

CXUF

CONNECTED BY UF

5/11/2021

1

COVID-19 TESTING AT UFHEALTH

CXUF
CONNECTED BY UF

2

HOW IT STARTED



3

UF HEALTH PATHOLOGY LABS

February 2020

Clinical laboratory – providing Anatomic and Clinical testing

Mostly samples from UF Health clinics & hospitals

Average Monthly Volumes:

Total Employees: **47 FTE**

Total Fiscal Year to Date Revenue: **\$9.8 M or \$1.2M/Month**

Annual Growth: **19%**

Pending Projects:

Whole Exome Sequencing

Integration with Central Florida Health Labs



Michael Clare-Salzler, MD
Department Chair

4

MARCH

March 11th directed to develop testing ASAP

March 17th - validated one method of testing for COVID-19 and resulted first batch

- ▶ Identified & renovated space
- ▶ Installed and certified biohoods
- ▶ Purchased, installed and programmed robot
- ▶ Defined the methods, ordered kits and controls
- ▶ Established collaborative daily meetings with Shands Gainesville & Jacksonville; Central Florida labs & VA lab
- ▶ Identified staff to do the testing
 - ▶ Trained staff & developed work schedules
- ▶ Developed testing algorithms
- ▶ Major shifts in staffing needs & logistics
 - ▶ 24/7 operations



Petr Starostik, MD



Kimberly Newsom, PhD



Srikar Chamala, PhD

CXUF

5

ALL THE LITTLE DETAILS

Shortages:

- ▶ Viral Transport Media
- ▶ Nasopharyngeal Swabs
- ▶ Reagents
- ▶ Positive controls
- ▶ Technicians
- ▶ PPE

Back-up Plans:

- ▶ Are our samples compatible with other methods?
- ▶ Priority hierarchy for testing

Security:

- ▶ Lock up the supplies

Results – Now What?

- ▶ Interface to the state?
- ▶ Each run was about 8 hours
- ▶ Indeterminate? What does that even mean?
- ▶ Discrepancies between our results & research labs
- ▶ Exhaustion was already a factor

Other Problems:

- ▶ Child care
- ▶ Nothing open – better bring your own food

Misc:

- ▶ Coordinating screenings & logistics

CXUF

6

MARCH 31ST

Testing Capabilities:

- ▶ UFH Pathology Labs: 780/day Max capacity
- ▶ UFH Shands Lab: Up & running – 225/day Max capacity
- ▶ UFH Shands Jax Lab: Validated
- ▶ Veteran's Affairs: Just received reagents
- ▶ Central Florida: still a week to go

We were using a different platform at each site. We were sending samples back and forth to help get results or validate the test. Logistics became essential.

**CXUF**

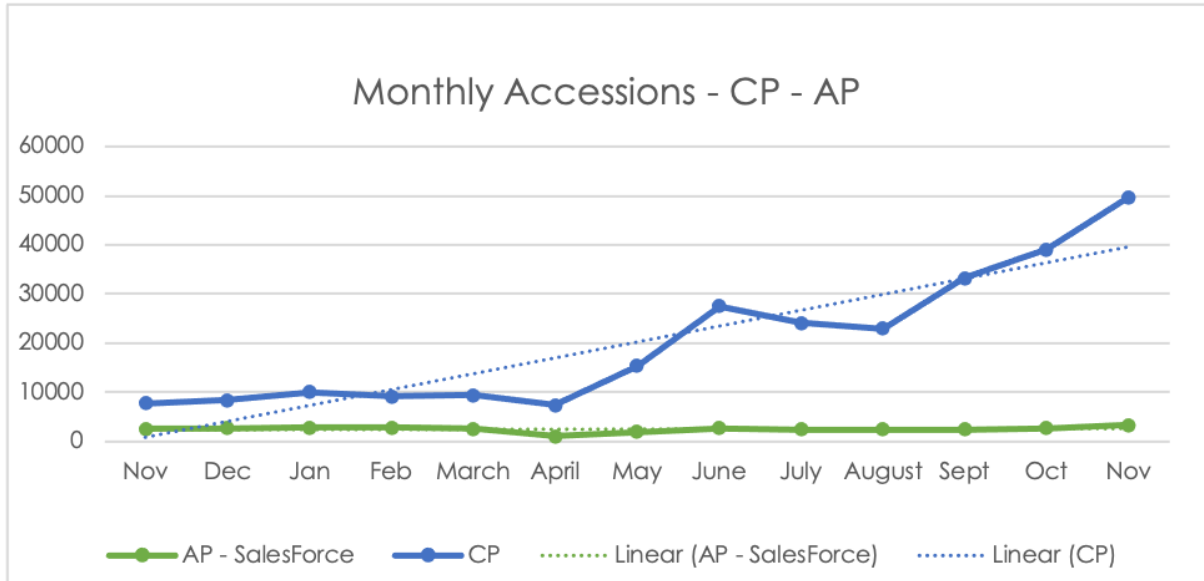
7



**SETTLING IN FOR THE
LONG-HAUL
APRIL - NOVEMBER**

8

SIGNIFICANT GROWTH IN VOLUME



CXUF

9

PHASE 2 – NEW NORMAL

May 1st UFH Pathlabs:

2 platforms – testing about 275/day

UFH – making VTM and 3D printed swabs

Headcount: 49 employees

May 31st UFHealth Gainesville:

3 platforms – testing about 400/day

154% of normal volume

Headcount: 63 employees

Lockdown ending – screening employees & students

- ▶ Healthcare – getting back to normal-ish
 - ▶ Presurgical testing
 - ▶ Healthcare workers
- ▶ May 2020 – new set of meetings to reopen campus
 - ▶ Huge effort led by Dr. Lauzardo, Meghan Froman & Pam Budd – cast of hundreds
 - ▶ Lab's role? Catch & Result – Logistics, Supply Chain Management, Scale Up
- ▶ Return to Work → Screen, Test, Protect – opened June
 - ▶ 800/day was the goal – **in addition to what we were already doing**

CXUF

10

NEW SETS OF PROBLEMS

Laundry List of Problems

Managing supply chains
 Developing new methods
 Keeping up with demand
 Evaluating new tests
 COVID-19
 Fear
 Handoffs
 Zoom Fatigue
 Mental and physical exhaustion
 Hiring in a pandemic
 Training
 Logistics



Our Toolbox

Our team met everyday
 Archived meeting notes up on the screen
 Looked ahead to potential problems and made contingency plans
 Leaders walked through the lab multiple times a day
 People made the difference
 Information Technology Team

CXUF

11

HANDOFFS → FUMBLES

The lab was getting really good at solving problems
 The landscape kept shifting though and the transitions always led to mistakes
 Can you design processes to prevent fumbles?
 How do these mistakes impact our culture?
 Our mental health?
 With daily communications and days of lead time – why does this keep happening?



CXUF

12

FUMBLES → PROCESS IMPROVEMENT

We openly talked about our failures.

Avoided assigning blame or punishment.

Everyone was working hard and cared about what they were doing.

Worked with section leaders to strengthen our communication and develop a better understanding of the big picture.

Addressed every misstep so that we could learn from it.

Stars rose to the top – as people understood the broader picture they were able to more actively avoid problems.

Information Technology Team developed many tools to help.


 CXUF

13

THE VIRUS

Think back to the scariest part of the last 14 months when you feared for your own health.

We had 2 time periods when we had employees with covid in the lab.

How do you reassure people when there are so many unknowns?

It doesn't get easier when one of their coworkers is in the hospital.

Courage, compassion & unity helped us make it through.



In spite of all that drama
– we still had to
police masking.


 CXUF

14

NEW CHALLENGES NOVEMBER - FEBRUARY

15

PHASE 3 – GOING BIG

July 1st UFHealth Pathlabs:
3 platforms – testing about 400/day
Employees: 63

November 1st UFHealth Pathlabs:
4 platforms – testing about 1,600/day
Employees: 84

Going Big

- ▶ UF reopening for students
- ▶ Athletics & Testing
- ▶ Cases keep climbing
- ▶ Judged against the latest news
 - ▶ Why aren't we doing this? Why aren't we more like them?
- ▶ Screen, Test, Protect – Fall Semester
 - ▶ 2,500/day was the goal



Jennifer Hunt, MD
Department Chair

16

PHASE 3 – GOING BIG

Cooperation – Made Us Better

- ▶ UF reopening for students
 - ▶ Coordinating with Screen, Test, Protect program
- ▶ Athletics & Testing
 - ▶ More meetings
 - ▶ Ever-changing schedules
 - ▶ Late phone calls
- ▶ Full Service
 - ▶ Making things simpler for our clients
 - ▶ Ordered, labeled, delivered, picked up



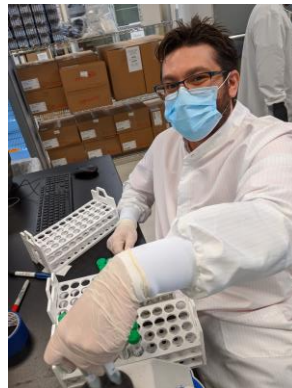
CXUF

17

GAME CHANGERS

500 → 2,000+/day: The Plan

- ▶ Space
- ▶ People
- ▶ Equipment
- ▶ Adaptation



CXUF

18

GAME CHANGERS

Space

- ▶ Up until now, all of our handling & processing was done in a small closet
 - ▶ 192 sqft
- ▶ Building was full, but any offsite space would complicate logistics and slow us down
- ▶ Creativity – Converted our loading dock to move some storage tanks and create a large open lab
 - ▶ Conference room where this all started was cannibalized
- ▶ The slow dominoes of space planning



CXUF

19

GAME CHANGERS

People

- ▶ Changed our workflow (again)
- ▶ Developed tasks to lessen the demands on our licensed technicians
- ▶ Specialized our workforce
- ▶ Hired yet more people
 - ▶ Medical Techs, Accessioners, Couriers, Client Services, Processors



CXUF

20

GAME CHANGERS

Equipment

- ▶ We had spent about \$1M on equipment already
- ▶ Scaling up to meet the new demands would require more robots
 - ▶ Bottlenecks for testing – pipetting and plating
- ▶ Hoods / technician workspaces
- ▶ Scarcity – everything was impacted by the pandemic, even air conditioner parts
- ▶ Choreography with space to hit our timeline
- ▶ Spent another \$1M on new robots



21

GAME CHANGERS

Adaptation – This informed all of our other decisions

- ▶ Not just scaling up – validated yet another methodology - faster throughput
- ▶ Moved from platforms in high demand to more generic reagents & consumables
 - ▶ Broadened our supply chain and gave us plans B & C
- ▶ Applied all we had experienced to this new challenge
- ▶ Changed the sample type to **saliva** → eliminated the swab problem
- ▶ We moved backwards along the technological pipeline from easy-to-use systems to a more labor intensive workflow
 - ▶ Scoured the regulations to determine what each step required from a credentials perspective
 - ▶ Hired more people



22

ZOOM(ED) OUT

Systemwide -

- ▶ Still daily Zoom meetings
- ▶ Issues – always on the edge with supplies
 - ▶ Moving samples from one lab to another often weekly to get the samples to the place with reagents
 - ▶ Building a more robust logistics infrastructure

Problems List

- ▶ Jacksonville's analyzer broke on a Friday
- ▶ Global shortages:
 - ▶ Reagents; swabs; test tubes; unrelated reagents; plastic tips
 - ▶ Rerouted all CT/NG testing to UFHPL

November 1st – 4 hospital labs & Pathlabs

- ▶ 7 platforms for testing
- ▶ 2,000+ tests/day


 CXUF

23

SURGING INTO 2021

December testing

- ▶ Surge testing as students leave for winter break
- ▶ Traveling?
- ▶ Then the calm before the storm

January 2021 UFHealth Pathlabs:

Mandatory testing for students attending in-person classes

4 platforms – testing about 3,600 – 7,000/day

Employees: 90

Monthly Total: ~ 90,000 total tests


 CXUF

24

VOLUME COMPARISON

Total Laboratory Volume

January 2021: 89,909

February 2021: 75,447

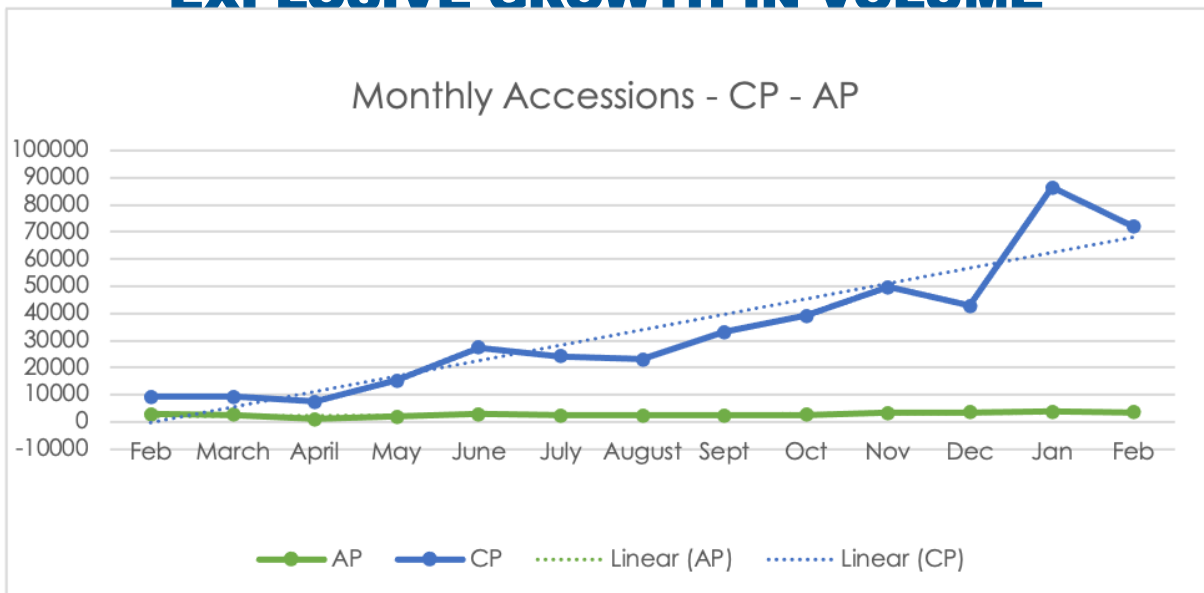
2 Month Total: **165,356**

Fiscal Year 2020: **156,681**



25

EXPLOSIVE GROWTH IN VOLUME



26

SWITCHING GEARS SPRING 2021



27

ALMOST DONE?

Spring Semester

- ▶ Low positivity rate
- ▶ Increased vaccinations
- ▶ Less testing
- ▶ Some breakthrough infections
- ▶ Variant sequencing

Summer & Fall Semesters

- ▶ Expecting less testing
- ▶ Some still needed
- ▶ Variant sequencing may increase
- ▶ Can we set other goals yet?



The logo for CXUF, consisting of the letters 'C', 'X', and 'U' in a bold, sans-serif font, followed by 'F'. The 'X' is stylized with a cross-like shape.

28

RAMPING DOWN – POST PANDEMIC PLANNING

Ramping Down

New challenges
No clear end date
Pricing based on volume
Logistics gets expensive

What comes next?

Lessons learned
New opportunities
Build on our relationships & reputation



CXUF

29

HOW DID WE MAKE IT THROUGH?

Organizationally

Communication
Cooperation
Appreciation
Teamwork

Personally

Patience
Thick Skin
Keeping a Larger
Perspective
Purpose
Gardening
People
Sense of Humor



CXUF

30

BRIGHT FUTURE

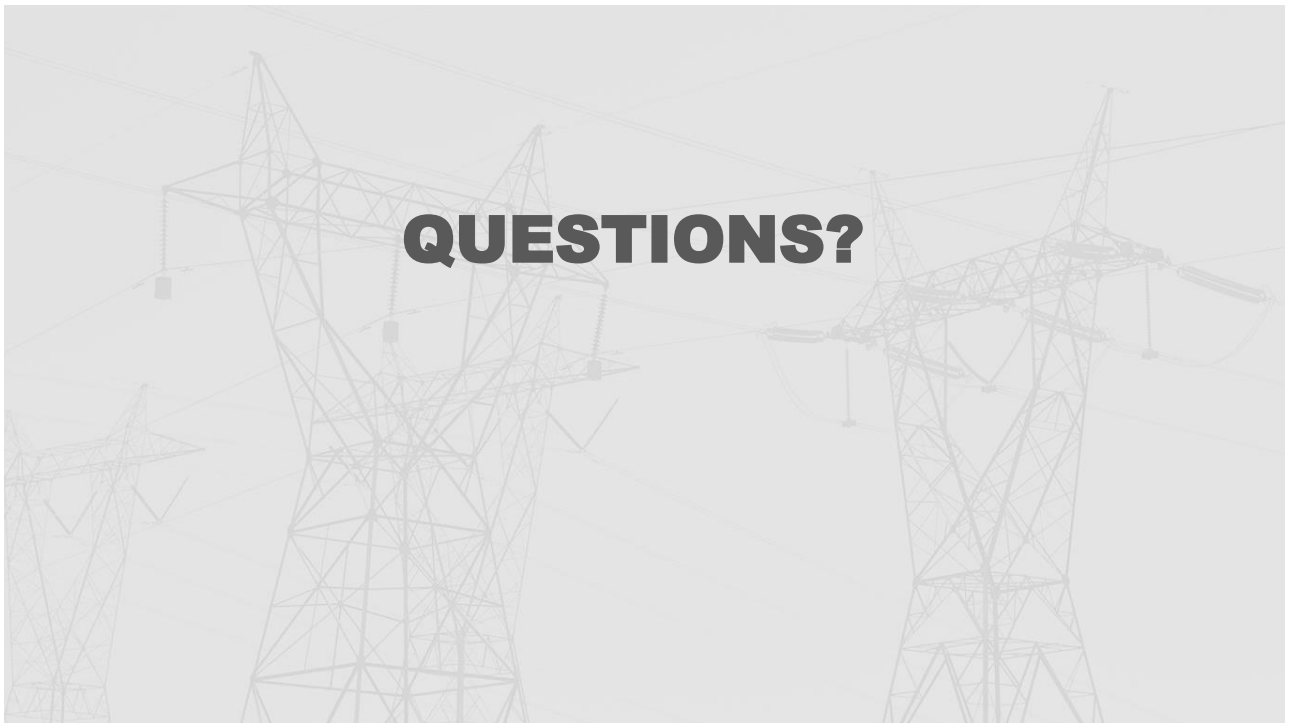


Optimistic

UF is a fantastic place to work. The people I have met during this crazy time have given me a great sense of optimism for the future of the University of Florida and UF Health.

CXUF

31



32



Poll: Rate this session

- **Excellent**
- **Good**
- **Neutral**
- **Needs Improvement**

CXUF

33

THANK YOU

Special Thanks to:

Michael Clare-Salzler MD, Jennifer Hunt MD, Petr Starostik MD, Srikar Chamala PhD, Mary Reeves, Molecular Lab, Accessioning & Triage, Client Services, Core Lab, Shands Lab, Jacksonville Lab, Leesburg Lab, The Villages Lab, LIS EPIC Team, STP Team, UAA, Procurement, Facilities, Human Resources

UF Human Resources
UNIVERSITY of FLORIDA

CXUF
CONNECTED BY UF

34