support population



# Why, What and How: The BC Kidney Community in COVID-19 Times



### **Everyone is affected**

- Communities and families
- Patients on and off dialysis
- Patients with and waiting for transplants
- Health care professionals and all staff working in and around health care
- Administrators, researchers and everyone.....

# Introduction and Purpose



Current State BC Renal Community Structure and Function



Context of BC Renal Emergency Operations Centre (EOC) and Other EOC Structures



Key Work Accomplished over Last Months:

High level overview of successes and issues



### How we serve BC

Working with BC's regional health authority renal programs, BC Renal (BCR) funds and coordinates service delivery across:



health authorities



home hemodialysis training sites



peritoneal dialysis clinics



hospital dialysis units



CKD clinics - for registered non-dialysis kidney patients

community dialysis units



12,000 CKD

KTX 3,200



Provincial Health BC Children's Renal Services Authority Program (Province-wide)



### Longstanding Provincial Committees Well Positioned for Rapid Response

- Multidisciplinary committees
- Cross-HA
   representation
- Research, evaluation and CQI

#### **BCR Committees**

**BCR Emergency Management Planning Committee BCR Executive Committee BCR Facilities & Equipment Planning Committee** BCR Glomerulonephritis (GN) Committee **BCR Hemodialysis Committee** BCR Home Hemodialysis Care Committee **BCR Kidney Care Committee BCR Medical Advisory Committee BCR Palliative Care Committee** BCR Peritoneal Dialysis (PD) Committee **BCR Pharmacy & Formulary Committee BCR Renal Administrators Committee PROMIS Executive Steering Committee** 



### Province's Emergency Management Structure: High Level Overview



### BC Renal Emergency Operations Committee: Medical Directors of Geographical HA

- Guided by pre-existing Provincial Renal Emergency Management Plan
  - inlcudes pandemic guidance
- Operating within context of multiple other EOCs: provincial, regional, institutional

#### Purpose:

• Enable timely communication, sharing and decision making in the context of rapidly changing environment of COVID-19

- Complimented by work of
  - BCR Leadership Team
  - Provincial Committees
  - Statistics and Methodology Group
  - PROMIS: Renal and Transplant
     Information System

### **Context and Philosophy**



- Dialysis is Life Support Therapy
- Our dialysis patients
  - have little choice
  - Are high risk
  - Come to a <u>challenging</u> physical environment

### Goals:

- Prevent disease **TRANSMISSION**
- Ensure **SAFETY** for patients and staff
- Maintain comprehensive care

### Key Accomplishments



- Established virtual patient care (phone, video, telehealth) in outpatient clinics
  - CKD, Home Dialysis, Transplant
- Created multiple clinical guidelines and protocols and patient-facing resources (including translations)
- Modelled and confirmed acute dialysis capacity, including use of portable RO and acute PD (for critical care)
- Created an ethical framework for allocation of life-support dialysis resources to meet needs of both chronic and acute kidney injury patients (ICU) in the event of a surge (under revision @ Journal)
  - Patient partners involved in development
  - First in kind globally
- Comprehensive COVID screening and tracking/data collection (for clinical and research purposes)
- Ensured safe dialysis for COVID+ and patients under investigation

### Key Accomplishments



- Adjustments in HD unit workflow
  - Patient HD schedules: staggered starts, cohorting
  - Adjustments to nurses schedules, breaks and physical distancing
- Implemented infection prevention and control recommendations, including PPE for staff and physicians
- Secured stable supply of renal medications
  - $_{\odot}$  Limited supply of K-binding resins
  - Immunosuppressive agents for glomerulonephritis and transplant patients (and provided specialized guidance for use)
- Ensured access to transportation for kidney patients to dialysis units and outpatient clinics

 $_{\odot}$  Dialogue with public and private providers including HandiDart, BC Ferries etc

### Key Accomplishments : Provincial mandate



- Supported continued uptake of independent dialysis modalities : @ HA and hospital
  - confirmed ongoing surgical capacity for PD tube insertions and AV access procedures
  - Goal: Reduce unintended HD starts, use of HD catheters (which increase hospitalization)
     Maintain home therapies training and increase capacity
- Worked with public and private laboratories to ensure access for necessary CKD, transplant and dialysis testing
  - Ensured guideline-based COVID-19 testing and rapid result turnaround
  - Established patient-specific reduced testing frequency for CKD, transplant and home dialysis patients
- Worked with provincial contract vendors and PHSA Supply Chain to ensure ongoing delivery of supplies for home-based patients

### Impact to Patients and Care Teams to May 2020

- Patients COVID+
  - 4 hemodialysis and 1 PD, presumed community acquired
    - 2 in long term care
    - 1 death (>85 years, multiple comorbidities)
  - 2 kidney transplant patients
- Dialysis Workforce
  - 1 PD nurse COVID+ (recovered, back to work)
- Moral distress felt by all patients and care providers
  - Ongoing communication and community building



### PROMIS: Agile Response, Supporting Clinical Care and Research

- Agile development methodology enabled release of new features approx. every 2 weeks to respond to critical emerging needs
  - COVID-19 Screening Questionnaire for HD Units
    - collect standardized COVID-19 screening data
  - COVID-19 Reports: Questionnaire/Dialysis Runs
  - COVID-19 Reports: Lab Results
    - By management centre (both interface & manual entry results)
  - COVID-19 Reports: COVID-19 Dialysis Schedule/Labs
    - Displays schedule for a selected week and patients' most recent COVID-19 lab test results



Centre Reports	Worklist Reports
Search List	Q
ACP Report	
Centre Reports	
eGFR Priority R	eport
General Data Er	ntry QA
Patients with R	egistration Problems
Renal Program	Inpatient
COVID-19	
Dialysis Schedu	le/Labs
Lab Results	
Questionnaire/	Dialysis Runs



- BC Renal hosted a virtual series of expanded province wide rounds focused on our collective response to Covid-19
  - Open to all renal care team members
  - Posted on BC Renal website and BC Renal YouTube channel
  - 99 attendees at first session May 1st, and subsequent weekly x 4, then reduced frequency
    - 91% rated session excellent or good
    - 91% said webinar was helpful
  - Link to videos and presentations

### 

http://www.bcrenalagency.ca/health-professionals/clinical-resources/novel-coronavirus-(covid-19)



## BCRenalAgency.ca Health Info Prevention & Public Health Novel Coronavirus (covid-19)

http://www.bcrenalagency.ca/health-info/prevention-public-health/novel-coronavirus-(covid-19)



### Metrics: Google Analytics and Social Media

BC Renal Website (to Oct 4) COVID pages (Patient & HCP)

- Page views: 10,343
- Views for top 5 documents alone: approx 8,000

*Note: Reach significantly higher as HA renal teams across BC have downloaded and copied for patient distribution* 

Social Media (All posts March 12 – Oct 4)

Facebook: 624 posts

- Reach on highest day: 16,342
- 3,451 engagements
- 2,127 clicks on links

Twitter: 454 posts

- Impressions: 221,800
- 1,248 engagements
- 1,576 clicks on links

*Note: Data shows our Twitter followers use the platform as a news feed; Facebook followers use the platform as an interactive community* 



### Sharing Knowledge: Nationally and Internationally



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C A https://www.csnscn.ca/covid-19-emergency-preparedness-for-healthcare-professionals

#### **COVID-19 Emergency Preparedness For Healthcare Professionals**

#### Note: If you are a Patient or Caregiver, please CLICK HERE for COVID-19 Updates specific to Patients and Caregivers.

By now, every program will be considering ways to keep their patients and health care providers safe. The obvious concern is patients treated with in-centre hemodialysis, but there may also be issues for those programs with assisted peritoneal dialysis and of course timely laboratory investigations for patients with kidney transplants and advanced chronic kidney disease.

#### **BC Renal Agency**

- · Framework for Ethical Resource Allocation to Minimize Moral Injury during the COVID-19 Pandemic
- · Documenting your Goals of Care
- CMAJ Article: Pandemic palliative care: beyond ventilators and saving lives
- Guidance for Implementation Advance Care Planning COVID-19
- COVID-19 Telehealth Communication Tips
- COVID-19 Conversation Guide for Outpatient Care
- Important Information for Hemodialysis Patients
- Hemodialysis Patient Screening Questionnaire for Influenza-like illness/COVID-19
- Important Information for Kidney Care Clinic Patients
- Important Information for PD & HHD Patients
- Social Distancing Handout for Hemodialysis Patients
- COVID-19 Guideline for Hemodialysis Outpatients
- · Changes to HD Schedule
- COVID-19 Guidelines for Kidney Care Clinics
- Guide: Caring for Symptomatic Dialysis Patients
- Notice RE Visitor Policy
- Provincial Renal Emergency Management and Business Continuity Plan
- · Emergency Preparedness especially for dialysis patients

Link to CSN website: BC Renal contributions



#### International Society of Nephrology





#### Link to ISN website: BC Renal contribution

\$ 0

### Updates: Context and Continuing Work Up-spike since August in BC (relative)







### Update: As of October 1st

- Dialysis numbers of affected individuals remain low (20/ 3500+)
- Ongoing screening @ HD unit, @pt @ run
  - 20 patients total with COVID +
    - 4 initial wave
    - 16 subsequent (all LTC or acute care sites)
    - 1 PD, remainder HD
- PD uptake continues to be high
  - Novel training methods (short 3-4 day)
  - Reduced bloodwork





# Conclusion: Successes and Challenges for BC, COVID -19 and the Renal Community

- Organized infrastructure, patient-focus allowed nimble and directed activities
  - Policy development with Public Health and Infection Control
  - Education materials for patients and health care professionals
  - Strategies to enable safe dialysis, supply delivery and ongoing home-based care
- Provincial information system to enable easy comparison and standardization
  - Data collection
  - Review of outcomes
- Low population rates during first wave and adherence to protocols



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Dr. Peter Blake Nephrologist London Health Sciences Centre Medical Director, Ontario Renal Network (ORN) London, ON, Canada

### Question 1

Which of the following is **not** a proven risk factor for a person on chronic dialysis in Ontario to be infected with Covid?

a) Diabetes

- b) Centre HD (vs home dialysis)
- c) South Asian ethnicity
- d) Lower socioeconomic status
- e) Living in Toronto

### Question 2

Which of the following statements is most clearly true in Canada?

- a) People on chronic dialysis are more likely to get Covid than the general population
- b) Mortality in those on chronic dialysis who get Covid exceeds 25%
- c) Mortality in those receiving acute dialysis for Covid associated AKI exceeds 70%

### Covid First Wave Ontario Experience



CSN/ANZSN October 6/7 2020

Ontario Renal Network Réseau Rénal de L'Ontario

Peter G Blake Provincial Medical Director Ontario Renal Network In Ontario Health



Toronto

6.2 million

50% white

12% black

12% S Asian

### **ONTARIO**

14.3 million 40% of pop of Canada 68% white

> 27 Renal Programs 11 in Toronto 5 in North

### **Ontario Renal Network**

A provincial government agency, part of Ontario Health, responsible for funding and quality of renal services – since 2008

Guiding principles include patient centered care and physician and 'network' co-management

Delivered by 27 Regional Renal Programs (11 in Toronto area) - varying from 50 to almost 1000 patients – complex system

>12,000 people on chronic dialysis – 74% ICHD, 21% PD, 5% HHD

Approximately half live in Toronto area (GTA)

About 5% live in long term care homes (LTCHs) or other congregate places

### Covid in Ontario

- First case late Jan 2020
- First hospitalizations Feb 2020
- Community spread and multiple hospitalizations early March 2020
- First dialysis case March 8 2020
- First dialysis death March 11 2020
- By July 1 31,000 cases including 185 on chronic dialysis
- By October- 54,000 cases (0.4%) and 2,900 deaths (5.3%)
  - 209 on chronic dialysis with 53 deaths

### ORN Response to Covid Wave 1 Principles

- Understanding hierarchy and politics of decision making MOH vs Ontario Heath vs Public Health vs Hospitals – avoid causing confusion and controversy
- Weekly mandatory collection of Covid data from Programs
- Weekly 'Covid Calls' of ORN and clinical leadership (directors and physicians) of Renal Programs for exchange of information and practices – content circulated
- Information used by Programs at hospital level to leverage change
- Advocacy for renal patients at provincial 'tables'

### Renal Programs/ORN Response to Covid Wave 1

- Hospital Renal Covid Committees
- Changing HD schedules
- Screening practices phone, hospital + unit entrances, chair, questionnaires
- PPE policies
- Masking staff, patients
- Cohorting / droplet precautions for suspected cases, LTCH patients
- Swabbing low threshold for all, surveillance for LTCH patients
- Spacing patients, isolation rooms
- Staffing issues shortages, anxiety
- Transport of Covid positive HD out-patients
- Code Blue policies in HD unit
- Patient anxiety



practices that were stopped

**10 RRPs implemented all four types of screening practices** 

All 27 RRPs either screened at the ICHD door or at the dialysis chair

### Renal Programs/ORN Response to Covid Wave 1

- Prioritizing PD tube insertions despite elective OR suspension
- Prioritizing PD and HD training
- Approach to HD in Covid AKI in ICU CRRT, SLED, conventional HD

### ORN Province Level Response to Covid Wave 1

- Promoting dialysis patients as a priority for swabbing
- Point Prevalence Surveillance of all HD units in June
- Advocating for renal patients at provincial tables triage policy, ICU acute dialysis capacity
- Co-operation with TGLN (transplant agency) to reactivate kidney transplant
- Documents on pandemic planning, acute dialysis, swabbing, GN/immunosuppressives etc
- Continuation of ORN clinic funding for virtual visits

## **COVID-19 in Renal Patients** – as of September 10, 2020

	COVID-19 Status			
	All Confirmed	Deceased	Recovered from COVID-19	Active
All Renal Cases	401	<b>152</b> - 38%	57%	5%
Chronic Dialysis	195	<b>53</b> - 26%	70%	4%
Other CKD GN, MCKC, Gen Neph, Transplant	71	<b>22</b> - 31%	61%	8%
Acute Dialysis <sup>1</sup> with No Prior CKD	135	<b>81</b> - 60%	~36%	<6%

## COVID-19 Cumulative Confirmed Renal Patients– as of September 10, 2020



Total chronic dialysis cases = 195 = about 1.6% of dialysis population 1.9% of in centre HD, 0.8% of PD, 0.3% of HHD Compares with 0.3% of general population (likely underestimate)

### New Covid Cases Per Week March to August 2020 ORN Tracker Tool

#### 1.2 New Renal Patients in Ontario & % Change from Last Week 100 Acute No Infot CKU All Patient Types Christic Dialysia Other OLD New Renal Patients in Ontario as of August 27, 2020: 90 All Patient Types 22 Chronic Dialysis 80 Other CKD 70 ALute No Prior CKD. 0 100 51,44% 47. -8% 50 40. 34% 27, -13% 27, 0% 39 19, -30% 20 11, 425 11, 05 9, 188 6,450% 3,-50% 3, 167% 10 4,-56% 5, 4150% 2, -60% 1,-50% 2,+100% 1,-50% 2,4100% Π. Jun 75 Jul 2 441-9 101.26 Jul 23 Aug 13 Mary 34. May 35 Jun 4. Jun 11 10n 18 NI 30 Aug 27 April 9 Auger. Note: Apr 9 a when data collection began. It may include cases confirmed in March.
#### Covid Chronic Dialysis Cases by Renal Program



2.3 Cumulative Confirmed Renal Patients by Regional Renal Program

6 Programs had HD Unit 'outbreaks'
>60% of all cases were in these 6 programs
75% of cases in 8 programs – 7 in Toronto area
7 programs with no cases (5 programs in N Ontario had a total of 1 case)

# Outbreaks in HD Units

- Multiple patients +/- staff at same time with high likelihood of transmission within HD unit
- Occurred in 6 units 5 in Toronto
- Responses included swabbing of whole unit or pod and of staff
- Also banning staff from working in multiple units
- Increased spacing of HD chairs
- Waiting room changes

# Covid and Chronic Dialysis

- By Sept 1, 191 people on chronic dialysis in Ontario have been infected with Covid, equivalent to c 1.5% (1.9% on HD, 0.8% PD, 0.2% HHD)
- Risk factors for getting Covid were living in LTCH, centre HD (versus home dialysis), living in the GTA, black race, south Asian ethnicity, low income
- 51 of these people (27%) have died very high mortality rate risk factor was older age
- Others have had prolonged debilitating hospitalizations

### Covid and Acute Dialysis

- 130 AKI cases needing acute dialysis, some for weeks, mostly in ICU
- 60% died very sick people
- 37% recovered how fully?
- Mix of CRRT, SLED, Acute HD

#### Home Dialysis Prevalent Rate in Ontario by Quarter 2019-20 'Covid Bump'



Ontario Renal Network Réseau Rénal de L'Ontario

#### GROWTH IN NUMBERS ON CHRONIC DIALYSIS BY MODALITY BY QUARTER - 2019-20

	Q2 19-20	Q3 19-20	Q4 19-20	Q1 20-21 Covid Bump	
All dialysis	11,995	12,065 (+.6%)	12,153 (+.7%)	12,188 (+.2%)	
Centre HD	8,880	8,969 (+1.0%)	9,004 (+.4%)	8,957 (5%)	
PD	2,445	2,431 (4%)	2,447 (+.7%)	2,518 (+2.9%)	
HHD	600	615 <b>(+2.5%)</b>	637 <b>(+3.6%)</b>	644 (+1.1%)	

#### Time Trend for New Covid Cases in General Population and Chronic Dialysis Population



Flattening the curve

## Question 1

Which of the following is **not** a proven risk factor for a person on chronic dialysis in Ontario to be infected with Covid?

#### a) Diabetes

- b) Centre HD (vs home dialysis)
- c) South Asian ethnicity
- d) Lower socioeconomic status
- e) Living in Toronto

## Question 2

Which of the following statements is most clearly true in Canada?

- a) People on chronic dialysis are more likely to get Covid than the general population
- b) Mortality in those on chronic dialysis who get Covid exceeds 25%
- c) Mortality in those receiving acute dialysis for Covid associated AKI exceeds 70%



Australian and New Zealand Society of Nephrology



**Dr. Peter Mount** Deputy Director of Nephrology Austin Health Melbourne, Australia



• 6/7<sup>th</sup> October 2020

# Renal responses to COVID-19 in Victoria: 1<sup>st</sup> and 2<sup>nd</sup> waves

Associate Professor Peter Mount Member: ANZSN COVID-19 Working Group Clinical Lead: SCV – Renal Clinical Network Chair: SCV COVID-19 Renal Expert Working Group Nephrologist: Austin Health







Victoria

#### **January-March 2020**

- 25<sup>th</sup> Jan 2020: 1<sup>st</sup> confirmed case of novel coronavirus in Australia
  - Man from Wuhan who had arrived in Melbourne on Jan 19
- 11<sup>th</sup> March 2020
  - WHO declares COVID-19 to be a global pandemic
    - Multiple outbreaks: Wuhan, Italy, Iran etc.
  - Renal Clinical Network instructed by SCV leadership to suspend all existing project work, and to form a Renal Expert Working Group to address COVID
- 13<sup>th</sup> March 2020: 1<sup>st</sup> meeting of SCV Covid-19 Renal EWG (Zoom)

#### **SCV COVID-19 Renal EWG: Membership**

- Clinical Lead (chair)
- Directors of nephrology units
  - Metro (9)
  - Regional (2)
- Private practice nephrologist (1)

- Senior renal nursing leadership (5)
- Allied health (SW 1)
- Consumer (1)
- SCV
  - RCN project officer (1)
  - CoCE manager (1)



#### SCV COVID-19 Renal EWG: Work

- Meetings (Zoom)
  - Weekly: March-April
  - Fortnightly: May-Sept
- Policies, practice, protocols
- Shared learnings
- Community of Practice

- Guidance for dialysis units
- PPE issues
- Approaches to cohorting
  - COVID, sCOVID, contacts
- HCW infections and exposure
- Aged care
- Telehealth
- Elective surgery (transplant, ANZKX)



#### Victoria's 2<sup>nd</sup> Wave = Australia's 2<sup>nd</sup> Wave



# Understand Australia's second wave, what was expected and unexpected with concurrent flu season?

#### Influenza Summary: Victoria

2017

NOTIF	ED C	ASES	5						W	eek o	endi Sep	ng	Wee 29	c end Aug	ding 9	N	leek 22	end Aug	ling	20	020 Y	TD	2019	YTD	20	18 YTD	20	17 YT	D	2019	Total	2	018 1	fotal	2	2017	Tot	al	
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https://www2.health.vic.gov.au/about/publications/researchandreports/seasonal-influenza-reports-2020

Report ending week of 5<sup>th</sup> of September

2020

2019

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2018

#### **Australian Data**

Department of Health



Figure 7. Number of influenza hospitalisations at sentinel hospitals, between March and October, 2015 to 2020 by month and week\*

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#### **Global circulation of influenza viruses**

#### **International Data**





https://www.who.int/influenza/gisrs\_laboratory/updates/summaryreport/en/ 23/9/2020

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#### Renal issues in the 2<sup>nd</sup> COVID wave: Expected and unexpected?

#### Expected

- Dialysis unit preparedness
  - ANZSN checklist
  - SCV guidance
  - Local policies
- PPE issues
  - Evolving guidance

- Workforce challenges
  - Infection
  - > Furlough
  - > Well-being
- > AKI
  - RRT 7.8% of ICU COVID admits (ANZICS)

#### **PPE Guidance**

#### DHHS 27<sup>th</sup> August Update

TIER	For use in	Hand hygiene	Disposable gloves	Level 1 gown and plastic apron	Disposable	Surgical mosk	P2 / N95 respirator <sup>1</sup>	Eye protection
Tier 0° - Standard precautions <sup>2</sup>	For people assessed as low risk or no risk for COVID- 19, that is, they do not meet the clinical criteria for COVID-19.	~	As per standard precautions	As per-standard precautions	As per standard precautions	As per standard precautions	×	As per standard precautions
Tier 1 – Area of higher clinical risk	In areas where the person is NOT suspected <sup>s</sup> or confirmed to have COVID-19	4	As per standard precautions	As per standard precautions	As per standard precautions	Minimum Level 1	×	Face shield where
Tier 2 – Droplet and contact precautions	Limited contact, for short episodes of care, in a controlled environment with a person who is suspected <sup>3</sup> or confirmed to have COVID-19.	~	4	¥ [	r Level 2, 3 or 4	Level 2 or 3	×	Face shield where
Tier 3 – Airborne and contact precautions and Aerosol Generating Procedures	<ol> <li>Undertaking an AGP<sup>4</sup> on a person with suspected<sup>3</sup> or confirmed COVID-19</li> <li>Settings where suspected<sup>3</sup> or confirmed COVID-19 patients are cohorted, where frequent, prolonged episodes of care are provided</li> <li>In uncontrolled settings where suspected<sup>3</sup> or confirmed COVID-19 patients are cohorted, to avoid the need for frequent changes of N95/P2 respirators</li> <li>Settings where suspected<sup>3</sup> or confirmed COVID-19 patients are cohorted and there is risk of unplanned AGPs and/or aerosol generating behaviours<sup>6</sup>.</li> </ol>	~	~	×	r Level 2, 3 or 4	×	~	Face shield where practical

Also see: Joint ANZSN and RSA Statement – Personal Protective Equipment (PPE) recommendations for staff and patients in haemodialysis units. <u>https://www.nephrology.edu.au/covid-19-updates.asp</u>

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#### **Healthcare Worker Infections**

Occupation	Healthcare acquired	Likely healthcare acquired	Not Healthcare acquired	Unable to be determined	Under investigation	Grand Total
Until 30 June 2020	52 (22%)	1 (0%)	122 (50%)	56 (23%)	11 (5%)	242
Aged care or disability worker	3 (9%)	0	17 (49%)	12 (34 %)	3 (9%)	35
Medical practitioner	15 (28%)	0	29 (54%)	8 (15%)	2 (4%)	54
Nurse	27 (34%)	0	33 (42%)	19 (24%)	0	79
Other healthcare worker*	7 (9%)	1 (1%)	43 (58%)	17 (23%)	6 (8%)	74
From 1 July 2020	1329 (59%)	214 (10%)	128 (6%)	116 (5%)	468 (21%)	2255
Aged care or disability worker	674 (73%)	30 (3%)	39 (4%)	35 (4%)	146 (16%)	924
Medical practitioner	49 (46%)	14 (13%)	4 (4%)	15 (14%)	24 (23%)	106
Nurse	497 (54%)	144 (16%)	48 (5%)	41 (4 %)	192 (21 %)	922
Other healthcare worker*	109 (36%)	26 (9 %)	37 (12%)	25 (8%)	106 (35%)	303

DHHS 25<sup>th</sup> August 2020

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#### **Healthcare Worker Infections**

- Community acquired (25%)
- ➢ Healthcare acquired (75%)
  - ➢ Patients ⇔ HCW
  - ➢ HCW ⇔ HCW

Rounding, meal areas, transit arrangements etc.

# Renal issues in the 2<sup>nd</sup> COVID wave: What was unexpected? Aged care crisis

#### **CASES IN AGED CARE SERVICES**

Confirmed Cases	Austra lia	АСТ	NSW	NT	QLD	SA	TAS	VIC	WA
Residential Care Recipients	2047 [1197] (637)	0	61 [33] (28)	0	1 (1)	0	1 (1)	1984 [1164] (607)	0
In Home Care Recipients	82 [71] (7)	0	13 [13]	0	8 [8]	1 [1]	5 [3] (2)	54 [46] (4)	1 (1)

Cases in care recipients [recovered] (deaths)

#### **Polling Question 1**

One of your satellite haemodialysis patients resides in an aged care facility reporting cases of COVID-19. Your patients is asymptomatic with a COVID PCR swab is pending. Would you:

- A. Continue your patient's regular haemodialysis schedule, using your units regular PPE and infection control procedures
- B. Arrange for the patient to do haemodialysis in a single room quarantined away from other ESKD patients
- C. Arrange for the patient to do haemodialysis cohorted with other patients at increased COVID risk
- D. Don't know or Other



#### Challenges

- Medical
- Safe transport
- Cohorting and isolation
- Staff anxiety
- Patient isolation
- Family distress

# Value of "Community of Practice"

### **Polling Question 2**

- In the Australian experience in 2020, compared to the general population, dialysis patients are:
  - A. More likely to be diagnosed with COVID-19, but if diagnosed outcomes are similar
  - B. Not more likely to be diagnosed with COVID-19, and if diagnosed outcomes are similar
  - C. Not more likely to be diagnosed with COVID-19, and if diagnosed outcomes are worse
  - D. More likely to be diagnosed with COVID-19, and if diagnosed outcomes are worse

#### **Outcomes so far**

Australia only	<b>General population</b>	Dialysis	Transplant
Covid cases (28 Sep)	27,044	13	20
Population (dec 2019)	25,364,307	13,941	10,625
Rate (per 100,000)	106.62	93.25	188.24
Deaths	875	7	1
Mortality rate (per 100,000 population)	3.45	50.21	9.41
Case fatality (per 100)	3.24	53.85	5.00



Professor Stephen McDonald - ANZDATA

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#### **Victorian Experience**

	Dialysis	Transplant	Total						
Confirmed cases	9	13	22						
Deaths	4 (44%)	1 (7.7%)	5 (22.7%)						
	Data from	Data from K Hurst and S McDonald: 10 <sup>th</sup> Sept 2020							

19,970 total Vic cases

3300 Dialysis patients 3500 Transplant patients

How acquired	Dialysis	Transplant
Community	6	10
Health or Aged Care	3	1
Dialysis Unit	0	0
Overseas	0	0
Unknown	0	2
Total	9	13

#### Take home messages:

- Benefits of establishing a collaborative Community of Practice
- Be prepared and be adaptable
- > 2020 was not our usual Winter in any way (e.g. no flu)
- Patients with ESKD in residential aged care as an extra vulnerable population
- Low rates of transmission of SARS-CoV-2 in the local ESKD population have been achieved thus far – net effect of huge efforts across numerous fronts



#### Canadian Society of Nephrology/ Société canadienne de néphrologie







#### Canadian Society of Nephrology/ Société canadienne de néphrologie



Australian and New Zealand Society of Nephrology

# Thank You