DCCM COVID-19 Town Hall

April 15th, 2020

Welcome/Ground Rules

- Welcome
- Webinar Format
  - Host and panelists
  - Audience participation/Chat

Agenda

- COVID-19 Dashboard
- Provincial CCSCN Response
- Local DCCM Response
- “Just in Time” Emerging COVID literature
- AHS Return to Work Policy
- Questions

COVID-19 Dashboard

Dan Niven

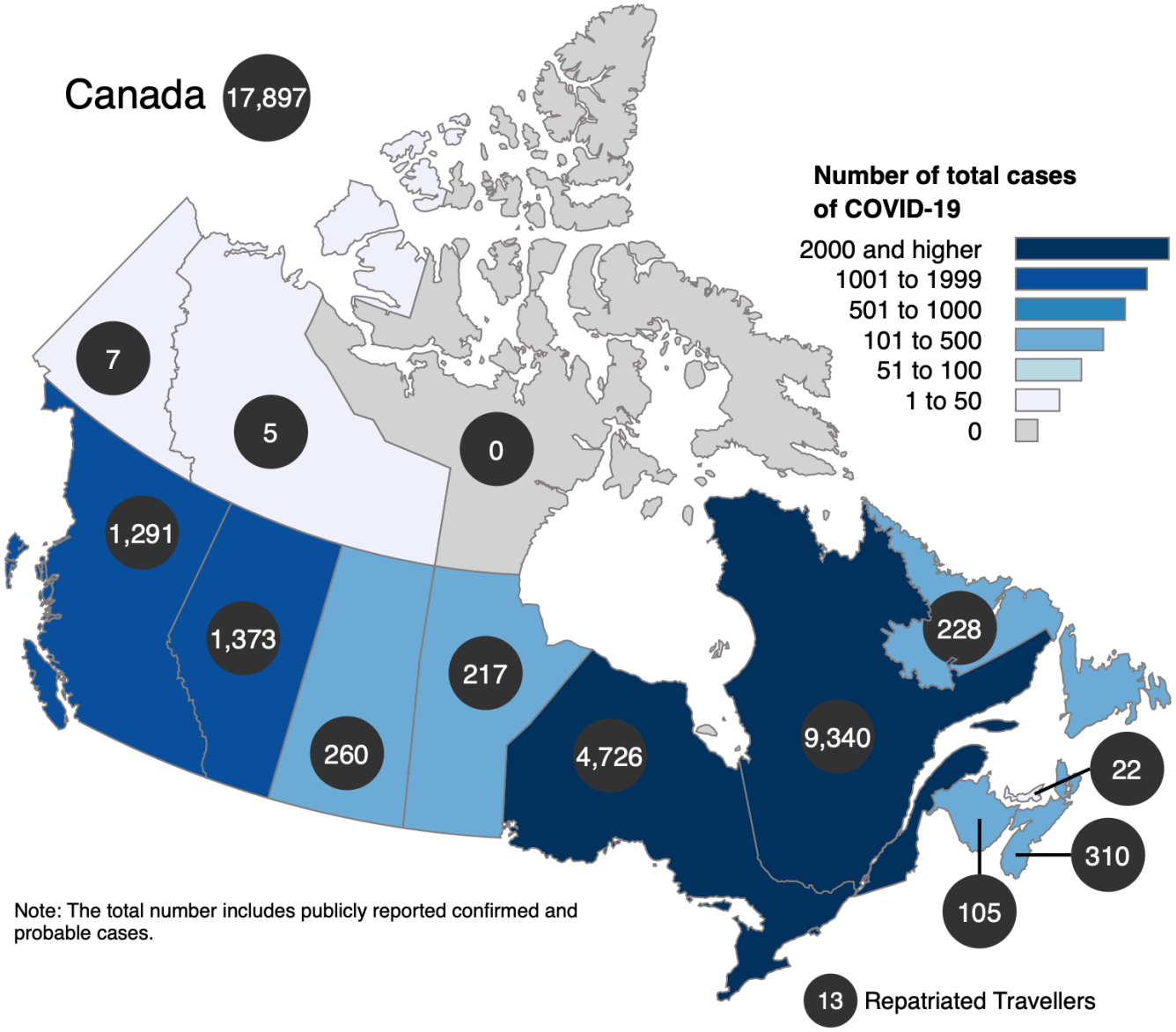
Sources of Information up to April 14:

https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection.html#a1

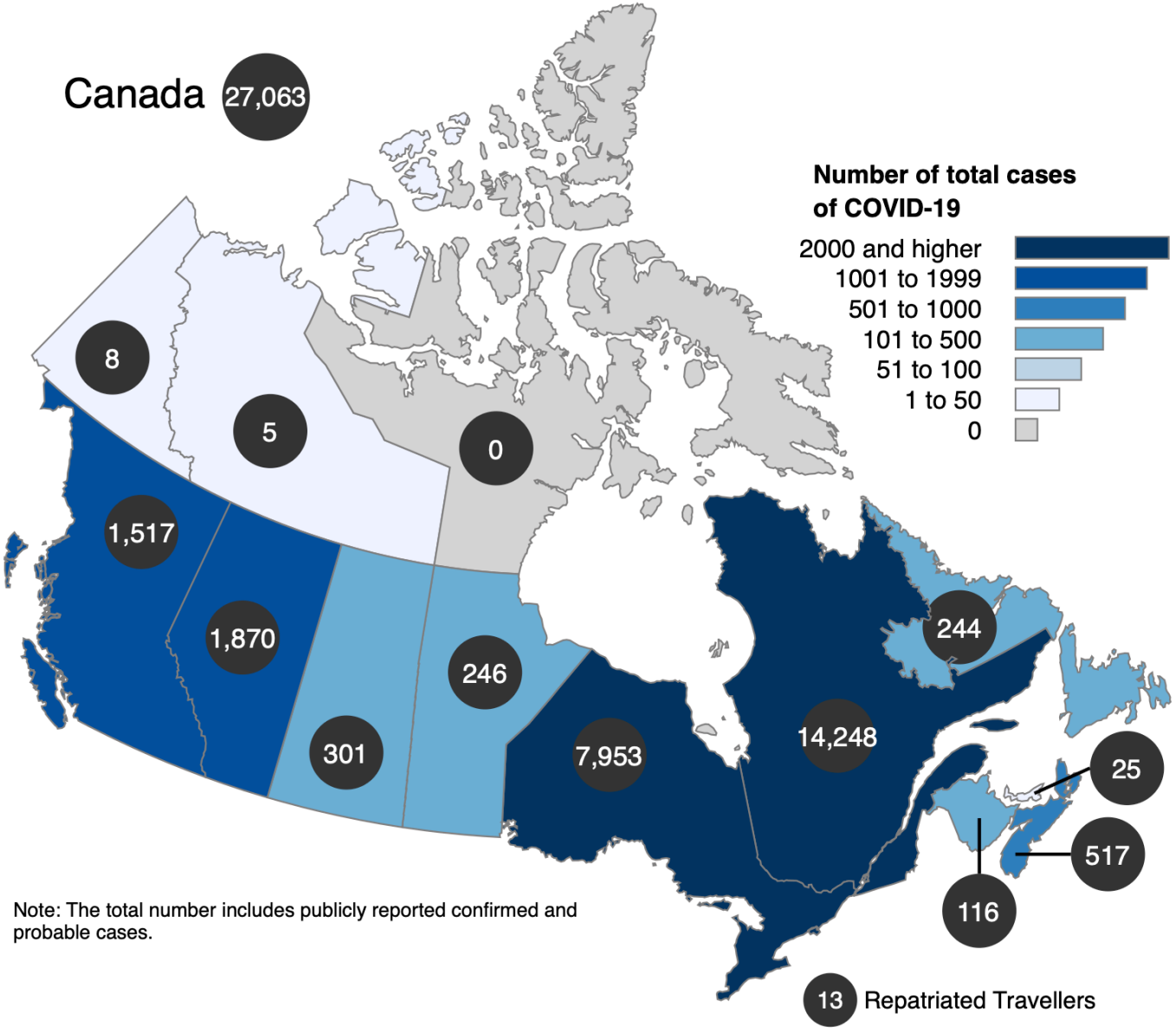
https://www.alberta.ca/covid-19-alberta-data.aspx

https://www.alberta.ca/assets/documents/covid-19-case-modelling-projection.pdf

APRIL 7


Canada 17,897
Number of total cases of COVID-19
2000 and higher
1001 to 1999
501 to 1000
101 to 500
51 to 100
1 to 50
0
7
5
0
1,291
1,373
260
217
4,726
9,340
228
22
310
105
13 Repatriated Travellers
Note: The total number includes publicly reported confirmed and probable cases.

APRIL 14


Canada 27,063
Number of total cases of COVID-19
2000 and higher
1001 to 1999
501 to 1000
101 to 500
51 to 100
1 to 50
0
8
5
0
1,517
1,870
301
246
7,953
14,248
244
25
517
116
Note: The total number includes publicly reported confirmed and probable cases.
13 Repatriated Travellers

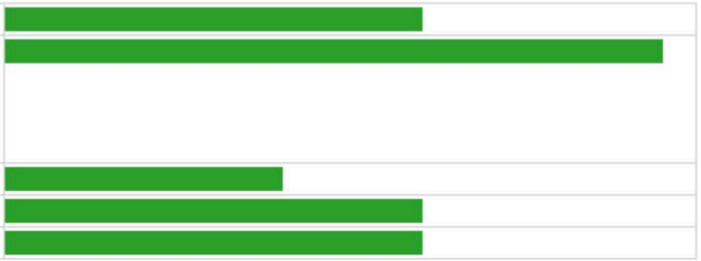
DCCM Census – April 14

Calgary Department of Critical Care Medicine (DCCM)

Bar Colors: - below 80%

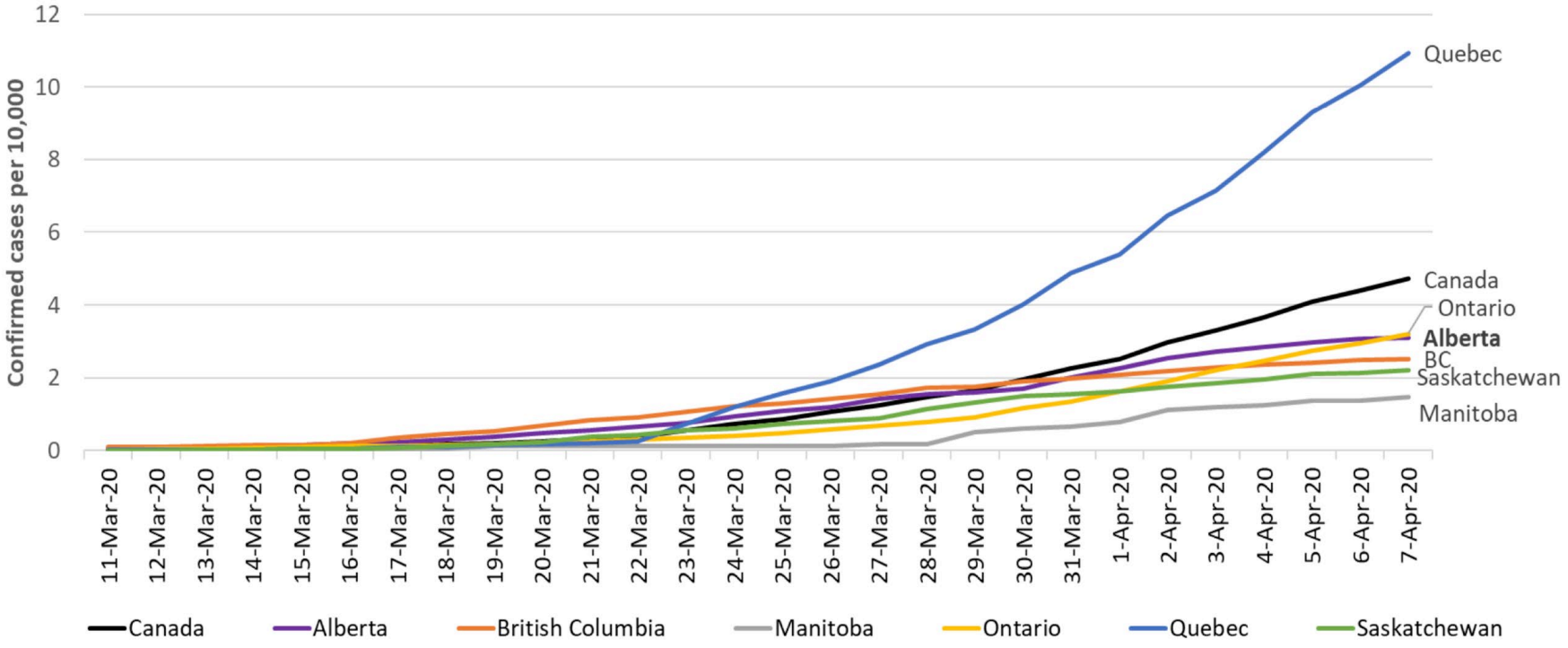
As of Apr 14 2020 22:00:35 (Update in 15 mins)

FMC CVICU	50%	(7/14)		
FMC ICU	79%	(22/28)	Bed 1519 ready for dc 36.2 hrs	
			Bed 1526 ready for dc 2.8 hrs	
			Bed 1536 ready for dc 2.8 hrs	
			Bed 1525 ready for dc .6 hrs	
PLC ICU	33%	(6/18)		
RGH ICU	50%	(5/10)	Bed ICU08 ready for dc 35.2 hrs	
SHC ICU	50%	(5/10)		

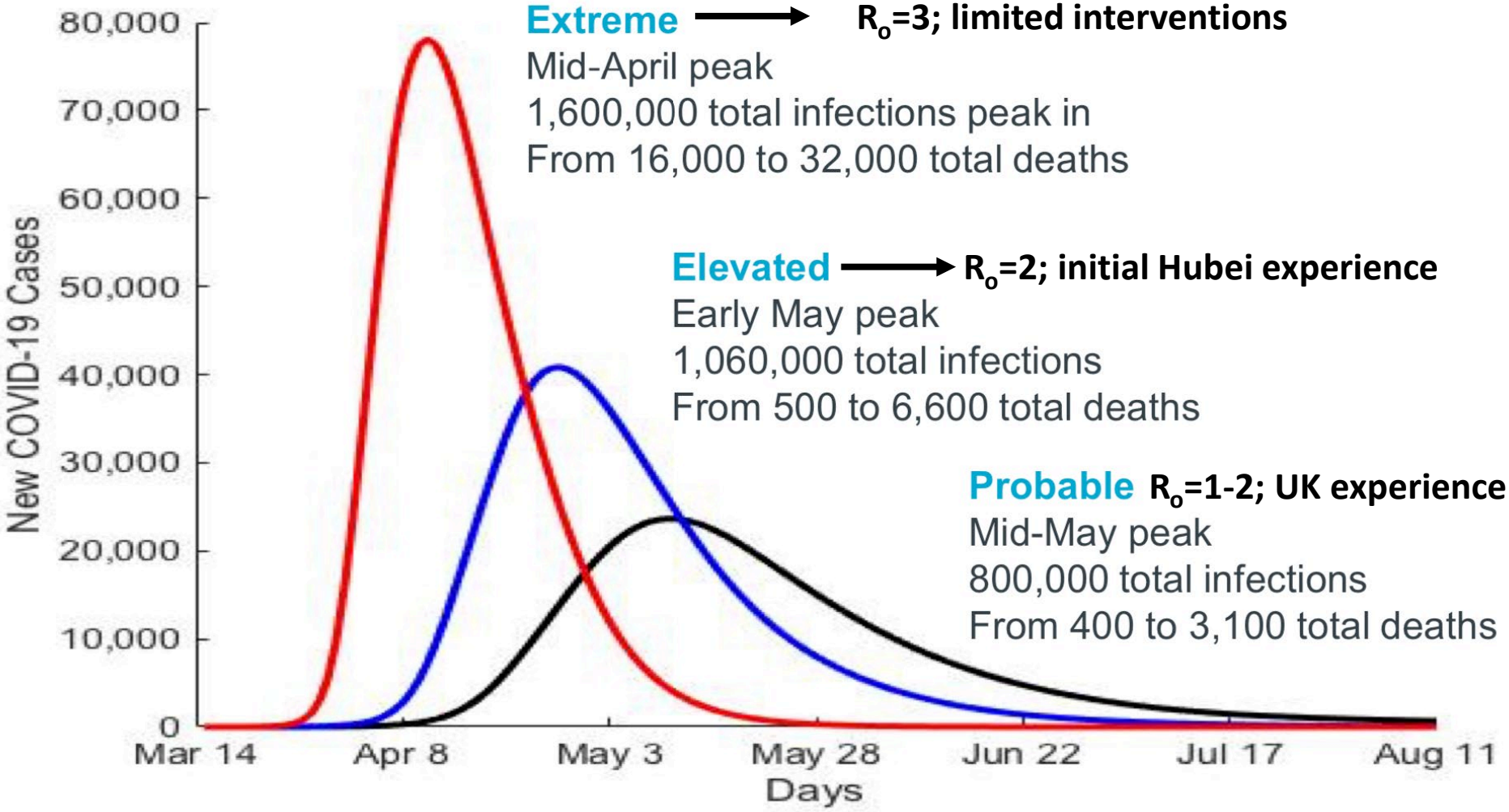


Success of Public Health or Calm Before the Storm…?

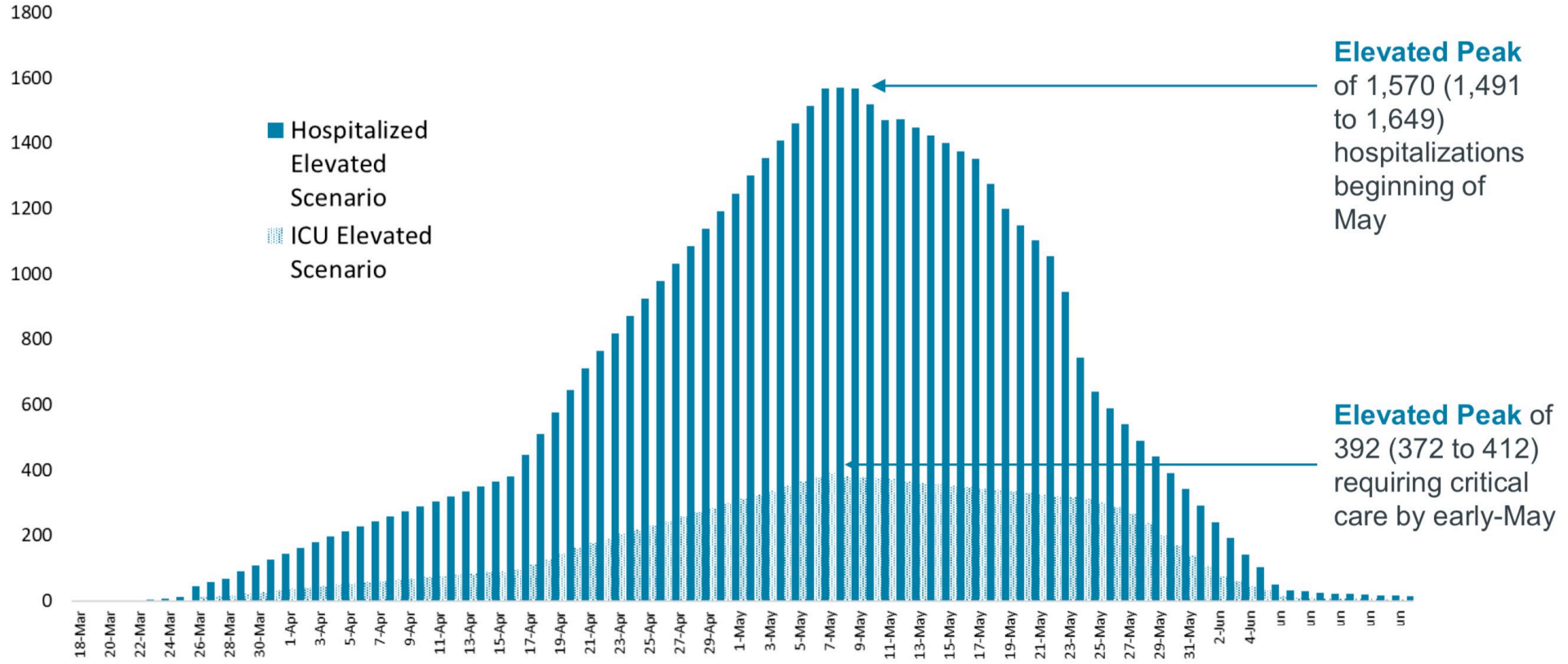
Alberta Compared to Other Provinces



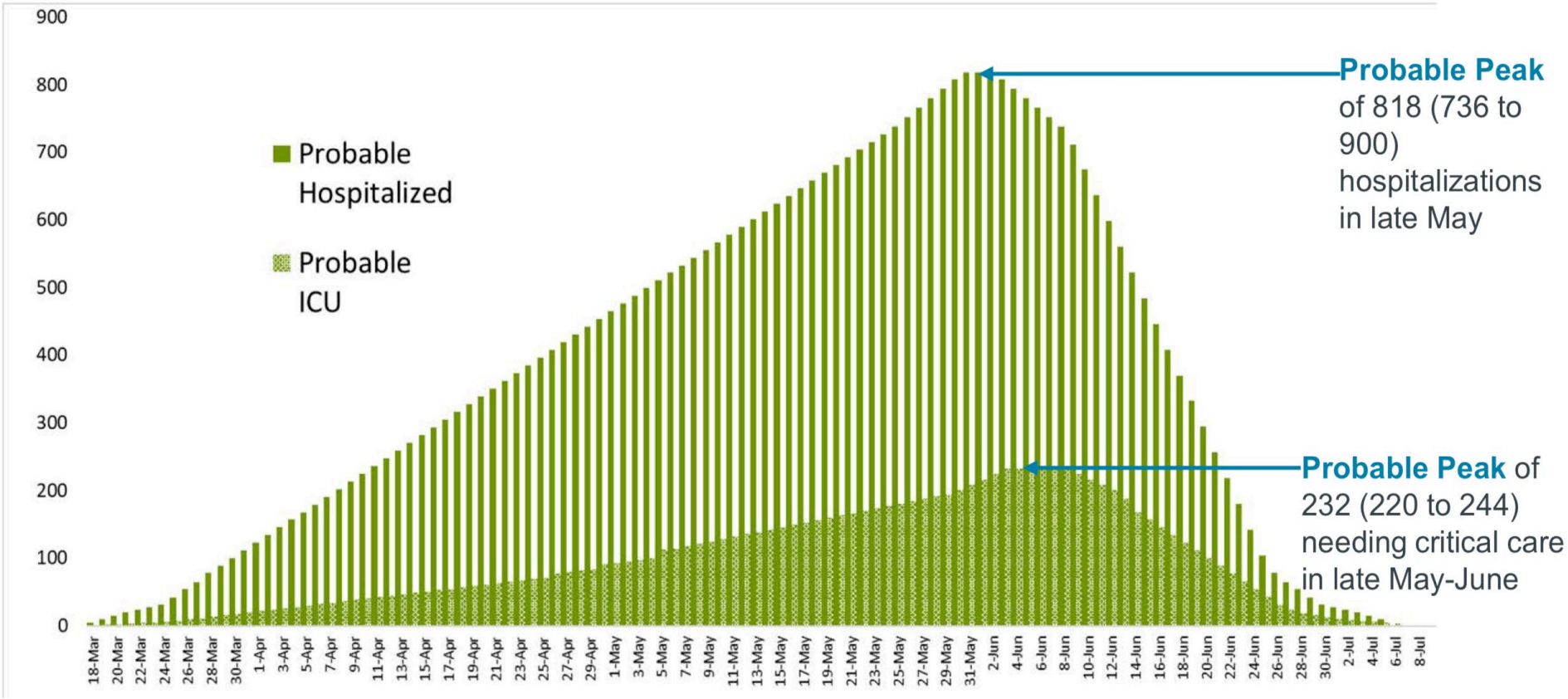
Modelling in Alberta – Probable, Elevated and Extreme Scenarios



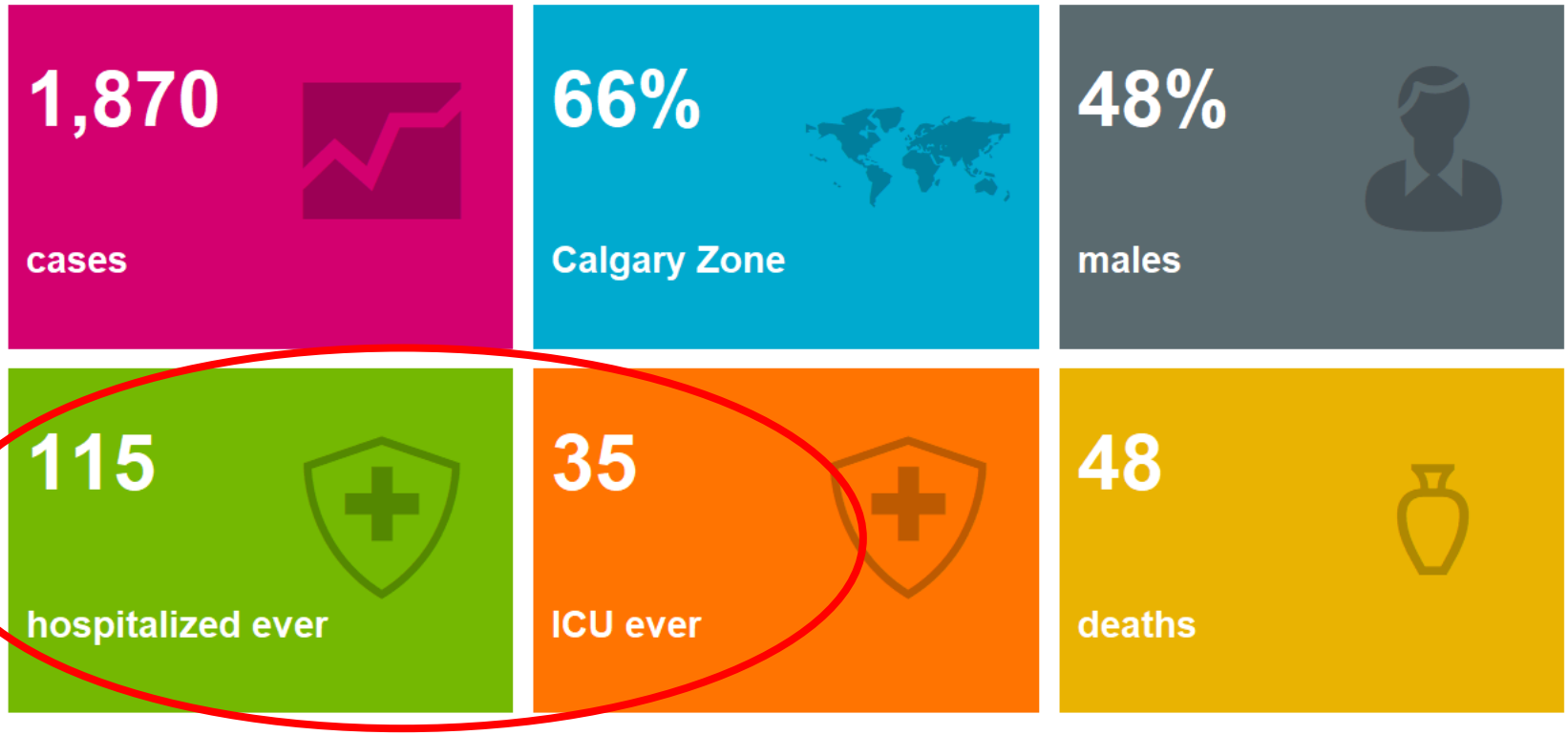
Hospitalizations and ICU - Elevated Scenario



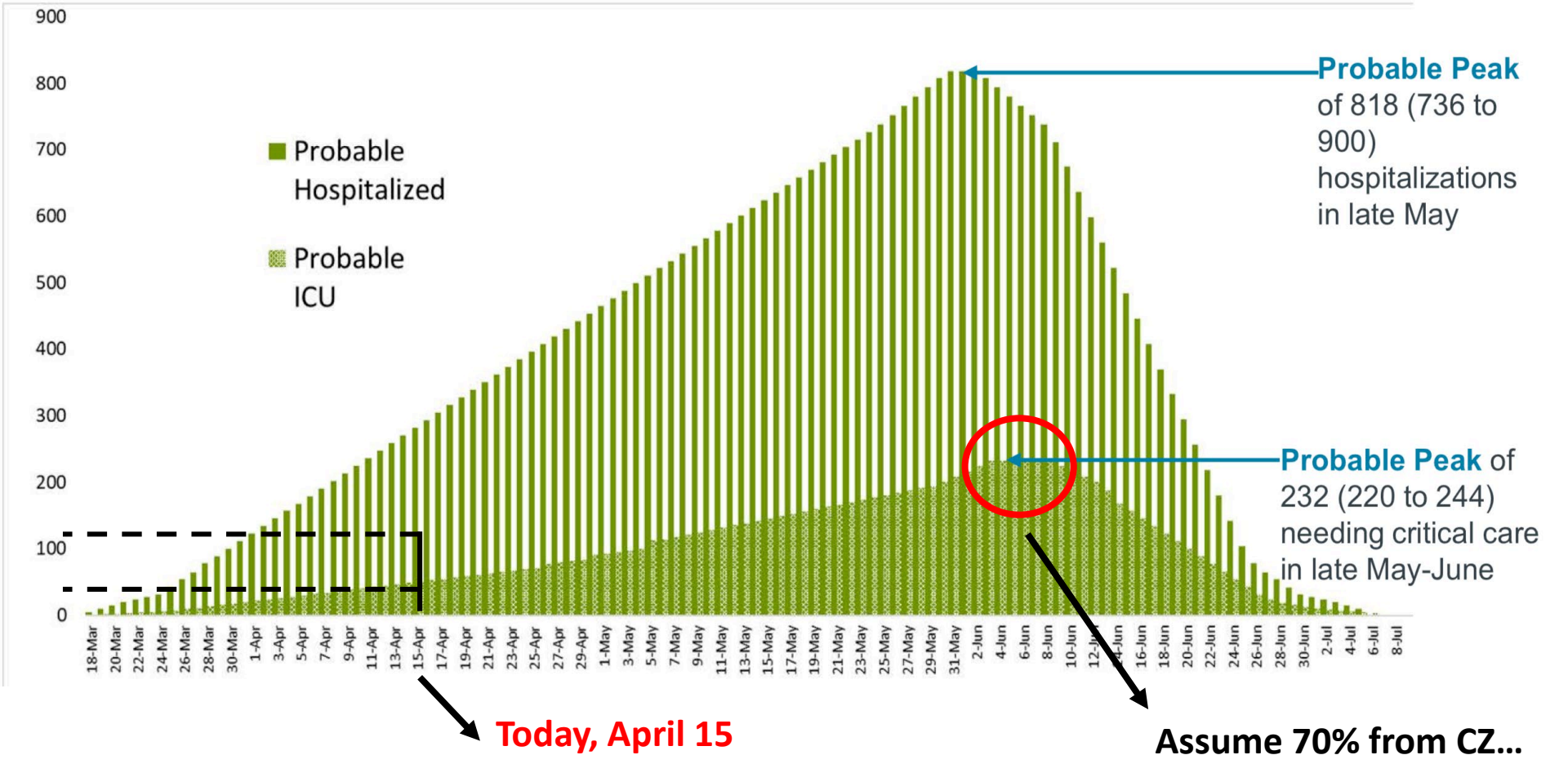
Hospitalizations and ICU - Probable Scenario



Current Case Volume More Consistent with Probable Scenario



Hospitalizations and ICU - Probable Scenario



Today, April 15

Assume 70% from CZ…

Probable Scenario & DCCM Surge Planning

Resources	Basic Pre-Surge	Stage 1 Minor Surge	Stage 2 Moderate Surge	Stage 3 Major Surge	Stage 4 Large Scale Surge
Total Adult Beds	66	82	162	293	541
Adult Unit/Sites	**FMC 28** **RGH 10** **PLC 18** **SHC 10**	**FMC 36** 36 FMC ICU **RGH 12** 10 RGH ICU + 7 RGH CCU **PLC 22** 22 PLC ICU **SHC 12** 10 SHC ICU + 2 SHC CCU	**FMC 76** 58 FMC ICU (cohort) + 18 CICU **RGH 26** 10 RGH ICU + 7 RGH CCU + 9 PACU **PLC 32** 22 PLC ICU + 10 PLC CCU **SHC 20** 18 SHC ICU (cohort) + 2 SHC CCU **ACH 8** 8 ACH PICU (cohort)	**FMC 106** FMC ICU 66 (cohort) + 18 CICU + 4 1021 + 18 PACU **RGH 65** 10 RGH ICU + 7 RGH CCU + 9 PACU +7 OR + 32 PCU 46 **PLC 76** 44 PLC ICU (cohort) + 20 PLC CCU (cohort) + 12 PCU 59 **SHC 24** 20 SHC ICU (cohort) + 4 SHC CCU (cohort) **ACH 22** 22 ACH PICU (cohort)	**FMC 154** FMC 66 + 18 CICU + 29 PACU + 37 OR + 4 PCU1021 **RGH 113** 16 RGH ICU + 7 RGH CCU + 9 PACU + 8 OR + 41 PCU Old ED + 32 PCU 46 **PLC 133** 44 PLC ICU + 20 PLC CCU + 12 PCU 59 + 14 OR + 21 PACU + 22 PCU 24 **SHC 95** 24 SHC ICU + 32 PACU + 3 OR + 25 Day Surgery + 11 Short Stay **ACH 46** 24 ACH PICU (cohort) + 22 ACH PACU (cohort)
% Increase	0	24%	133%	344%	720%
Total RNs	ICU 56	ICU 64	ICU 64, Ward 29	ICU 72, Ward 61	ICU 117, Ward 118
Total RRTs	23	25	47	53	

Critical Care SCN

COVID Update

- Nancy Fraser

Critical Care Strategic Clinical Network.

Provincial Webinar

- **Date**: Thursday April 23rd
- **Time**: 2:30 -3:30
- Webinar Invitation to Follow

Critical Care Strategic Clinical Network

Provincial Critical Care COVID-Committee and Sub Groups

Work Completed

- Care of the COVID Patient – Adult and Pediatric
- Facilitating Daily Reporting
- eCritical COVID Dashboard
- Staffing model
- Tele Support Consultation Service
- ECLS Recommendations for COVID-19 in Alberta
- Provincial Pandemic (COVID) Critical Care Consumables
- Proning Resource Package
- Repository https://www.criticalcareresearchscn.com/

Work In Flight

- Triage Guideline – Adult and Pediatric
- Team Based Care Resource Package
- Pandemic Documentation Standards Package
- Research

COVID-19 DCCM Response

Tom Stelfox

Care for all patients

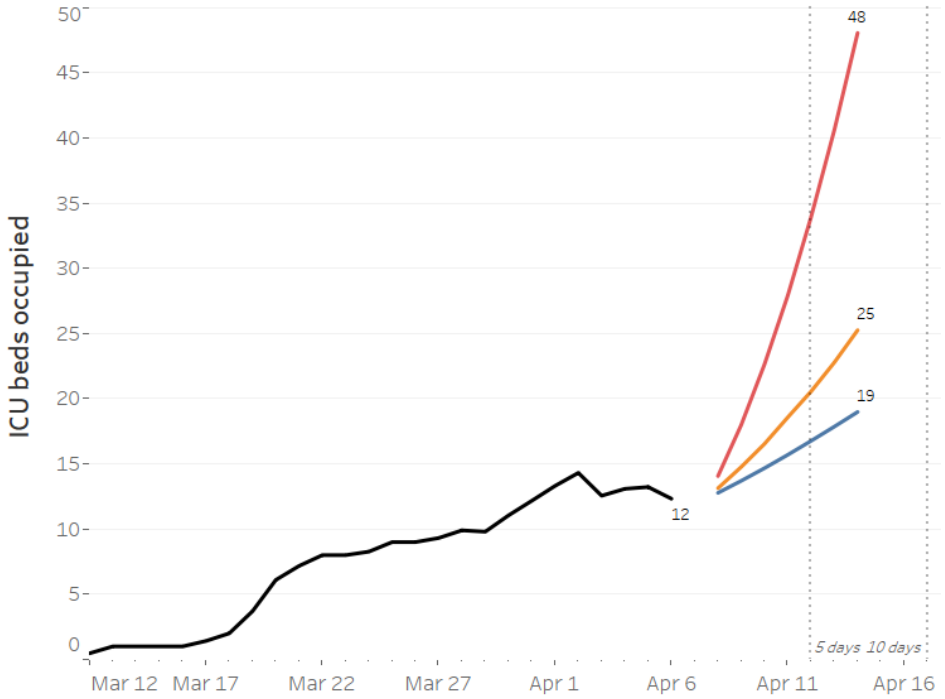
We aim to provide all patients with the care they need

Safety for all staff

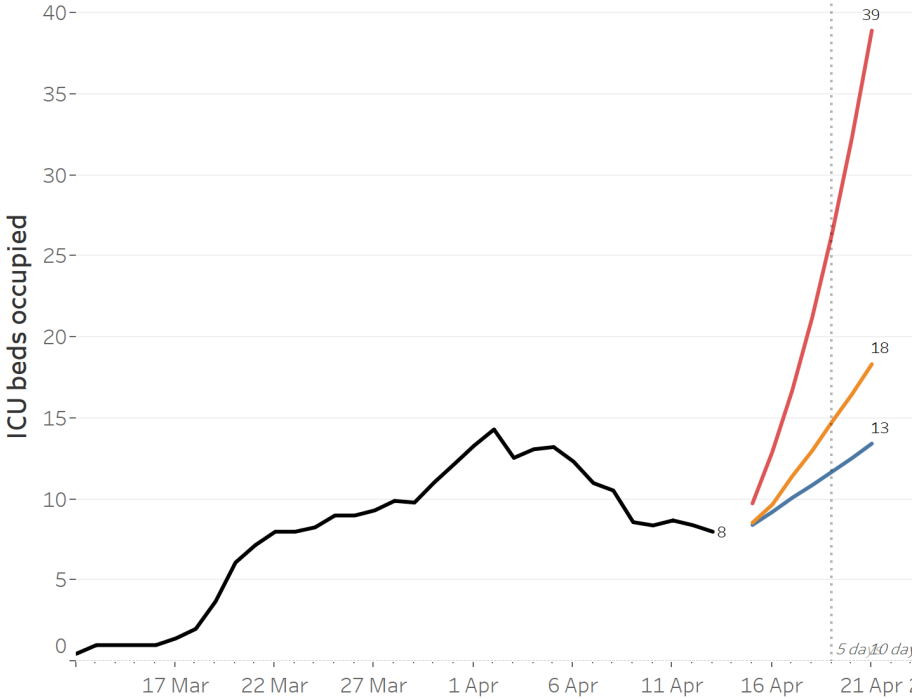
We aim to protect all team members from SARS-CoV-2

Seven Day Projections

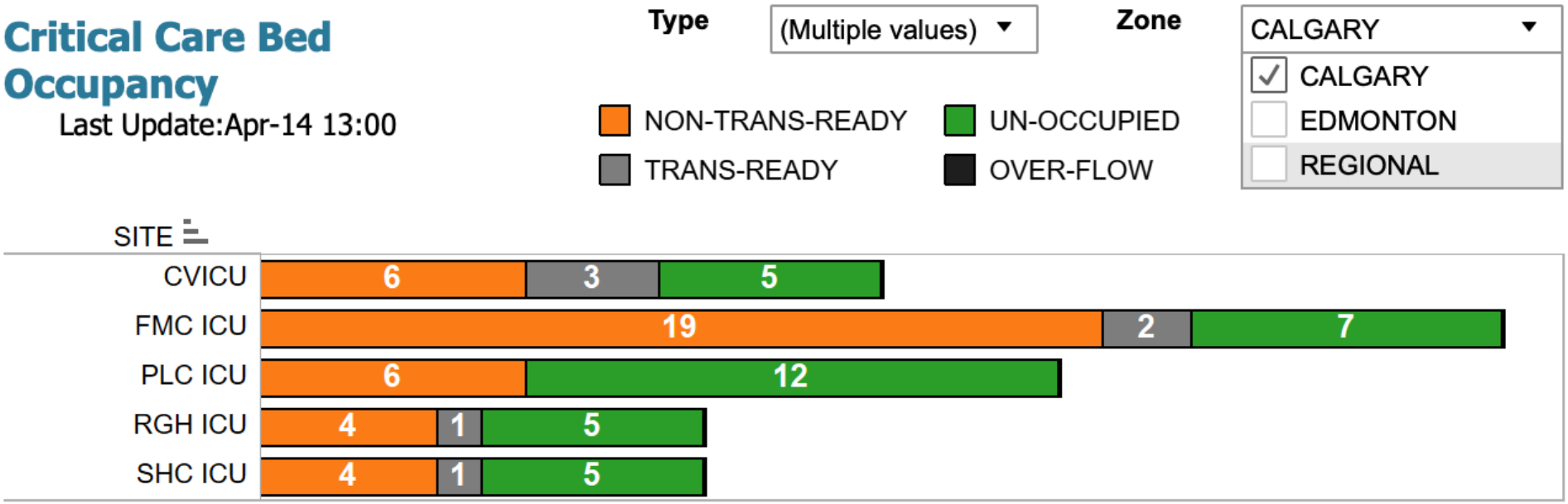
April 7th



April 14th



Low Occupancy



Staged & Ready

- Covid-19 Priorities
  - Pathway to improve care efficiency
  - Contracts for recruited physician
  - Night call schedule

- Other Priorities
  - Clinical ARP
  - Clinical Scholar Program

Jean-Louis Vincent
@jlvincen

COVID-19 hydroxychloroquine not really effective #isicem #CriticalCare #critically #intensivecare

Submitted to the New England Journal of Medicine

The NEW ENGLAND JOURNAL of MEDICINE

Please review the Supplemental Files folder to review documents not compiled in the PDF.

Clinical Outcomes of Hydroxychloroquine in Hospitalized Patients with COVID-19: A Quasi-Randomized Comparative Study

Journal:	*New England Journal of Medicine*
Manuscript ID	20-08882
Article Type:	Rapid Review
Date Submitted by the Author:	04-Apr-2020
Complete List of Authors:	Barbosa, Joshua; Wayne State University School of Medicine; Sinai Grace Hospital Kaitis, Daniel; Henry Ford Hospital Freedman, Ryan; Wayne State University School of Medicine

Know Your Source


SIGNAGE
SIGNAGE
KEEP DOOR CLOSED AT ALL TIMES

COVID-19 Critical Care Literature Update

Literature published up to April 10, 2020

Dan Niven and Chip Doig

OPEN

Fact Versus Science Fiction: Fighting Coronavirus Disease 2019 Requires the Wisdom to Know the Difference

Nicholas E. Ingraham, MD[1]; Christopher J. Tignanelli, MD[2,3]

- "…another pandemic, in its own right, threatens to destroy the meticulously built scientific juggernaut surrounding COVID-19. Those are alternative facts…misinformation is a current public health emergency!"

Crit Care Expl 2020;2:e0108

Presymptomatic Transmission

Wei et al. MMWR 2020;69(14): 411-415

- **Presymptomatic transmission** = "…transmission of SARS-CoV-2 from a source patient to a secondary patient before the source patient developed symptoms…determined by exposure and symptom onset…no evidence of other exposure to COVID-19"

- Mechanism - environmental contamination, droplets, fomites, nonrigorous hand hygeine

- 12.6% of transmission in China = presymptomatic

Presymptomatic Transmission

Wei et al. MMWR 2020;69(14): 411-415

- **Review of COVID-19 cases in Singapore** to determine whether presymptomatic transmission occurred among clusters
- MOH notified of all suspected and confirmed cases
- Confirmed = SARS-CoV-2 RT-PCR positive
- Confirmed cases interviewed to ascertain symptoms and contact tracing
- 7 Clusters reviewed to identify presymptomatic transmission

Presymptomatic Transmission

Wei et al. MMWR 2020;69(14): 411-415

Cluster A	Dates of likely transmission, symptom onset, and other exposure																	Symptoms
	Jan													Feb				
	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	
Patient A1 ★																		Fever
Patient A2 ★																		Fever
Patient A3																		Fever
Patient A4																		Fever, cough
Patient A5																		Fever, sore throat

10 of 157 (6.4%) locally acquired cases of COVID-19 attributed to presymptomatic transmission

Implications of Presymptomatic Transmission

AHS Guidelines for Continuous Masking in Healthcare settings

Justification for Recommendations:

1. Healthcare workers with no symptoms of COVID-19 who are in the incubation period could inadvertently infect patients and other staff prior to developing symptoms.
2. A broader HCW masking policy may reduce the number of staff required to be furloughed in the event of exposure to COVID-19.
3. PPE conservation is critical and a sustainable approach is required. In other jurisdictions, a consistent policy of continuous mask use has led to reductions in overall PPE use.

Thrombotic Complications of COVID-19

- **PLC ICU** – n=8 admissions with COVID-19 since 03/12
  - **N=3 suffered STEMI** – all male > 50 years of age with comorbidities…however, more than we usually see in sepsis and/or severe HRF/ARDS…

- I**ncreased thrombogenicity** associated with COVID-19? – excessive inflammation, hypoxia, immobility, DIC…?

Attention should be paid to venous thromboembolism prophylaxis in the management of COVID-19

- 1,099 patients with laboratory-confirmed COVID-19 from 31 provinces in China
- VTE risk at time of hospital admission evaluated using Padua score (standard VTE risk factors)

- 40% of admissions at high risk VTE
- High risk patients more likely – ICU admission, mechanical ventilation, death…

Wang et al. The Lancet Hematology. https://doi.org/10.1016/S2352-3026(20)30109-5

Klok et al. Thrombosis Research. 2020
https://doi.org/10.2016/j.thromres.2020.04.013

- 184 patients admitted to 3 Dutch ICUs March 7-April 5
- **139 (76%) still in ICU**; 23 (12%) died
- **Median 7 days observation**
- Standard doses VTE prophylaxis (LMWH)

Klok et al. Thrombosis Research. 2020
https://doi.org/10.2016/j.thromres.2020.04.013

- Composite outcome: PE, DVT, CVA, ACS, systemic embolism

- 31% experienced composite outcome
  - N = 25 PE; N = 3 DVT; N = 3 arterial embolic events

- Age, PT > 3s, aPTT > 5s predictors of thrombosis

CORRESPONDENCE

COVID-19 CASES

Coagulopathy and Antiphospholipid Antibodies in Patients with Covid-19

- 3 patients admitted to ICUs with RT-PCR confirmed COVID-19
- All 3 had coagulopathy, antiphospholipid antibodies, and multiple cerebral infarcts

Zhang et al. NEJM 2020. doi:10.1056/NEJMc2007575

Table 1. Demographic and Clinical Characteristics and Laboratory Findings.*

Characteristic	Patient 1	Patient 2	Patient 3
Demographic characteristics			
Age — yr	69	65	70
Sex	Male	Female	Male
Initial findings			
Medical history	Hypertension, diabetes, stroke	Hypertension, diabetes, coronary artery disease, no history of thrombosis	Hypertension, emphysema, nasopharyngeal carcinoma, stroke
Prothrombin time (sec)	17.0	17.2	15.1
Activated partial-thromboplastin time (sec)	43.7	45.3	47.6
Fibrinogen (g/liter)	4.15	4.42	6.42
Fibrin degradation products (mg/liter)	85.5	8.1	7.3
D-dimer (mg/liter)	>21.00	2.84	3.23
Serum ferritin (μg/liter)	ND	2207.8	ND
Procalcitonin (ng/ml)	0.11	0.18	0.40
High-sensitivity C-reactive protein (mg/liter)	112.0	56.0	125.4
Antiphospholipid antibodies	Anticardiolipin IgA, anti–β_2-glycoprotein I IgA and IgG	Anticardiolipin IgA, anti–β_2-glycoprotein I IgA and IgG	Anticardiolipin IgA, anti–β_2-glycoprotein I IgA and IgG
Imaging features	Multiple cerebral infarctions in bilateral frontal parietal occipital lobe and bilateral basal ganglia, brain stem, and bilateral cerebellar hemispheres	Multiple cerebral infarctions in right frontal and bilateral parietal lobe	Multiple cerebral infarctions in frontal lobe, right frontal parietal temporal occipital lobe, and bilateral cerebellar hemispheres

Implications of Hematology Observed in COVID-19

- **Incidence of thrombotic events is not insignificant**

- **Nothing specific proven effective to treat pre-emptively prevent COVID-19 coagulopathy**
  - Systemic anticoagulation

- Current recommendation is **careful attention to appropriate investigation and prevention strategies**
  - **VTE prophylaxis** – correct agent and dose
  - Primary/secondary arterial vascular protection –ASA, statin, etc.

Tang et al. J Thrombosis Hemostasis. 2020. https://doi.org/10.1111/jth.14817
Tachil et al. J Thrombosis Hemostasis. 2020. https://doi.org/10.1111/jth.14810

AHS COVID-19 Return to Work Policy

Practical Implications of Coronavirus Testing

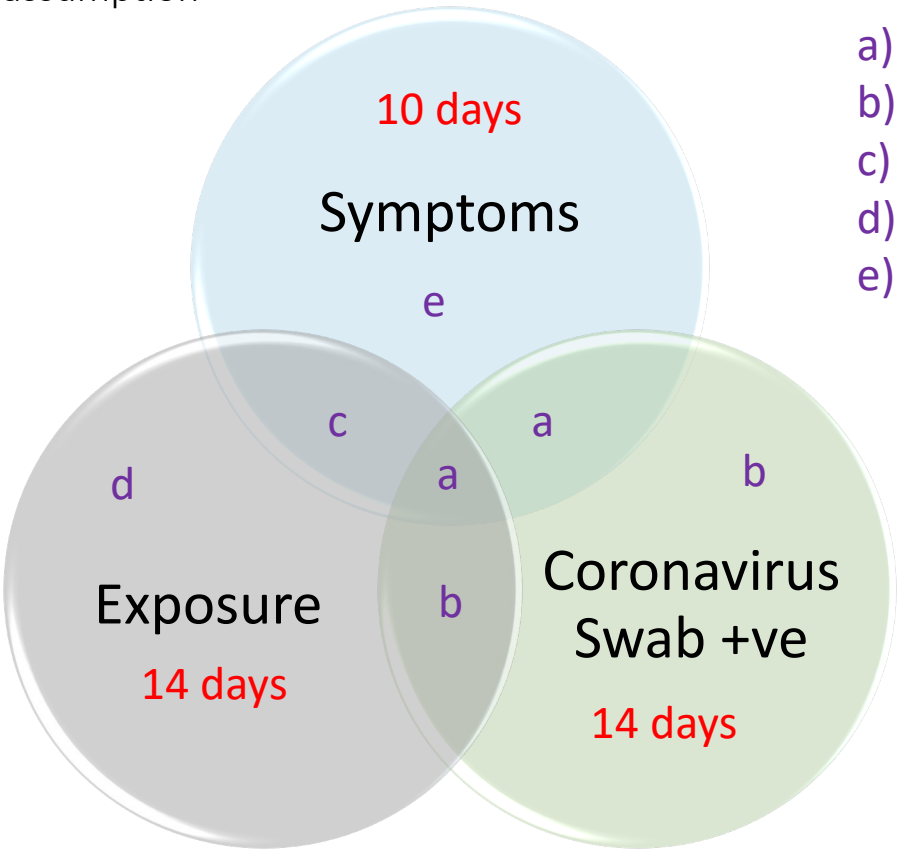
Chris Grant

Current AHS position on Return to work

- Three variables to consider
  - Symptoms
    - Fever, cough, dyspnea, pharyngitis, rhinorrhea
  - Exposure
    - Close contact defined as
      - Providing care for a patient without consistent, appropriate PPE
      - Lived with a person while they were infectious
      - Direct contact with infectious bodily fluids without PPE (e.g. coughed or sneezed on)
  - Testing
    - Coronavirus swab +ve or -ve

Current AHS position on Return to work – the minimum time you are on the bench

NB: see the basic assumption

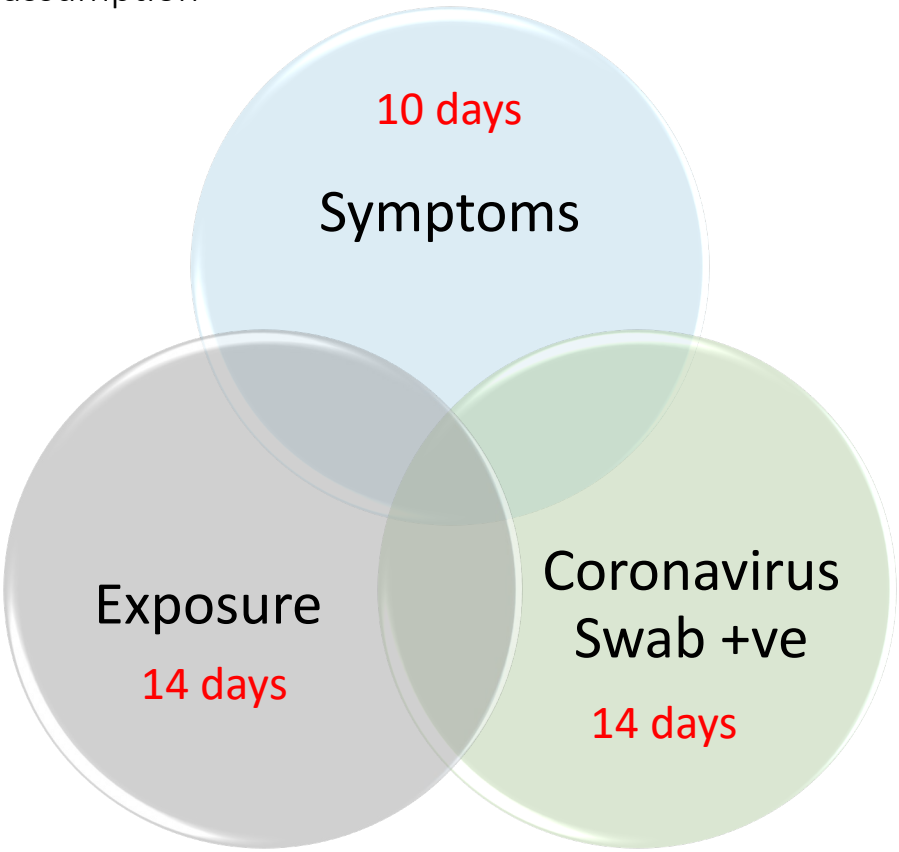


a) Symptomatic COVID
b) Asymptomatic COVID
c) Presumed COVID
d) Potential COVID
e) Hopefully a cold (but still possible)

Basic Assumption: If you have symptoms, you don't work.*

Current AHS position on Return to work – the minimum time you are on the bench

NB: see the basic assumption



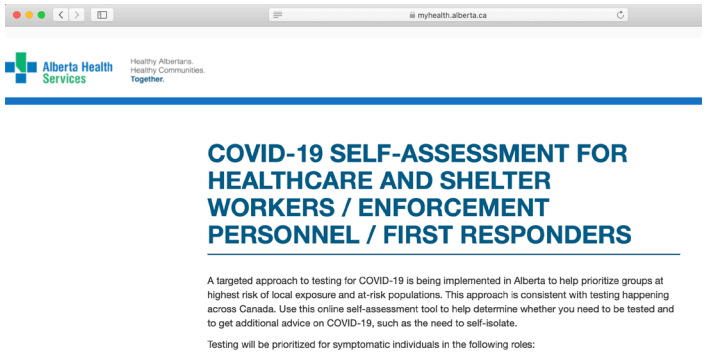
Basic Assumption: If you have symptoms, you don't work.*

Current AHS position on Return to work – niggly bits

- Each rule applies independently
  - e.g. in 14 day quarantine for exposure, but then symptoms start at day 10 → means you aren't going back to work until day 21 at a minimum (i.e. the clock resets)
- What about partners?
  - It comes down to exposure … if they were exposed and a probable case, then you are a probable case too. Call Health Link for guidance.
- What about swabs?
  - Positive: As above, minimum 2 weeks on the bench.
  - Negative: You had a cold (or whatever). Return when the symptoms resolve. There is no quarantine in this case.
- Are the mechanisms for expedited return to work?
  - Yes. It involves getting permission from ZEOC and others.

Current AHS position on Return to work – resources

- If you develop symptoms, do the COVID-19 self assessment at myhealth Alberta or call Health Link (811)
  - https://myhealth.alberta.ca/Journey/COVID-19/Pages/HWAssessLanding.aspx



- There are return to work guideline documents.
  - https://www.albertahealthservices.ca/assets/info/ppih/if-ppih-covid-19-return-to-work-guide-ahs-healthcare-worker.pdf

Upcoming Town Halls…

- What do you want to learn next?
- What are the emerging issues we need to address as a Department?
- Send ideas and thoughts to:
  - Jon Gaudet
  - Chip Doig
  - Dan Niven
  - Tom Stelfox

Care for all patients

We aim to provide all patients

with the care they need

Safety for all staff

We aim to protect all team members

from SARS-CoV-2