

Breakthrough Sepsis Pathogen Detection

Corporate Presentation
January 2019
(NASDAQ: T2OO)

Forward-Looking Statements

This presentation contains forward-looking statements. Such statements reflect the current views of senior management of T2 Biosystems, Inc. ("we", "us", "our", "T2", "T2 Biosystems" or the "Company") and include those about T2's goals, strategies, plans, objectives, prospects, milestones, future operations, business and industry, anticipated product benefits, future events and conditions and potential scenarios. Such statements and those that include the words "expect," "intend," "plan," "believe," "project," "forecast," "estimate," "may," "should," "anticipate" and similar statements of a future or forward-looking nature identify forward-looking statements for purposes of the federal securities laws or otherwise. Forward-looking statements address matters that involve risks and uncertainties. Each forward-looking statement is subject to risks and uncertainties that could cause actual results to differ materially from those expressed or implied in such statement, including, for example: (i) our status as an early commercial-stage company and expectation to incur losses in the future; (ii) our ability to obtain marketing authorization from the FDA or regulatory clearance for additional product candidates in the United States or abroad; (iii) the market acceptance of our technology; (iv) our ability to timely and successfully develop and commercialize existing and future product candidates; (v) our lengthy and variable sales cycle and lack of sales history; (vi) our ability to successfully manage growth; (vii) federal, state and foreign regulatory requirements; (viii) our uncertain future capital needs and ability to raise future capital; (ix) dependence on third parties; (x) recruiting, training and retaining key personnel; (xi) competitive factors; (xii) manufacturing and other product risks; (xiii) risks related to intellectual property; and (xiv) other risk factors included in our annual report on form 10-K filed with the Securities and Exchange Commission (SEC) on March 19, 2018 and other documents we file with the SEC from time to time. Accordingly, there are or will be important factors that could cause our actual results to differ materially from those indicated in these statements. The statements made herein speak only as of the date of this presentation. We do not undertake, and specifically disclaim, any obligation to update any forward-looking statements contained in this presentation.

Why Are We Here Today?

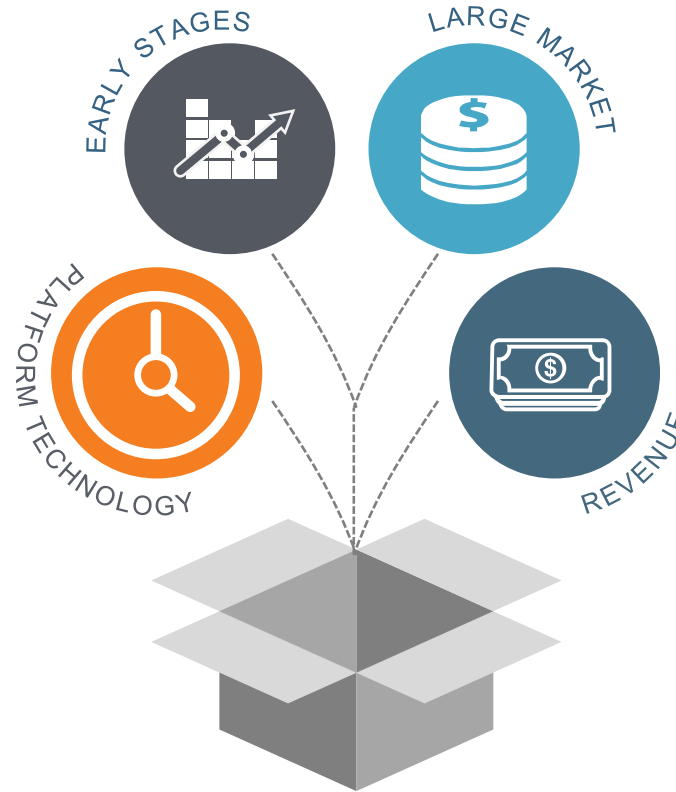
T2 has reached a tipping point for broad adoption of the T2Dx[®] technologies

Early Stages

- Proven with T2Candida[®]
- Launching with T2Bacteria[®]

Platform Technology

- Market expansion over time



Large Market

- Global unmet need

Revenue

- “Double-double” revenue growth opportunity with attractive recurring model

Sepsis is a Deadly and Frustrating Global Problem

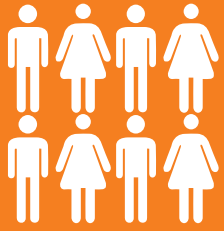
A recognized, but unsolved global crisis



1 death every
5 seconds
(more or less)

Sepsis is a Deadly and Frustrating Global Problem

A critical part of the solution is now available



Potentially
>40,000
preventable deaths in
the U.S. with T2



The Facts About Sepsis

Most expensive hospital-treated condition in the U.S.



Contributes to
1 in 2-3 hospital
deaths¹



Representing
\$27B in U.S.
healthcare
costs^{2,3}



**Claims more
lives than breast
cancer, prostate
cancer and
AIDS, combined⁴**



1 in 5 surviving
sepsis patients
die within 2 years
due to sepsis⁵



Kills ~250,000
Americans
annually and ~6
million people
worldwide^{6,7}



Most prevalent
and costly cause
of hospital
readmissions⁸

1. Liu, V., Escobar, G. J., Greene, J. D., et al. (2014). Hospital deaths in patients with sepsis from 2 independent cohorts. *Jama*, 312(1), 90-92.

2. Torio, C. M. and Moore, B. J. (2016). Statistical Brief# 204. Healthcare Cost and Utilization Project (HCUP). May.

3. McDermott, K. W., Elixhauser, A., Sun, R. (2017). Statistical Brief# 225. Healthcare Cost and Utilization Project (HCUP). June.

4. National Institute of General Medical Sciences. National Institutes of Health. Sepsis fact sheet. 2014.

5. Prescott, H. C., Osterholzer, J. J., Langa, K.M., et al. (2016). Late mortality after sepsis: propensity matched cohort study.

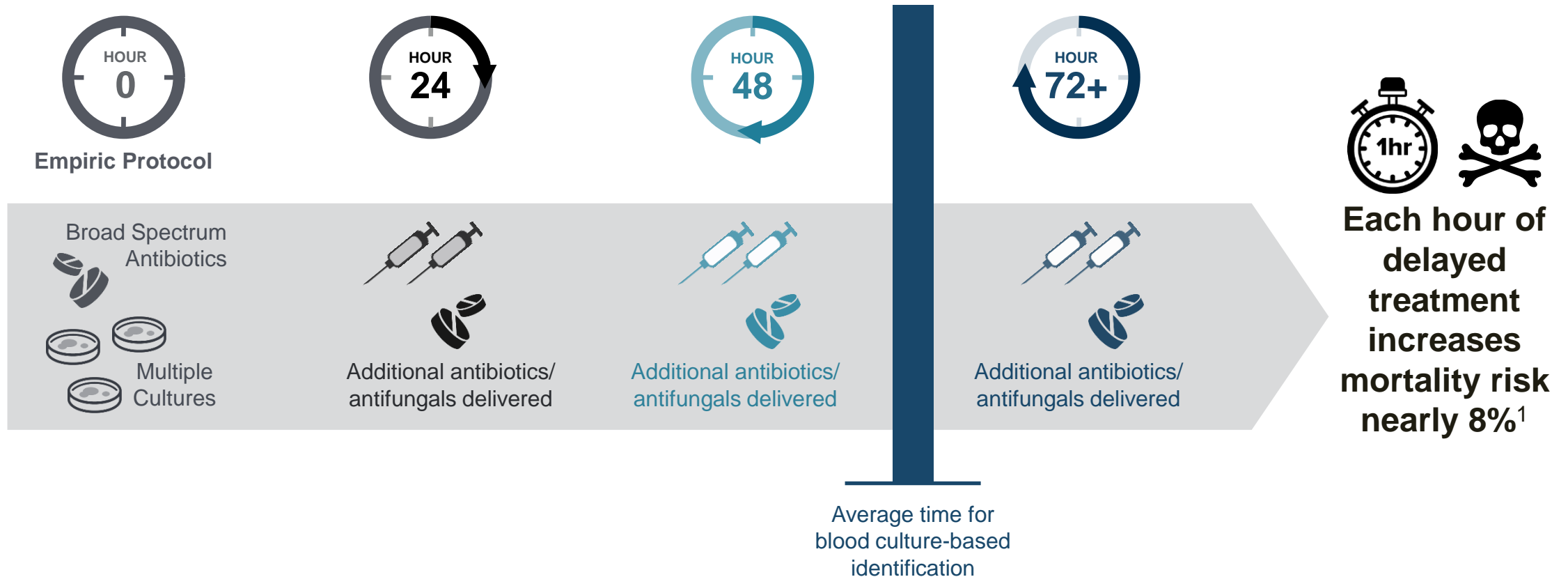
6. Centers for Disease Control and Prevention.

7. Gilbert, J. A. (2018). Sepsis care bundles: a work in progress. *The Lancet Respiratory Medicine*.

8. Mayr, F. B., Talisa, V. B., Balakumar, V., et al. (2017). Proportion and cost of unplanned 30-day readmissions after sepsis compared with other medical conditions. *JAMA*, 317(5), 530-531.

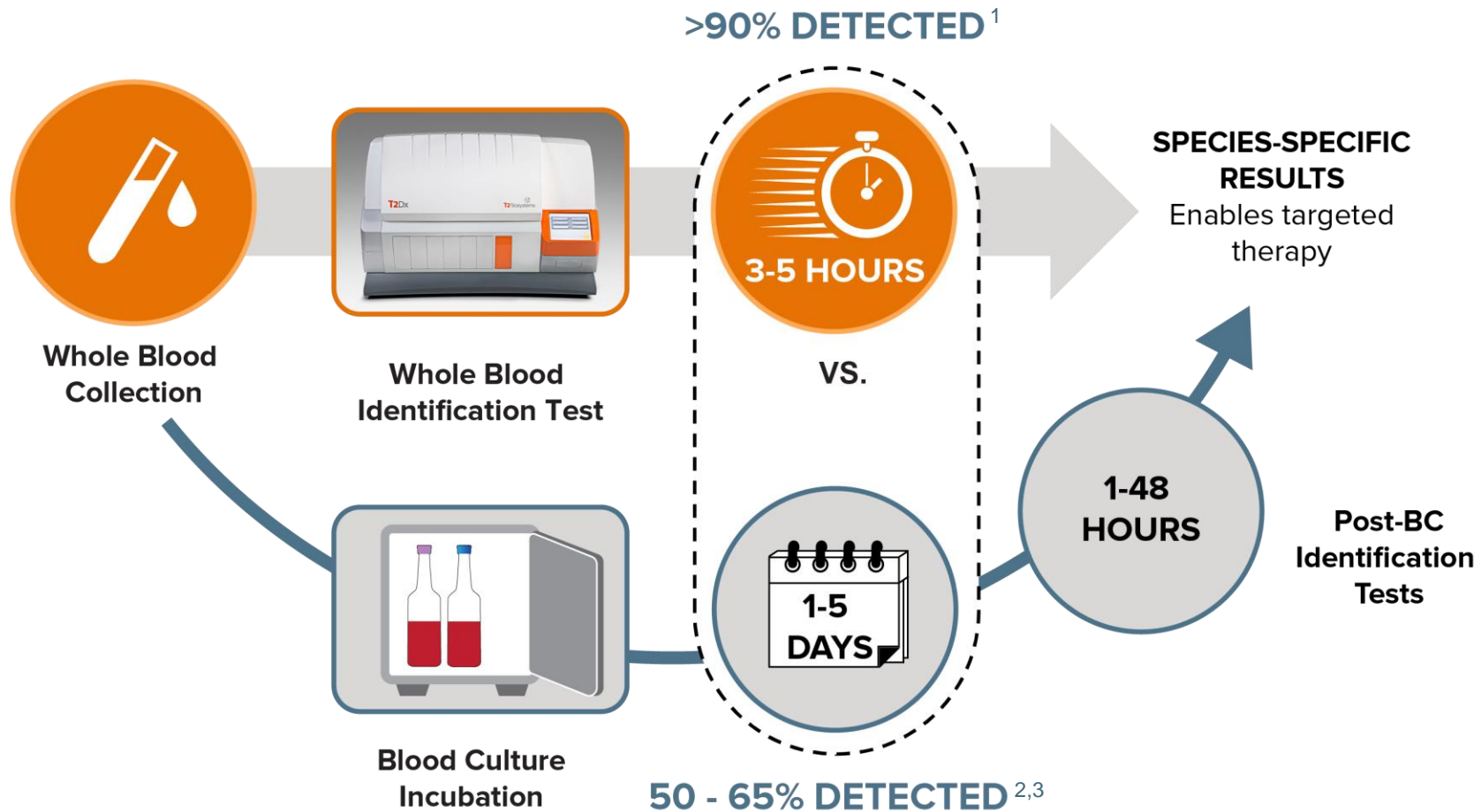
Sepsis Poses an Hourly Challenge that Relies on Probability-Based Protocols

Patient journey: Current pathway and empiric “process”



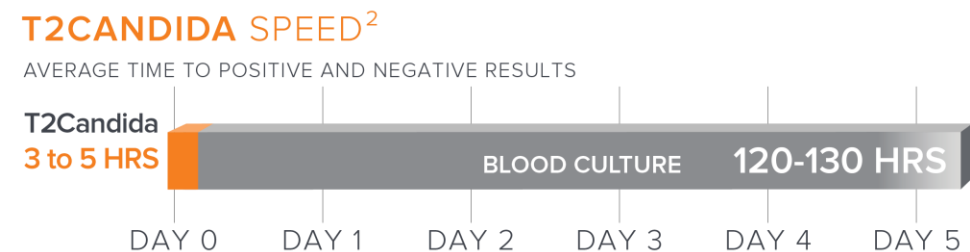
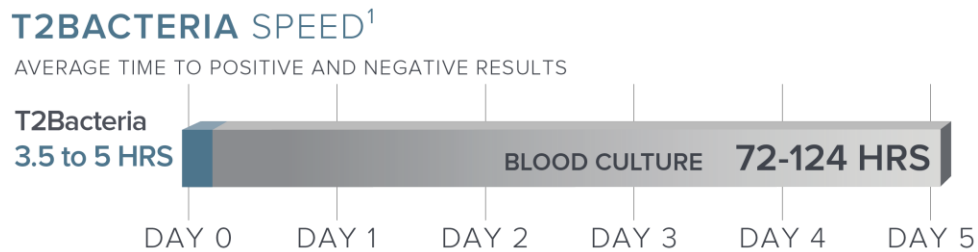
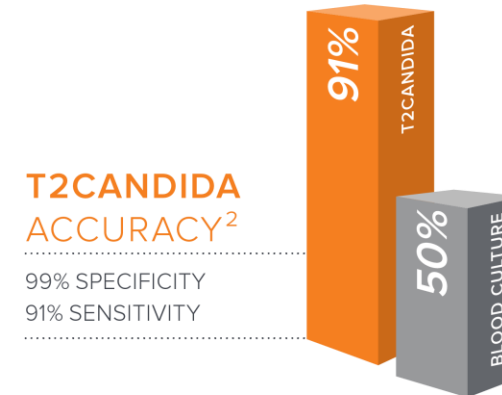
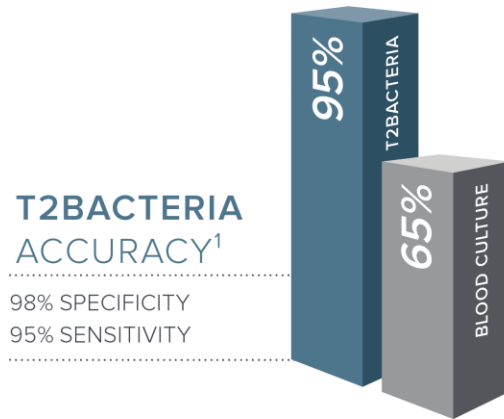
T2MR: New Standard in Detecting Sepsis Pathogens

T2Dx diagnostics provides faster and more accurate detection

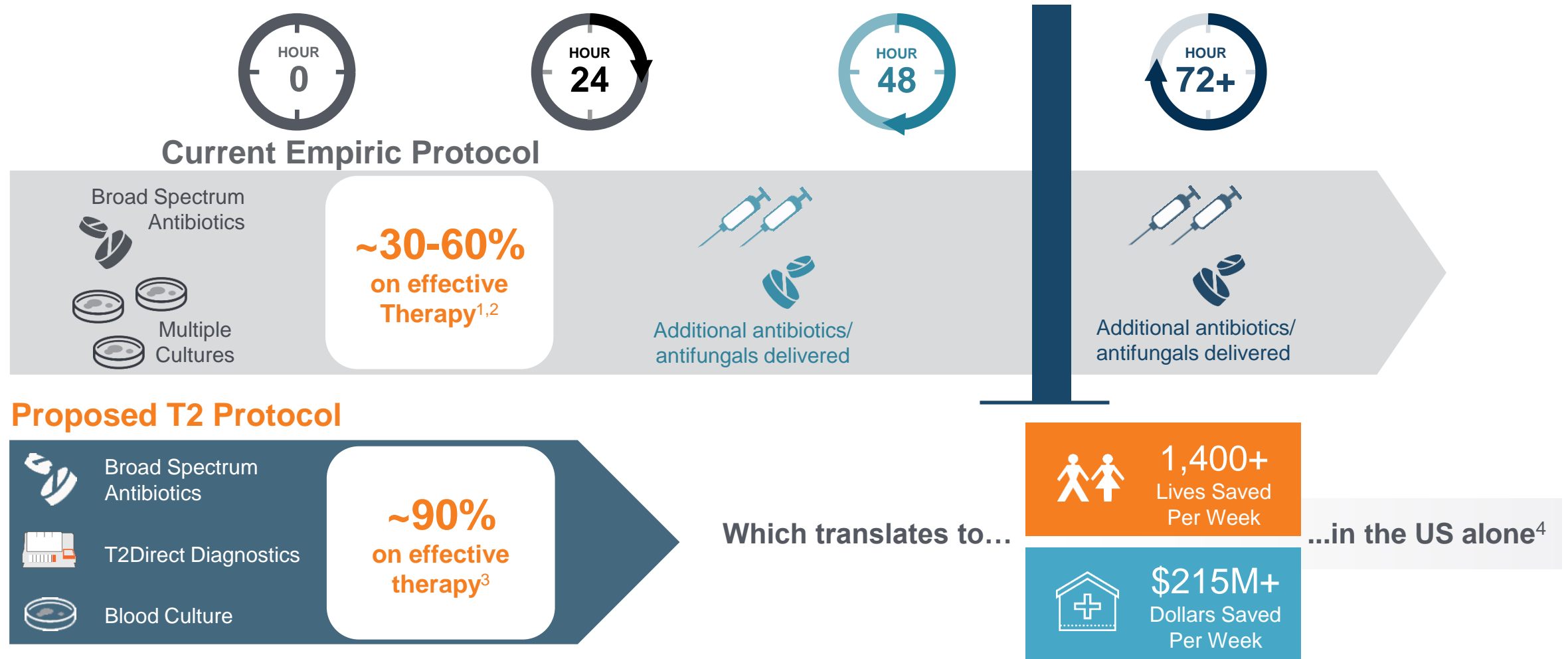


1. Mylonakis, E., Clancy, C. J., Ostrosky-Zeichner, L., et al. (2015). T2 magnetic resonance assay for the rapid diagnosis of candidemia in whole blood: a clinical trial. *Clinical Infectious Diseases*, ciu959.
2. Clancy, C. J., & Nguyen, M. H. (2013). Finding the "missing 50%" of invasive candidiasis: how nonculture diagnostics will improve understanding of disease spectrum and transform patient care. *Clinical infectious diseases*, 56(9), 1284-1292.
3. Cockerill III, F. R., Wilson, J. W., Vetter, E.A., et al. (2004). Optimal testing parameters for blood cultures. *Clinical Infectious Diseases*, 38(12), 1724-1730.

The Blood Culture Divide



A Simple Change, an Immense Impact



1. T2Bacteria Clinical Pivotal Trial Data.

2. Buehler, S. S., Madison, B., Snyder, S. R., et al. (2016). Effectiveness of practices to increase timeliness of providing targeted therapy for inpatients with bloodstream infections: a laboratory medicine best practices systematic review and meta-analysis. Clinical microbiology reviews, 29(1), 59-103.

3. Kumar, A., Ellis, P., Arabi, Y., et al. (2009). Initiation of inappropriate antimicrobial therapy results in a fivefold reduction of survival in human septic shock. CHEST Journal, 136(5), 1237-1248.

4. Represents the potential healthcare savings and lives saved using the T2Direct Diagnostic to test high risk patients based on assumed levels of total annual patients assuming all high-risk sepsis patients are tested with T2Direct Diagnostics and assuming (i) 90% of high risk patients receive appropriate therapy within hours of the presentation of symptoms, (ii) a 50% mortality rate reduction for patients who receive rapid appropriate therapy, and (iii) that each new detected patient saves \$22,800. This slide contains T2's estimates, which are not based on historical results and constitute forward-looking statements that are subject to risks and uncertainties that could cause actual results to differ materially from those expressed or implied by such statement.

T2Candida Panel is Changing Treatment Protocols

Growing number of real-world T2Candida success stories



- Study demonstrated \$2.3M in annual hospital savings
- Reduced median ICU length of stay by 7 days; overall stay by 4 days
- Most negative patients had antifungals discontinued or de-escalated saving \$\$.¹



- Median length of stay reduced by 7 days
- Unnecessary antifungal therapy was avoided in >50% of patients
- Average net antifungal savings of ~\$195 for every patient tested²



- Pharmacy savings of ~\$280 per patient
- T2Candida detected 56% more positive patients than blood culture³



- 100% of patients who tested positive received appropriate therapy in <9 hours
- Therapy was discontinued for all patients who tested negative⁴

1. Wilson, N.M., Kenney, R.M., Tibbetts, R.J., et. al. T2 Magnetic Resonance Improves the Timely Management of Candidemia. Poster Presentation IDWeek 2016.

2. Estrada, S. J. Real World Value of T2Candida Lee Memorial Hospital. Slide Presentation ASM 2016.

3. Kateon, H., Edwards, J., Sawyer, A., et al. Utilization of T2Candida Panel for the rapid detection of *Candida* species in a large community hospital. Poster Presentation IDWeek 2016.

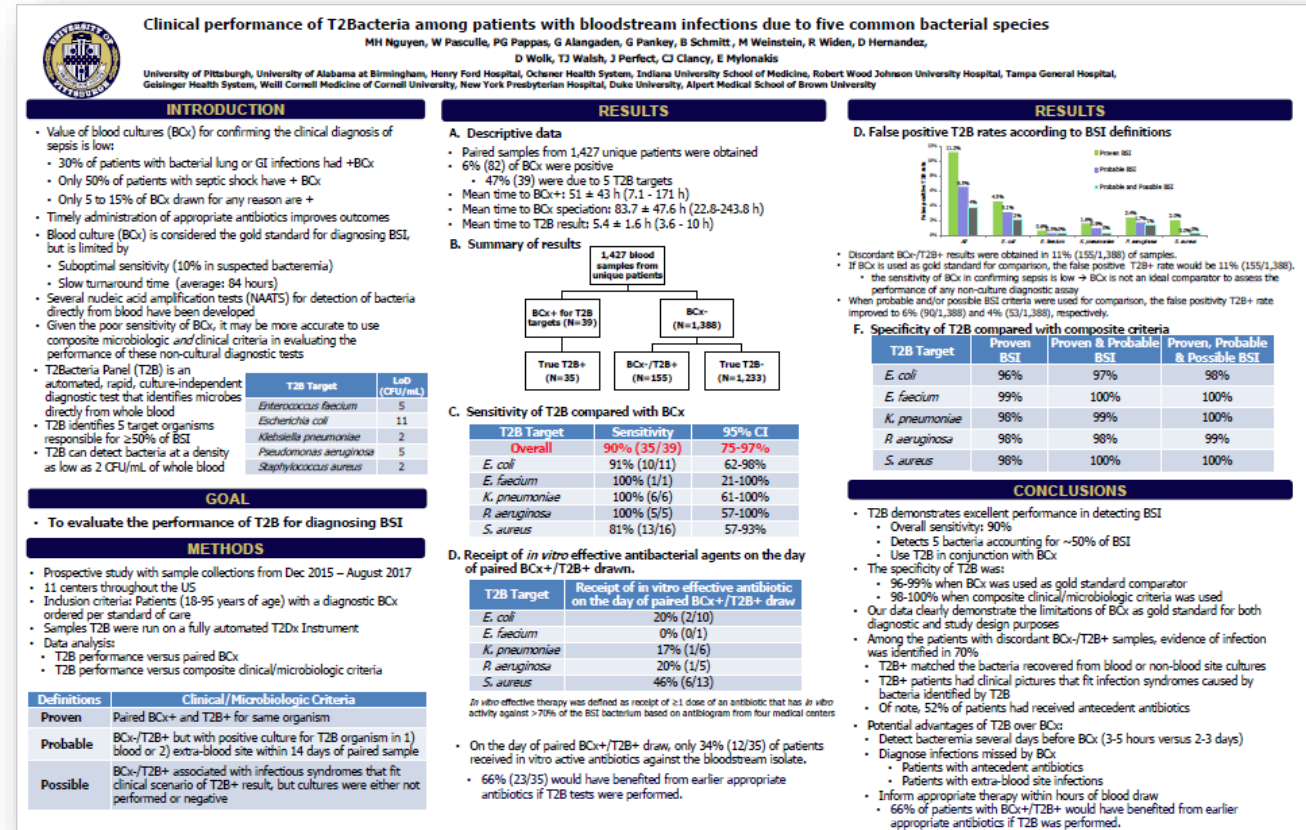
4. Patel, F. and Young, E. Antifungal Prescribing During Initial Implementation of Candidemia Early Detection and Species Identification Testing with T2Candida Panel. Poster Presentation IDWeek 2016.

T2Bacteria Pivotal Data Presented at ASM Microbe 2018

1,400 patient samples collected across 11 hospitals

Comparisons to Blood Culture:

- Detected **69 patient** infections not detected by culture
- Provided results more than **2.5 days faster than culture** (5.4 hours)
- 68%** of patients with a BSI confirmed by T2 and blood culture could have benefitted from earlier rapid diagnostic result
- Noted advantage in detecting infected patients on antibiotics who were missed by blood culture



Significant Burden of Bacterial Infection and Sepsis

Payors should support and incentivize revised protocols

**Add
T2Bacteria
&
T2Candida**

**>90% of
patients on the
right targeted
therapy within
6 to 8 hours**



Representing \$27B in U.S. healthcare costs^{1,2}

~\$25,000 Cost Savings

Per patient if on right therapy
within 24 hours³

Billions of Dollars

In savings for hospitals, including
decreased readmissions⁴

50% Reduction

In mortality for patients with rapid
effective treatment⁵

Patients Benefit

From reduction in long-term
side-effects

1. Torio, C. M. and Moore, B. J. (2016). Statistical Brief# 204. Healthcare Cost and Utilization Project (HCUP). May.

2. McDermott, K. W., Elixhauser, and A., and Sun, R. (2017). Statistical Brief# 225. Healthcare Cost and Utilization Project (HCUP). June.

3. Estimated economic impact based on customer experience with T2Candida Panel; Bilir, S. P., Ferrufino, C. P., Pfaller, M. A., and Munakata, J. (2015); and studies for target bacterial species.

4. See slide 11.

5. Leibovici, L., Shraga, I., Drucker, M., et al.(1998). The benefit of appropriate empirical antibiotic treatment in patients with bloodstream infection. Journal of internal medicine, 244(5), 379-386.

Established Reimbursement Across Multiple Care Environments

Financially attractive in all settings

Point-of-Care Testing

Emergency Room
Outpatient Settings

- CPT 87640, 87798
- Coverage if not admitted; other outpatient settings
- ER is most common setting

	T2Bacteria
Reimbursement	\$220
Cost of Test	\$150

In-Patient Hospital

Admitted from ER
Admitted for Unrelated Procedure

- DRG 870, 871, 872
- Coverage if admitted or already admitted
- Example DRG Reimbursement: \$35,000¹

	T2Bacteria	T2Candida
Cost of Test	\$150	\$200
Percent of DRG	0.4%	0.6%

1% of DRG

The T2Dx Impact

Improve the quality of patient care while reducing healthcare costs

Targeted Rx

- Reduced resistance
- Reduced length of stay
- Potential reduction in morbidity and mortality



Efficient use of limited resources

- Reduced repeat testing
- Reduced unnecessary Rx
- Reduced time waiting for diagnostic test results

Adoption Drives Revenue and Rapid Pay Back

Doing well by doing good

Typical High Risk Patients In Target Market

Patients Suspected of Sepsis	3,000
Patients Suspected of Fungal Infections	375

Potential Hospital Utilization Scenario

	Patients Tested	Price per Test	Total Revenue
T2Bacteria	1,500	\$150	\$225,000
T2Candida	375	\$200	\$75,000
Annual Recurring	1,875		\$300,000
T2Dx Instrument		\$100,000 unit price	

In this example, patients suspected of sepsis are screened with the T2Bacteria Panel in the ER and throughout portions of the hospital as part of a sepsis protocol.

Commercial Strategy

Global expansion of T2Direct Diagnostics driven by T2Bacteria Panel launch



United States

Direct Sales

- **Organization:** 15 sales reps, expanding to 16 Y/E 2018, and 3 medical affairs liaisons expanding to 5 by Y/E 2018
- **Target:** 1,200 hospitals with the highest concentration of patients at risk for sepsis-related infections

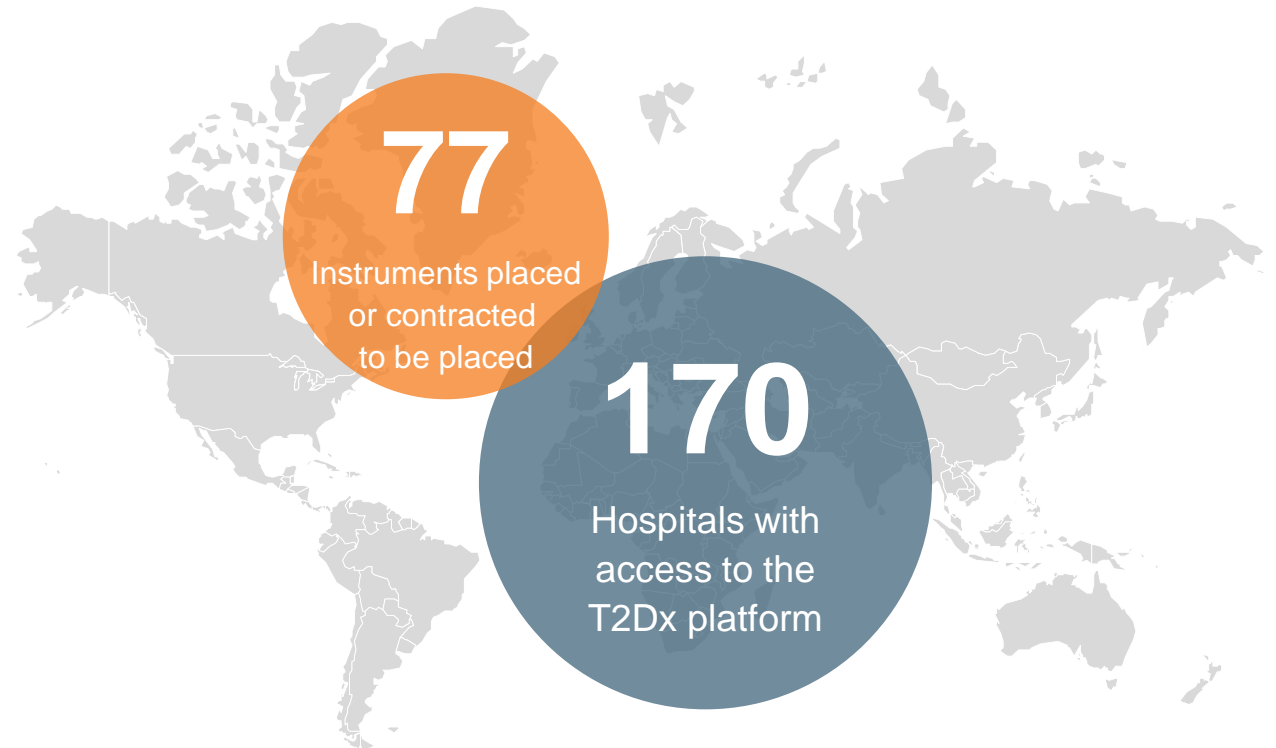


International

Distributor Sales in 19 Countries

- 8 distribution partners supported by small team of direct sales/marketing and field service personnel

Expanding on the existing T2Dx installed base



Comprehensive Commercial Tactics

Global expansion of T2Direct Diagnostics driven by T2Bacteria Panel launch

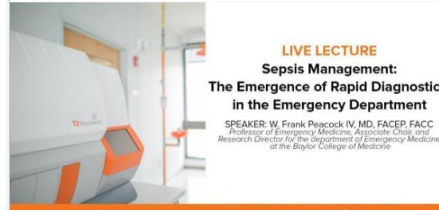
Medical Meetings & Conferences



Digital Marketing



WEBINAR: "Sepsis Management: The Emergence of Rapid Diagnostics in the ED." Sepsis, the #1 cause of death in US hospitals, has a mortality that exceeds prostate cancer, breast cancer and AIDS combined. As many as 92% of s...



WEBINAR SEPT. 18, 2018 11:00 AM ET T2 Biosystems

37 Likes · 3 Comments

JOIN US AT ASM Microbe 2018
Booth #1751 | June 7-11 | Atlanta, Georgia

Learn more about how you can **improve blood culture and get patients on targeted therapy faster than ever before!**

Visit our booth to see the **T2Direct** **T2Bacteria** and **T2Fungal** panels in person. We'll have **live demos** and **giveaways** to help you learn more about the **T2Direct** **T2Bacteria** and **T2Fungal** panels.

Booth Presentation #1751
Sunday, June 10, 10:00 am - 11:00 am
Presenting: Dr. Frank Peacock IV, MD, FACP, FACC, Professor of Emergency Medicine, Associate Chief and Research Director for the Department of Emergency Medicine at the Baylor College of Medicine

Later Breaker Poster Presentation
Sunday, June 10, 10:00 am - 11:00 am
Presenting: Dr. Frank Peacock IV, MD, FACP, FACC, Professor of Emergency Medicine, Associate Chief and Research Director for the Department of Emergency Medicine at the Baylor College of Medicine

Posters Presentation
Sunday, June 10, 10:00 am - 11:00 am
Presenting: Dr. Frank Peacock IV, MD, FACP, FACC, Professor of Emergency Medicine, Associate Chief and Research Director for the Department of Emergency Medicine at the Baylor College of Medicine

Live Demo
Sunday, June 10, 10:00 am - 11:00 am
Presenting: Dr. Frank Peacock IV, MD, FACP, FACC, Professor of Emergency Medicine, Associate Chief and Research Director for the Department of Emergency Medicine at the Baylor College of Medicine

Request a meeting to discuss T2Bacteria

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Targeted Social Media and Email Campaigns



Identify and target key stakeholders in your market.

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Publications / Economic Models

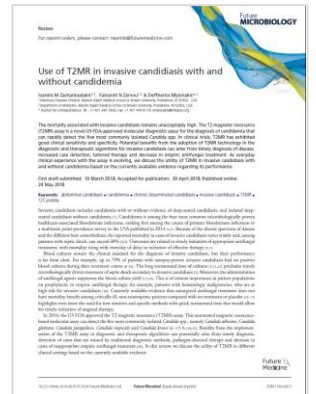
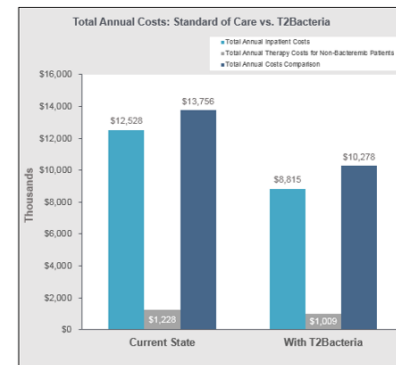
Utilizing Same-Day Sepsis Pathogen ID for Faster Therapy, Enhanced Stewardship, Improved Outcomes

Cornelius J. (Neil) Clancy, M.D.

20 June 2018

University of Pittsburgh

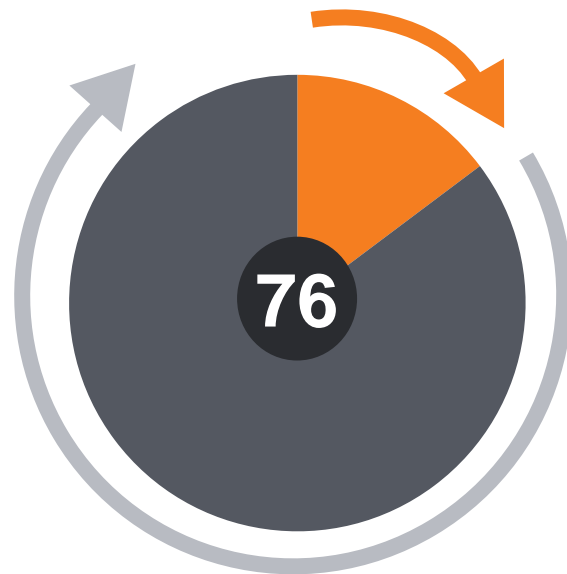
T2Direct Diagnostics™ Economic Model



Commercial Activity Related to T2Bacteria Launch

Step up in proposals is first leading indicator

New proposals delivered to
U.S. customers during 4Q17-3Q18



11 of these
proposals
have been
converted to
new contracts

6-12 month
sales cycle

■ New Proposals ■ New Contracts

2-3X
increase in customer proposals
versus prior year
(4Q16-3Q17)

Opportunity to double U.S.
installed base

Breakthroughs in Medical Diagnostics

First and only FDA-cleared diagnostic to detect pathogens directly from blood

Early 20th
century



Blood
Culture

1947



Cell
Counting

1959



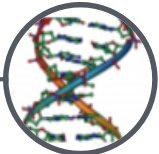
Immunoassay

1968



Automated
Chemistry
Analyzers

1985





PCR
Technique

Direct Sample Analysis Identify Pathogens Using Magnetic Resonance



Product Pipeline Highlights – Enabled by Highly-Sensitive Detection

Directly from whole blood – no requirement for blood culture

		2016	2017 & 2018	2019 & beyond	
SEPSIS	FUNGAL	T2Candida Panel CE Marked & FDA cleared	T2Candida auris Panel Research Use Only including environmental testing		
	BACTERIAL		T2Bacteria Panel CE Marked & FDA cleared	T2Carba Resistance+ Gram-negative resistance markers	CARB-X Additional bacterial species and resistance markers, including ESBL and gram-positive
	BACTERIAL RESISTANCE			 Powered by CARB-X	Powered by CARB-X
	TICK-BORNE			T2Lyme Panel 	

Financial Summary¹

September 30, 2018		
Revenue	3Q18	\$2.5M
	2Q18	\$3.9M
	3Q17	\$1.1M
Product Revenue	3Q18	\$1.2M
	2Q18	\$1.2M
	3Q17	\$0.7M
Product Growth	YoY	71%
Cash Burn	3Q18	\$10.5M
Cash ⁴		\$60.4M
Common Shares Outstanding		43.8M
Quarterly Cash Burn (2018 vs. 2017)		-12.5% YoY

>5% Investors – As of September 30, 2018 ^{2,3}	
Canon Life Sciences	13.8%
Goldman Sachs	9.7%
Senvest Management	7.6%

1. All amounts are rounded to the nearest hundred thousand.
2. Based on 44,038,754 shares outstanding as of September 30, 2018.
3. Source SEC filings as of November 7, 2018.
4. Includes \$180k restricted cash.

Guidance

2018 Guidance	
Total revenue	\$10.5 - \$12.0 million
Product revenue	\$5.0 - \$5.9 million
Research revenue	\$5.5 - \$6.1 million
2H18 T2Dx placements:	20 - 25
2H18 high-risk patient adds:	75,000+ achieved 35,000+ in 4Q18
3Q & 4Q operating expense:¹	\$10.8 - \$11.8 million²

Long-Term Targets	
Total revenue	Doubling in 2019 and 2020 to at least \$50 million in 2020
Breakeven model:	
Total revenue	\$65 - \$70 million
Gross margin	~50%
SG&A	~30 - 35%
R&D	~15 - 20%

1. Excluding cost of product revenue.

2. Including non-cash depreciation and stock based compensation expenses of approximately \$2.0 million in each quarter and non-cash stock based compensation from performance-based RSUs of \$0.8 million in each quarter.

* This slide contains T2's future goals and aspirations, which constitute forward-looking statements that are subject to risks and uncertainties that could cause actual results to differ materially from those expressed or implied by such statements. See "Forward-Looking Statements" on slide 2.

Investment Highlights

A platform technology with multiple, billion-dollar franchise opportunities



T2MR

Innovative
technology - broad
applications



Market

\$2B+ Initial market
potential



Sepsis Pathogen ID

Provide species-specific
results, direct from whole
blood, in 3 to 5 hours



Reimbursement

Covered by existing
reimbursement codes



Robust Pipeline

A new generation of
diagnostics



Execution

Patient access growing,
key collaborations
established