

Introduction to Quorum X Diagnostics (QXD)

- Quorum X Diagnostics (QXD) is a biotech startup based out of Atlanta, Georgia.
- Using unique proprietary biomarkers in conjunction with simple lateral flow devices, QXD is developing a microbial identification platform that is extendable across bacterial, viral, and fungal infections where early detection is critical for effective medical treatment. Current infectious detection development includes:

QXD PIPELINE

COVIDNOW – a 4-min COVID antigen test with best-in-class sensitivity and specificity. The fastest test on the market.

Pseudomonas aeruginosa – a antibiotic resistant pneumonia producing bacteria that can result in death

*BV/Candidiasis** Test – BV increases risk/spread of HIV and impairs childbearing capability

*Multiplex Pneumonia, Bronchitis, UTI, etc.**

- In addition to development of rapid diagnostic capability, QXD has developed **Artificial Intelligence (AI)** to analyze results in conjunction with a **phone app** to eliminate any ambiguity of understanding test results by the user.
- QXD had filed seven patents globally for intellectual property protection

The COVID-19 technology is being prepared for final FDA EUA Re-submission.

The Pseudomonal pneumonia test is in a working prototype stage. This is a proprietary platform technology that allows for immediate identification and treatment of microbial bacteria, virus, and fungi infections.

Three discrete paths to market are established – website, sales team & national distribution

QXD is at a critical point in funding for finalizing regulatory approval, complete technology development, and building for launch.

Product #1- QXD-3 COVIDNOW

-The first 4 min Covid Antigen Test

WHY?

-My Mentor's Mom Died of Covid-My Best Friend's Mom Died of Covid

And

-My Mom Can't take the vaccine

We need more, simple Covid Antigen tests

Market Demand Still Outweighs Production Capabilities





THE PRODUCT: COVIDNOW®

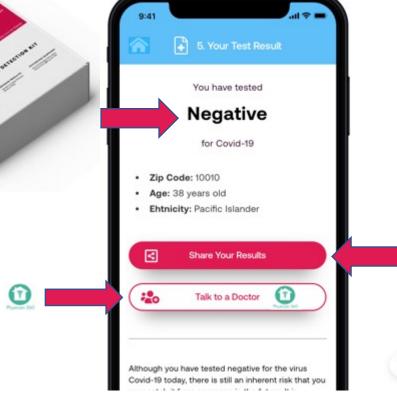




- This is a simple lateral flow test
- 98% Accuracy, 94% Sensitivity, 100% Specificity
- Results in 4 minutes
- A free COVIDNOW® phone app with Artificial Intelligence (AI)



- Step-by-step video instruction to walk a person through each step of the test
- · AI technology to analyze the results
- Official certificate of results to share
- Immediate connectivity to Physician 360 (P360), telemedicine service





^{*}We are preparing for FDA EUA re-submission now

QXD-3 COVIDNOW Market Opportunity

- Government intervention for required COVID testing is increasing.
- The result is a projected 60 Million to 90 Million rapid tests per week.
- FDA continues to fast track EUA (Emergency Use Authorization) for rapid test providers with a minimum production capacity of 2 million units per month.
- Private Health Insurance Companies will now pay for at-home kits reducing patient burden
- QXD COVIDNOW states a 4-minute test
 - Actual results require 45 seconds if COVID infection is negative 2 minutes if positive
 - Patient support using AI and phone app is fully vetted
 - QXD supply chain capacity for test kits is 1 million per week 1.1% to 1.7% of market size QXD Opportunity

COVID	COVID Tests		Annual				
Tests/wk	Per Yr	QXD Market	QXD	Sell Price	COGS	GM	GM @
US Demand		Penetration	Volume	Per Unit	Per Unit	Per Unit	Volume
60,000,000	3,000,000,000	0.5%	15,000,000	\$20.00	\$9.00	\$11.00	\$165,000,000
60,000,000	3,000,000,000	1.0%	30,000,000	\$20.00	\$9.00	\$11.00	\$330,000,000
60,000,000	3,000,000,000	1.5%	45,000,000	\$20.00	\$9.00	\$11.00	\$495,000,000
60,000,000	3,000,000,000	2.0%	60,000,000	\$20.00	\$9.00	\$11.00	\$660,000,000
60,000,000	3,000,000,000	2.5%	75,000,000	\$20.00	\$9.00	\$11.00	\$825,000,000

Eight competitors with EUA at home kits, consolidation of suppliers started, Abbott Labs is the big power player, sell price is dropping rapidly – but market need still exceeds capacity.

QXD COVIDNOW finalizing re-submission per FDA guidance, has 20,000 test kits inventoried for national distribution, has a distribution channel ready to go.

FDA approval for QXD COVIDNOW will springboard platform technology development.

The QXD advantage is a 4-minute test technology supported with AI phone app <u>2.5x faster than</u> the closest competition. - time is a critical factor for workplace and event screening.



Our Pipeline.









WHY?

Real Life Case Study-Pneumonia (my friend's 2 yr old)

- Two-year-old presents pneumonia-like symptoms
- Five days high fever, severe cough, vomit
- Amoxicillin antibiotic for 10 days,
- After 1-week symptoms reoccurred
- Still Bad cough, still vomiting, high fever treated with inhaler plus steroid to reduce inflammation
- After 2 days there is blood in stool, steroids suspended, added more antibiotics
- Cefdinir for 10 days plus Azithromycin for 5 days
- After the 2nd day he was immediately much better, now back in daycare



Conclusion:

- Total 30 days of treatment
- Pediatricians said they did not want to do culture because it takes 3-5 days and labs are backed up so it would take several weeks to get results
- Two x-rays within 20 days of each other
- Child treated with 4 separate incorrect antibiotics in a trial by error process
- We can do better!

QXD eliminates guess work and gets microbial identification, correct antibiotic treatment the first time in 4 minutes.



Product #2 QXD-1 FAST TEST For Pseudomonal Pneumonia



- QXD-1 is a Fast Test for Psuedomonal Pneumonia.
- Identifies *Pseudomous aeruginosa* in hospital and ventilator acquired Pneumonia.
- QXD-1 Prototype complete, based on Proprietary **Technology**
- Ready for clinical trials and small batch manufacturing run.
- FDA 510K pre-submission filed.
- Momentum shift due to COVID-19 pandemic and creation of COVIDNOW®.



Product #2--QXD-1 Fast Test for Pseudomonal Pneumonia & QXD-2 Multiplex Pneumonia

- Traditional bacterial identification is done with culture tests which take three to five days.
- Both pneumonia and intubation are prime sources for Pseudomonas and other secondary infections such as Streptococcus pneumoniae, Haemophilus influenzae, and Pneumocystis jiroveci
- Rapid identification of bacteria type is critical for treating with the appropriate antibiotic and minimizing:
 - 1. Adverse side effects
 - 2. Dangerous *C.difficile* bacterial gut infection
 - 3. Antibiotic Resistant Super Bugs
- 1.5 million cases of pneumonia per year in the US and over 40,000 deaths
- 150 million cases per year globally and account for over 20% of fatalities in children under age five
- Also, COVID intubation promotes Pseudomonal pneumonia
- And COVID Long Haulers expected to increase cases of pneumonia and necessity of intubation
- QXD-1 Fast Test for Pseudomonal Pneumonia Prototype Development-Presently halted due to COVID.

QXD Opportunity

Pneumonia	1						Pneumonia						
Cases/Yr	QXD Market	QXD	Sell Price	COGS	GM	GM @	Cases/Yr	QXD Market	QXD	Sell Price	COGS	GM	GM @
US	Penetration	Volume	Per Unit	Per Unit	Per Unit	Volume	Global	Penetration	Volume	Per Unit	Per Unit	Per Unit	Volume
7,500,000	1.0%	75.000	\$75.00	\$9.00	\$66.00	\$4.950.000	450,000,000	0.5%	2.250.000	\$25.00	\$9.00	\$16.00	\$36,000,000
7,500,000	5.0%	375.000	\$75.00 \$75.00	\$9.00	\$66.00	, ,,	450.000.000	1.0%	4,500,000	\$25.00	\$9.00	\$16.00	\$72,000,000
7,500,000	10.0%	750.000	\$75.00 \$75.00	\$9.00	\$66.00		450,000,000		6,750,000	\$25.00 \$25.00	\$9.00	\$16.00	\$108.000.000
7,500,000	15.0%	1.125.000	\$75.00	\$9.00	\$66.00		450.000.000	2.0%	9.000.000	\$25.00	\$9.00	\$16.00	\$144.000.000
7,500,000	20.0%	1,500,000	\$75.00	\$9.00	\$66.00		450,000,000		11,250,000	\$25.00	\$9.00	\$16.00	\$180,000,000

Significant potential for an easy-to-use rapid test microbial identification process.

Working prototype complete, pre-submission to FDA complete, ready for clinical testing, development halted for Covid.

Platform fully extendable to Multiplex testing - Streptococcus, Haemophilus, Pneumocystis, etc.

Pipeline # 3--QXD-4 RAPIDYEAST/BV Test **Bacterial** Vaginosis (BV) VS Yeast infection

^{*}Symptoms for both BV and Yeast infections are almost identical, making women guess of how to treat infection, with grave consequences if they are wrong.

Pipeline #3--QXD-4 RAPIDYEAST/BV Market Potential

- Nine million women per year in the US suffer from fungal infection Candida vaginitis (VVC) Globally, 138 million women suffer from VVC. VVC is readily treatable.
- Bacterial vaginosis (BV) effects 7.4 million women per year in the US. Globally, between 20% and 30% of 1.8 billion women in their reproductive years suffer from BV 450 million cases.
- Symptoms for both VVC and BV are almost the same, making women guess of how to treat infection with grave consequences if they are wrong
- BV doubles the risk of becoming infected with HIV, causes pelvic inflammatory disease that can cause infertility and increases risk of miscarriage and preterm delivery in pregnant women.

QXD Opportunity

Yeast							Yeast						
Cases/Yr	QXD Market	QXD	Sell Price	COGS	GM	GM @	Cases/Yr	QXD Market	QXD	Sell Price	cogs	GM	GM @
US	Penetration	Volume	Per Unit	Per Unit	Per Unit	Volume	Global	Penetration	Volume	Per Unit	Per Unit	Per Unit	Volume
7,400,000	5.0%	370,000	\$75.00	\$9.00	\$66.00	\$24,420,000	540,000,000	0.5%	2,700,000	\$25.00	\$9.00	\$16.00	\$43,200,000
7,400,000	10.0%	740,000	\$75.00	\$9.00	\$66.00	\$48,840,000	540,000,000	1.0%	5,400,000	\$25.00	\$9.00	\$16.00	\$86,400,000
7,400,000	15.0%	1,110,000	\$75.00	\$9.00	\$66.00	\$73,260,000	540,000,000	1.5%	8,100,000	\$25.00	\$9.00	\$16.00	\$129,600,000
7,400,000	20.0%	1,480,000	\$75.00	\$9.00	\$66.00	\$97,680,000	540,000,000	2.0%	10,800,000	\$25.00	\$9.00	\$16.00	\$172,800,000
7,400,000	25.0%	1,850,000	\$75.00	\$9.00	\$66.00	\$122,100,000	540,000,000	2.5%	13,500,000	\$25.00	\$9.00	\$16.00	\$216,000,000

Demand for QXD diagnostic products will grow beyond the current conservative assumptions as QXD penetrates markets with easy-to-use rapid self-administered tests.

Demand for QXD products will increase with platform extensions of our proprietary patent protected microbial identification technology across more disease states.

QXD needs funding for sustaining development, preparation support and testing for FDA approval, legal support for IP and trademark protection, and paying scientists.

PIPELINE TIMELINE

Product	Status	Duration	Projected Launch		
QXD-3 COVIDNOW	Resubmitting for FDA EUA approval	2-4 months	Q2 - Q3 2022		
QXD-1 Fast Test For Psuedomonal Pneumonia Working Prototype	Working Prototype Complete, development halted due to COVID	1 – 1.5 years	Q4 2022 – Q1 2023		
QXD-4 RAPIDYEAST/BV	Using QXD's Proprietary Technology this this technology can be developed quickly and easily.	1.5 – 2 years	Q2 2023 – Q3 2023		
QXD-2 Multiplex for Pneumonia-	Screening for multiple microorganisms The multiplex will utilize QXD's Proprietary Technology. Development halted due to Covid	2 years	Q3 2024		



QXD Current Status

Short Term

- Development and regulatory approval stalled funding is depleted
- Scientists working at poverty levels yet committed to success but payroll at risk
- Need support for US, Canada, Europe, and India regulatory approval
- Sales force is lined up and ready to go but launch requires inventory build and cash
- Time against QXD
- Operating loan of \$600K needed over next four months for:

•	Preparation and support for FDA approval	\$200K
•	Preparation and legal support for patent and trademark	\$150K
•	External testing required for FDA approval	\$150K
•	Salaries - key scientific resource salaries	\$70K
•	Interns to support development of platform products	\$30K
		\$600K

Long Term

Upon FDA approval, operating loan required to:

- Expand technology development resources and associated testing
- Legal support for expanded technology IP and trademark
- Inventory build in preparation for launch
- Operating loan of \$7Million to \$10Million needed based on demand and suppliers' willingness to build and hold



■ TEAM: The people behind the effort!



Meet our team



Dr. Maria M. Nagy CEO - PhD Microbiologist



Dr. Angel A. Rivera CTO - MD/PhD Gene Therapist & Targeting Virologist with 80+ manuscripts



Dr. Rodney Nash Advisor - PhD, CEO of Jeevan Bioscience



Mr. Mark Koepsel Interim CFO-44 yrs. Global and International Business, Fortune 500 SABRE Award



Dr. Navdeep Jhita Advisor - MD Immunologist, NIH Post-Doc Fellow at Emory



Azad Rahman Advisor - MBA, Former Deloitte Manager & Startup Founder



Mr. Eric Woods Advisor-PhD Candidate, Biochemist and Former Patent Agent



Mr. Bill Schwarz Advisor-CEO of the CEO Alliance, 50+ years of experience training CEO's, Consulting Fortune 500 companies, and authoring 2 books on leadership

TEAM





Jake Mickley App Development



Sherri Willams Director of Marketing



Victoria Powell National Director of Sales



Brian Ried Sales



Yvonne Landry Sales



Juan Castellanos Website, logo and Branding

The Interns



Paxton Threat Science



Nathan Jacobs Science



Pheobe Taiwo Science



Carla Cabrera Science



Julia Cox Science



Claudia Restepo Resident Artist



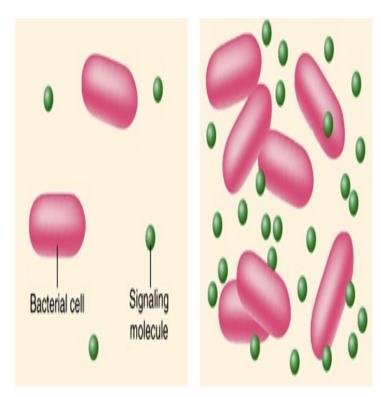
Brett Fullerton Videography

Intellectual Property – the QXD Bio Science (the secret sauce)



QXD taps into **Quorum Sensing (QS)**, or microbial communication.

- Microbes (bacteria, fungi and viruses) use QS signals to self-identify, quantify and coordinate attack
- Each microbial species uses their own unique signature signals
- Bacteria <u>cannot</u> attack the body until there is a high amount of signal
- QXD screens patient samples to <u>identify</u> bacteria, <u>quantify</u> bacteria <u>and determine</u> their next move.



With Quorum sensing, QXD sees the type of signals, sees the intensity, and identifies stage of bacterial infection for optimizing patient treatment.

Platform is extendable to most microbial infections

