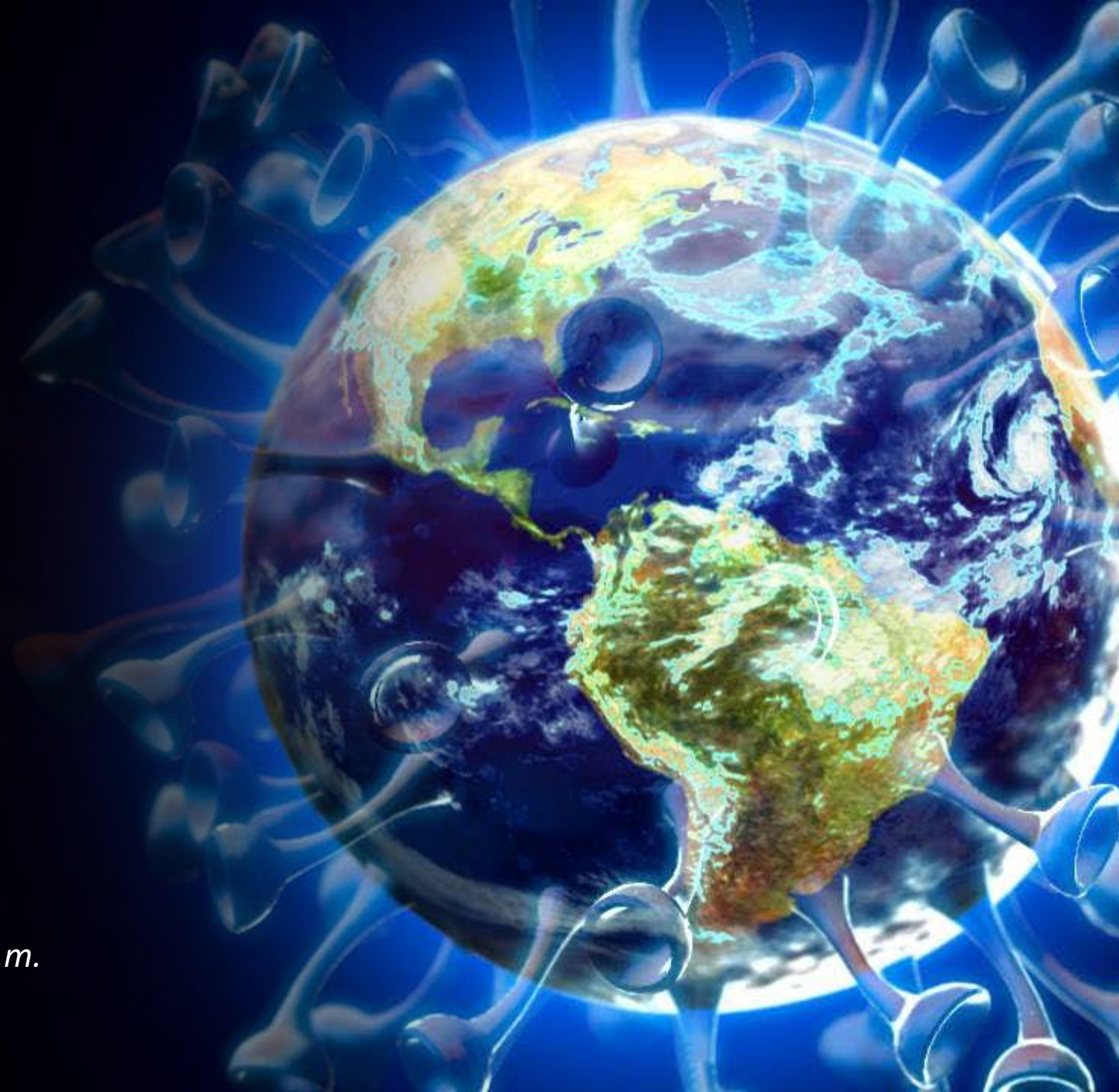
COVID-19 in McLennan County

Current Status & Management Strategies

Please hold. The presentation will begin at 5:30 p.m.



Overview

Introduction — Bill McCunniff, MD

Local data update & tests — D. Mike Hardin, Jr. MD

Epidemiology — Vaidehi Shah, MPH

Inpatient management strategies — M Pattillo, MD & R Stewart, MD

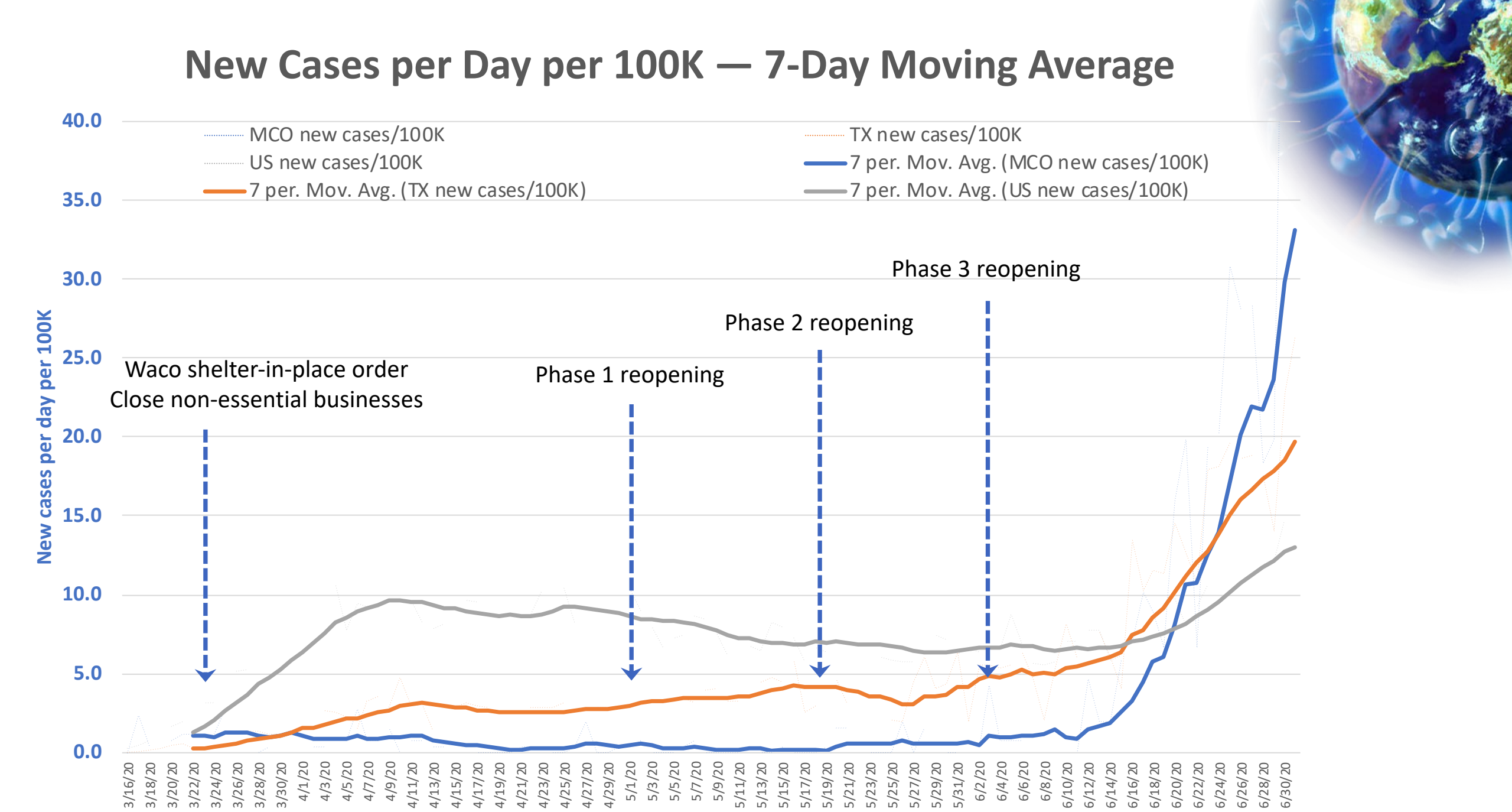
Hospital surge overview — Pattillo & Stewart

Questions — Bill McCunniff, MD

(Pre-)Summary

- McLennan County
  - Significant increase in cases & test positivity
  - Current hospitalization rate suggests suggests high utilization in future if no no change
- Local testing issues
- Results – a negative is not always a negative
- For physicians, the uncomfortable paradigm shift is unchanged
  - Persistent uncertainty
  - Test results not perfect
  - A test result is not about the patient in front of us, **but about the community.** You play a role in management.

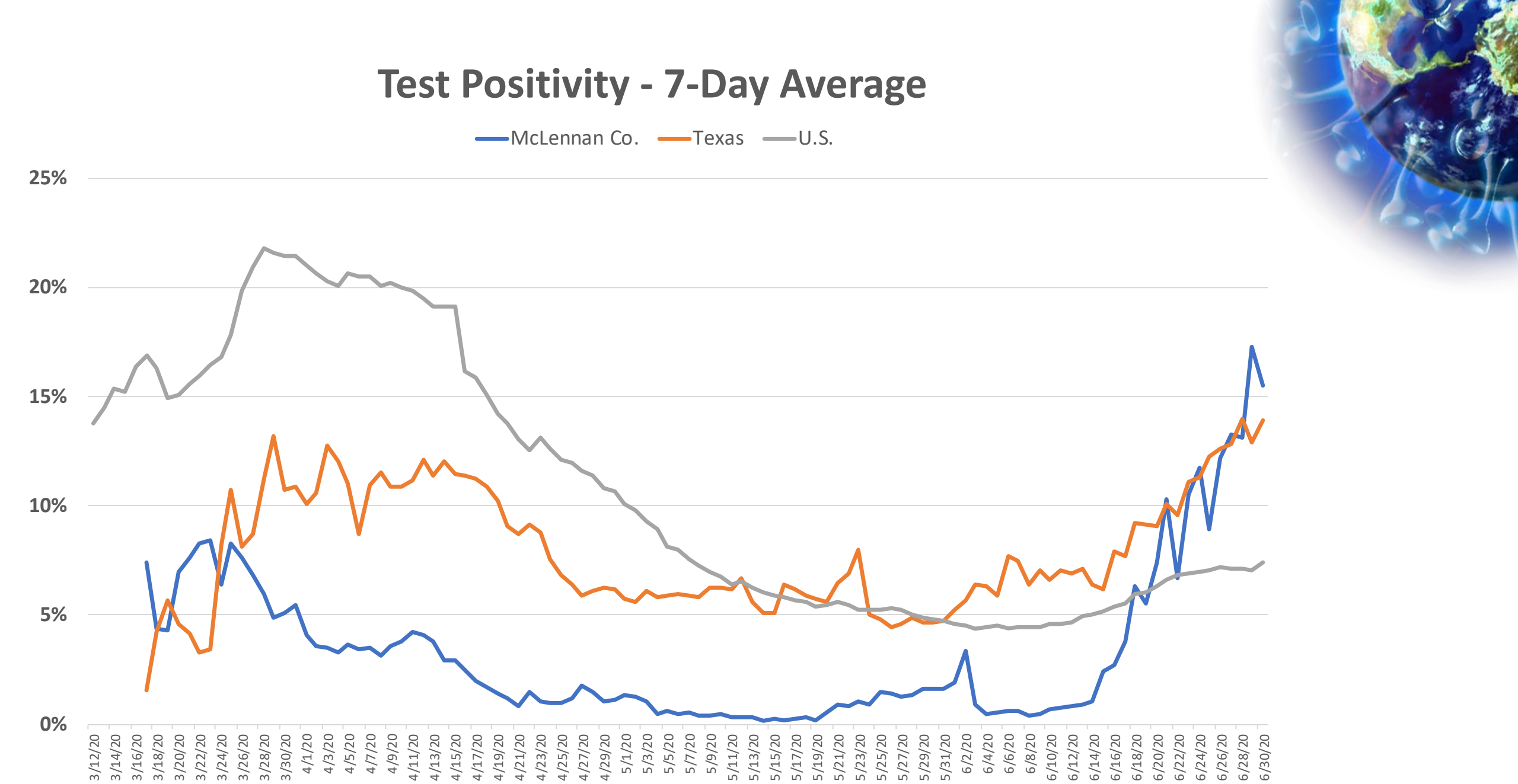
New Cases per Day per 100K — 7-Day Moving Average



Publicly available data: TXDSHS case counts: https://www.dshs.state.tx.us/coronavirus/

Compiled by Waco Family Health Center - Hardin

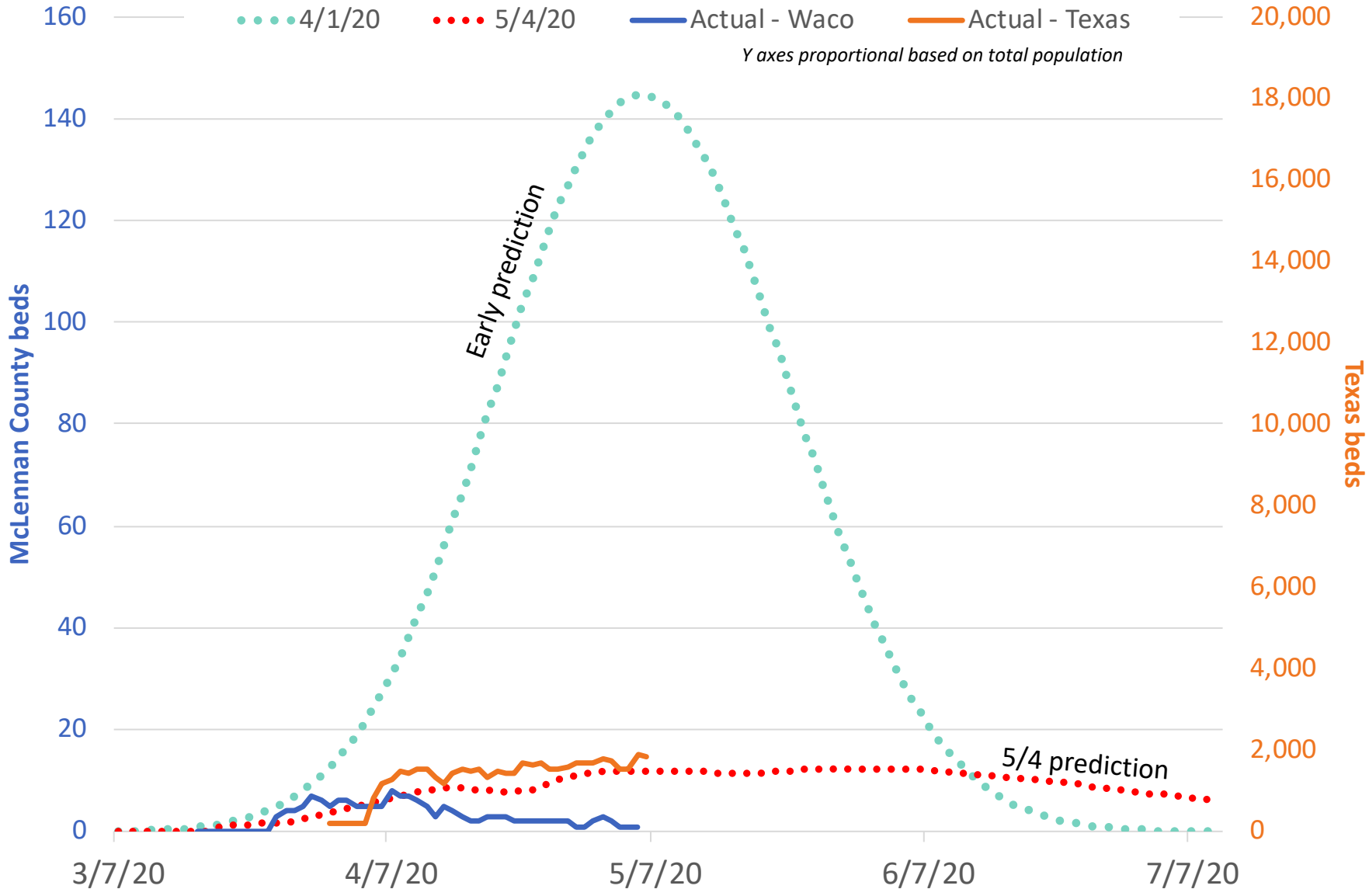
Test Positivity - 7-Day Average



Publicly available data: https://covidwaco.com/ and private data

Compiled by Waco Family Health Center - Hardin

Projected vs. Actual Hospitalizations



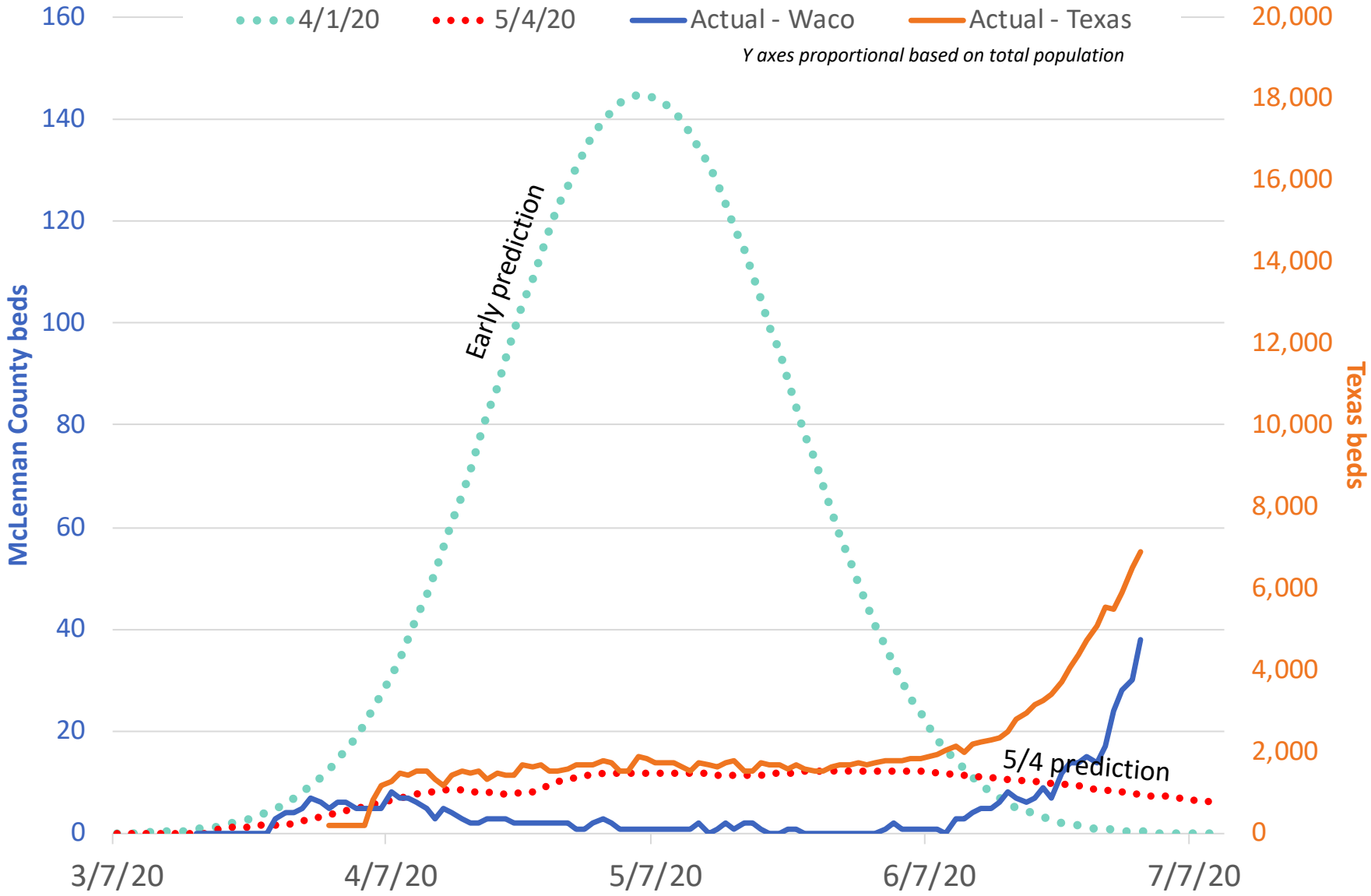
7 weeks ago…

- MCO hospitalization peaked early then declined
- Locally, much lower bed utilization than capacity

Publicly available data: TXDSHS case counts: https://www.dshs.state.tx.us/coronavirus/ ; IHME models: https://covid19.healthdata.org/united-states-of-america/texas

Compiled by Waco Family Health Center - Hardin

Projected vs. Actual Hospitalizations



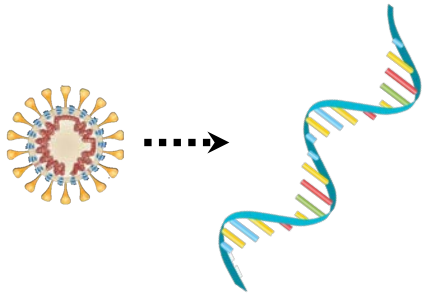
Now

- MCO hospitalization climbing faster than TX
- Slope suggests 100 in 2 weeks if no change?

Publicly available data: TXDSHS case counts: https://www.dshs.state.tx.us/coronavirus/ ; IHME models: https://covid19.healthdata.org/united-states-of-america/texas

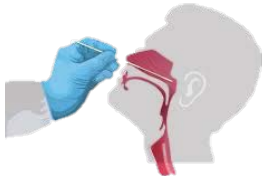
Compiled by Waco Family Health Center - Hardin

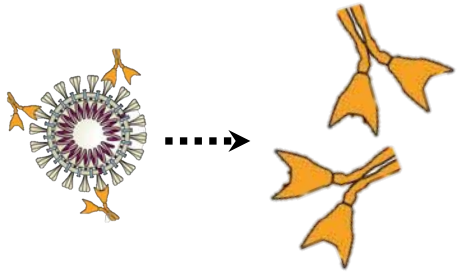
Testing



RNA assays

- Lab-based RT-PCR or NAAT
- POC NAAT assay (the “Abbott test”)

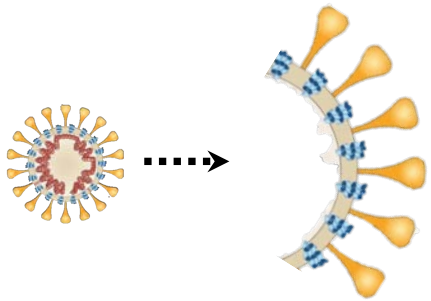




Serology — IgM/IgG

- Lab-based ELISA

- POC lateral flow

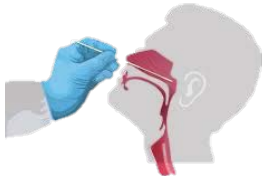


Antigen testing (like rapid flu test)

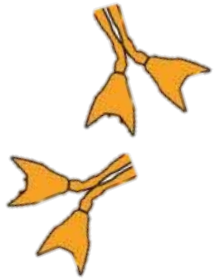
- Recently released

Testing

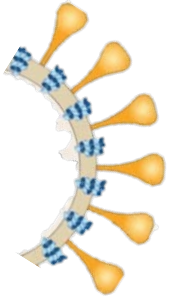
- PCR/NAAT
  - Sens — 70-95%? (false neg possible)
  - Spec — nearly 100% (rare false pos)

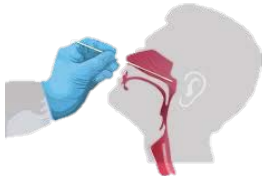


- Serology
  - Not recommended for diagnosis of acute infection
  - Possibly for late assessment in conjunction with viral tests
  - Dx support for post-infectious syndrome
  - ELISA for research surveillance



- Antigen testing
  - Sens – 81%
  - Spec – nearly 100%





What do my results mean today in Waco, TX?

In a setting of increased prevalence (15-25% pre-test probability)

PCR or Ag test

	Clinical Suspicion	
Result	**High**	**Low/None**
Positive	True positive	Positive
Negative	False negative?	True negative

Post-test probability – Bayes theorem

	Clinical Suspicion	
Result	**High**	**Low/None**
Positive	100%	99%
Negative	18-43% or >	2-4%

Applying these results

- There is no outpatient treatment for COVID-19
- But we know isolation and contact quarantine work…

Paradigm Shift for Physicians

- Outpt testing is not about the patient – *it is about the community*
- PCR/Ag high specificity – can trust health dept. decision to isolate patient or quarantine contacts
  - If results are delayed, appropriately counsel patients on self-isolation
- Best course of action: test widely with high-specificity test
- CLI patients – *your clinical decision*
  - You must assume the role of the health department
  - Appropriately counsel patients as they won't be tracked at this time

Epidemiology

PHYSICIAN AND/OR LABOARTORY REPORTS COVID-19 POSITIVE CASE TO THE HEALTH DISTRICT

EPIDEMIOLOGICAL CASE INVESTIGATION

DEMOGRAPHICS	INCUBATION PERIOD	CONTAGIOUS PERIOD	EDUCATION
• Name • Address • Date of Birth • Gender • Race & Ethnicity • Occupation	• History of Travel • Exposure to confirmed COVID-19 positive case • Any other exposure	Contact Tracing • Household contacts • Non-household contacts	• Verbal and Written Isolation Instructions • Verbal and written Quarantine Instructions • Community and mental health resources

ACTIVE MONITORING *(DAILY CHECK-IN)*

CASES	HOUSEHOLD CONTACTS	NON-HOUSEHOLD CONTACTS

Daily check-in until meets CDC symptom/test-based strategy for discontinuation of isolation	• Daily check-in until case meets CDC symptom/test-based strategy for discontinuation of isolation
	• 14-day quarantine after case is released from isolation
	• If symptomatic, then get tested
	  ○ Positive – Follow confirmed case protocol
	  ○ Negative – Continue quarantine until end date specified by HD
		• Daily check-in until 14 days have passed since last date of exposure to the case
		• If symptomatic, then get tested
		  ○ Positive – Follow confirmed case protocol
		  ○ Negative – Continue quarantine until end date specified by HD

Source: McLennan County Health District

Vaidehi Shah, MPH

INDIVIDUAL REPORTS TO PHYSICIAN WITH SYMTPOMS

PHYSICIAN TESTS INDIVIDUAL FOR COVID-19

PHYSICIAN PROVIDES ISOLATION INSTRUCTIONS TO PERSON

PHYSICIAN PROVIDES ISOLATION INSTRUCTION TO INDIVIDUAL AND HOUSEHOLD MEMBERS

PHYSICIAN REPORTS NEGATIVE TEST RESULTS TO INDIVIDUAL

PHYSICIAN REPORTS POSITIVE TEST RESULTS TO HEALTH DISTRICT

HEALTH DISTRICT CONDUCTS EPIDEMIOLOGICAL INVESTIGATION AND CONTACT TRACING

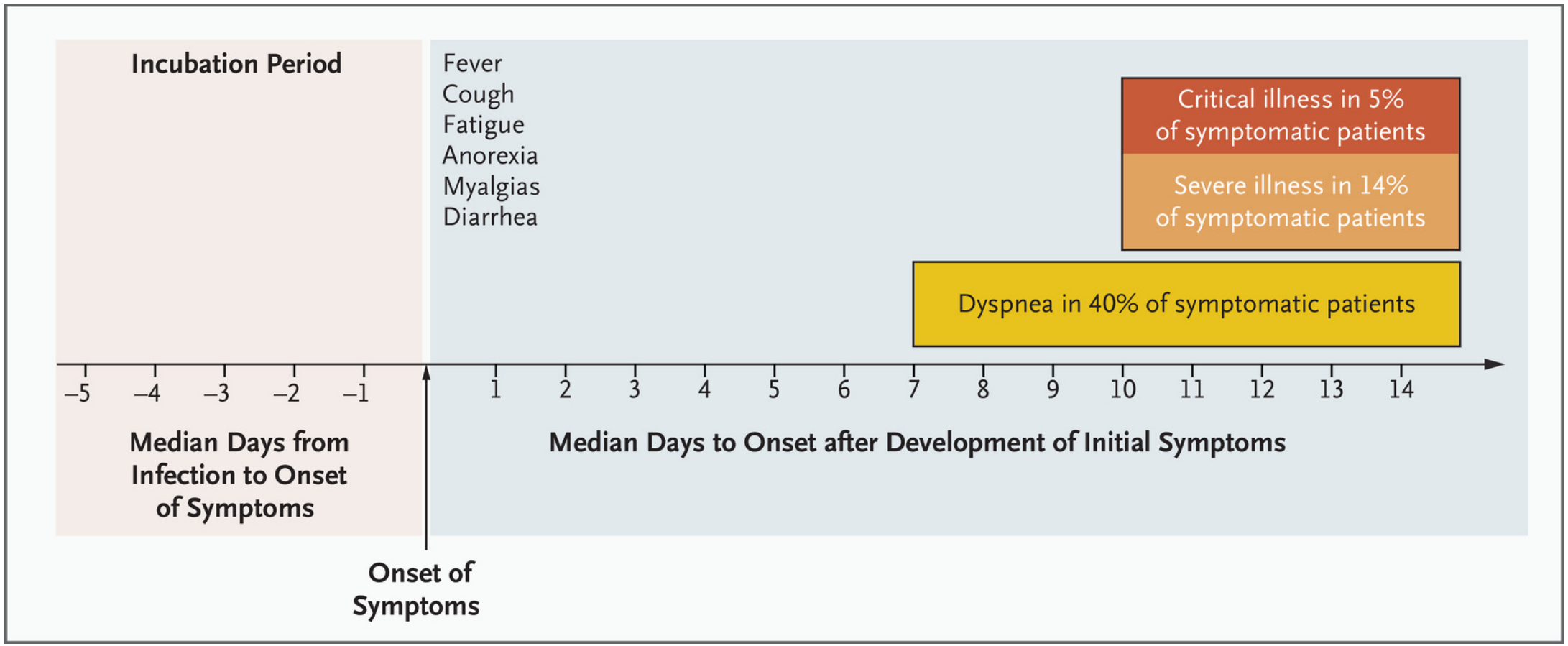
Source: McLennan County Health District

Vaidehi Shah, MPH

Hospital Management in Waco

- Progression to severe illness
- O2 and mechanical ventilation
- Treatment options

Hospital Management in Waco



Hospital Management in Waco

- Supportive Care
  - Use high flow NC to avoid intubation
    - NIV is not recommended due to concerns for aerosolization
  - Use inhalers and other means of administration of bronchodilators
    - Nebs utilized as a last resort before intubation
  - Rapid sequence intubation with paralytic to avoid aerosolization during intubation
  - Use high PEEP strategy of ARDs net protocol for ventilator management
    - Tidal volume of 6 ml/kg ideal body weight
    - Avoid plateau pressure above 30 cwp
  - Sedation holidays and early mobilization

Hospital Management in Waco

- Steroids
  - Early evidence did not support the use of adjunctive steroids in ARDS secondary to COVID-19
  - Later evidence suggest that steroids are helpful once the patient is in ARDS

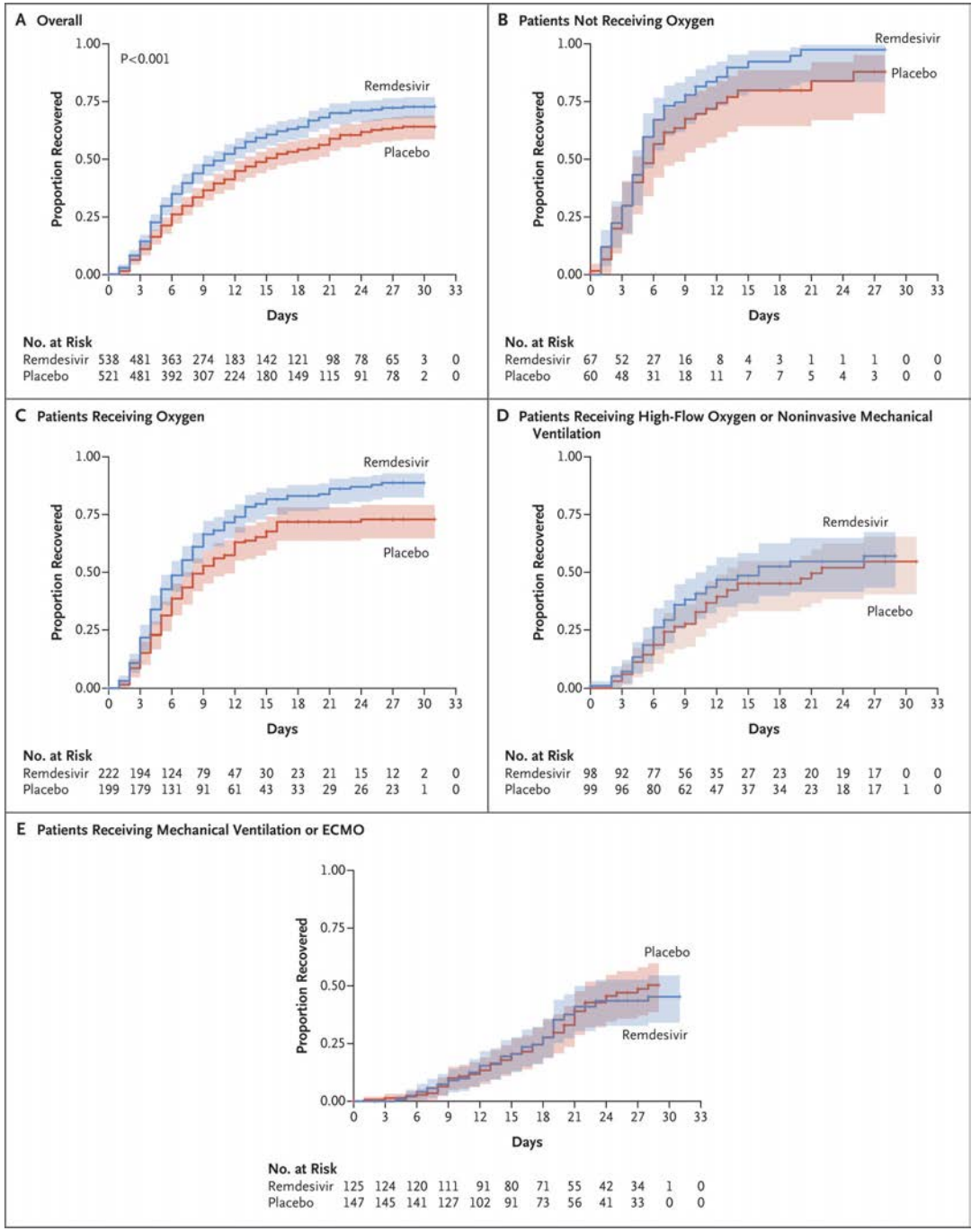
Russell CD, Millar JE, Baillie JK. Clinical evidence does not support corticosteroid treatment for 2019-nCoV lung injury. Lancet 2020;395:473-475.

Wu C, Chen X, Cai Y, et al. Risk factors associated with acute respiratory distress syndrome and death in patients with coronavirus disease 2019 pneumonia in Wuhan, China. JAMA Intern Med 2020 March 13 (Epub ahead of print).

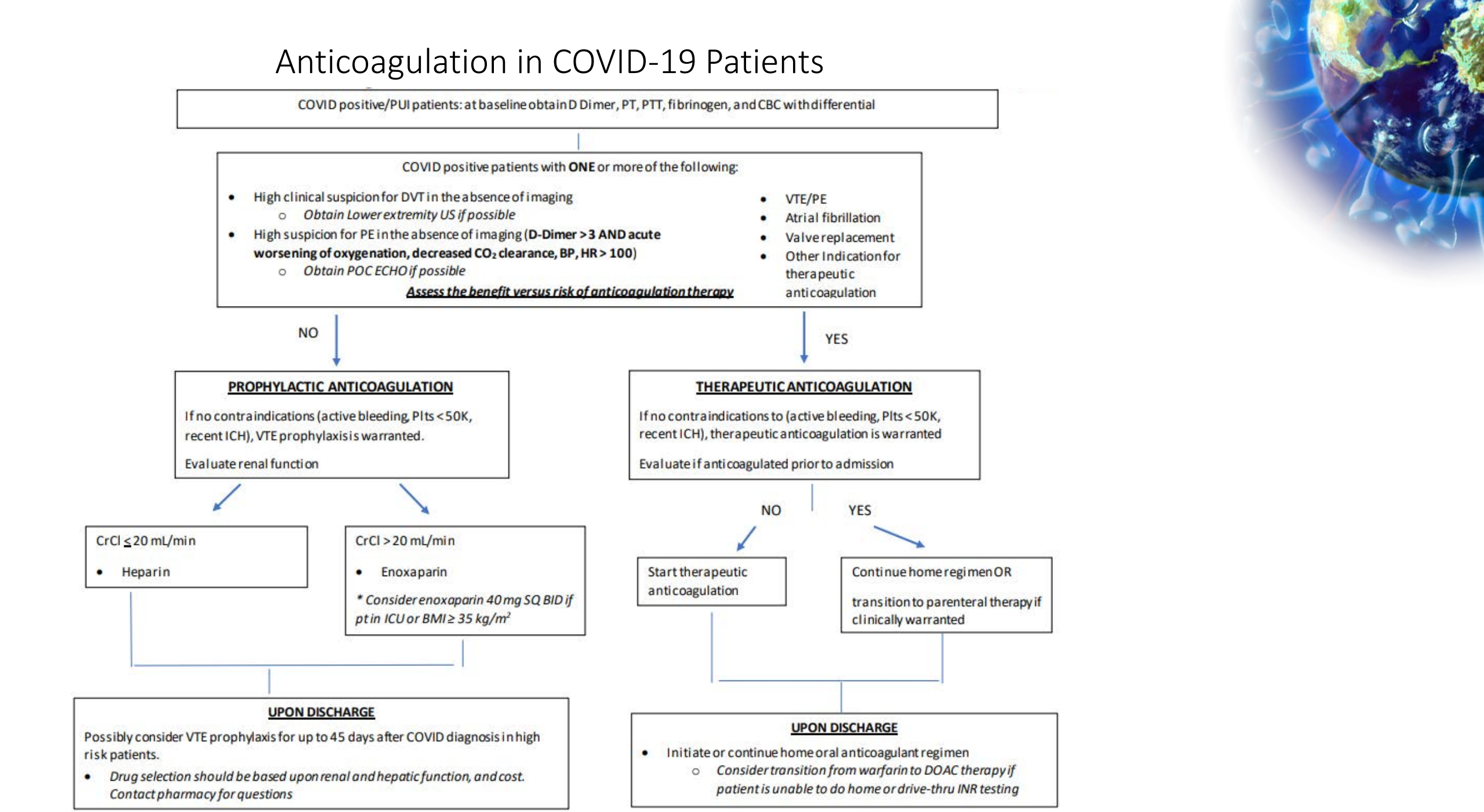
Hospital Management in Waco

- Convalescent Plasma
  - Infusion of convalescent plasma in those with ARDs secondary to COVID
    - We are infusing those that don't demonstrate serologic antibody response
    - One-time transfusion early in severe disease
  - This has shown a trend to suggest improved outcomes but has not shown a statistically significant improvement in mortality or hospital length of stay
  - Risk:
    - TRALI and TACO

- Remdesivir
  - Shown to improve days to recovery from 15 days to 11 days
  - There was improvement in mortality at 14 days
  - However, no difference shown in patients on the ventilator or requiring NIV



Anticoagulation in COVID-19 Patients



Hospital Surge Strategies

COVID-19 in McLennan County

Questions?

Questions

- Return to work – Dr. Verner
  - Pt is symptomatic but test is negative. When can they return to work/public?
  - Pt is exposed to COVID-19 positive but asymptomatic. When back to work/public?
  - Discuss safe return-to-work guidelines
  - What is the proper management of asymptomatic cases? Isolation/quarantine?
  - Has preoperative testing identified many cases?
  - Multiple employers are seeking testing for employees exposed to positive cases. How do we address these requests?

Questions

- Outpatient/inpatient treatment -- Dr. Richie
  - Zinc may suppress viral replication. Are there any outpatient measures beyond symptomatic care?
  - Is prophylactic ASA recommended in outpatient setting for COVID-19 patients with a prior h/o DVT? Does COVID-19 alter platelets and should all pts be on anti-platelet tx?
  - Have recommendations on ACEi/ARBs changed? Raoult study of 1000 showed those on ARBs did worse and was significant.

Questions

- Testing – Dr. Hardin
  - When do you expect quick testing (under 2 hours) to be available to Drs. in Waco who are not associated with one of the hospitals?

COVID-19 in McLennan County

Questions?