

Delivering on the Triple Aim

How fast phenotypic antibiotic susceptibility testing with the Accelerate Pheno® system improves the care experience and population health while reducing per capita costs

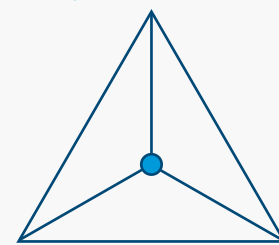
Hospitals nationwide face interrelated challenges in the care of patients with bloodstream infections that lead to sepsis. Downward reimbursement pressures, the increasing incidence of MDR (multi-drug resistant) infections necessitating costly isolation procedures, and delays in actionable diagnostic results limit options for patient treatment. Forward-thinking healthcare executives scan the horizon for solutions that address the Triple Aim: improving patient experience, reducing the per-capita cost of care, and improving the health of populations in the communities they serve.

There are off-the-shelf solutions that maximize gains within the framework of the Triple Aim. Robust antimicrobial stewardship programs across the country—using a multi-stakeholder approach to standardize antibiotic therapy decisions and reduce the time to effective therapy—have implemented a proven technology platform that has demonstrated:

- Reduced inpatient LOS
- Reduced antibiotic usage
- Improved 30-day readmission rates
- Improved bed management

The IHI Triple Aim

Population Health



Experience of Care Per Capita Cost

The IHI Triple Aim is a framework for optimizing health system performance developed by the Institute for Healthcare Improvement.

CUSTOMER CASE #1

University of Arkansas for Medical Sciences

Academic Health Network in Little Rock, AR

Previously implemented MALDI-TOF
Weekday-only antimicrobial stewardship

DEMOGRAPHICS

# beds	455
# ICU beds	28
Average LOS	5.5
# positive BC annual	1,500
mean LOS DRG 870	12.5
mean LOS DRG 871	6.6
mean LOS DRG 872	3.3

TESTING ALL POSITIVE BLOOD CULTURES ON ACCELERATE PHENO SYSTEM



Reduced hospital LOS
by **1.8 days**



Reduced broad-spectrum
antibiotic DOT by **1.0 day**
for both Gram-positive and
Gram-negative bacteremia



Reduced TTOT
by **1.1 days**

“These results support the benefit of integration of [the Accelerate Pheno system] into healthcare systems with an active ASP even without the resources to include real time notification.”

Ryan Dare, MD
Infectious Diseases Specialist

Beds Saved

Derived from study data¹

456 patients/year
x 1.8 days reduced LOS/patient

821 beds saved/year

= **2.25** beds saved/day

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CUSTOMER CASE #2

Allegheny General Hospital²

Integrated Health Network in Pittsburgh, PA

No previous rapid diagnostics for positive blood cultures except Cepheid Xpert® MRSA/SA BC
Weekday-only antimicrobial stewardship

DEMOGRAPHICS

# beds	576
# ICU beds	28
Average LOS	5.3
# positive BC annual	2,208
mean LOS DRG 870	18.4
mean LOS DRG 871	6.7
mean LOS DRG 872	4.2

TESTING GRAM-NEGATIVE BLOOD CULTURES ON ACCELERATE PHENO SYSTEM



Reduced hospital LOS by **2.6 days**



Reduced DOT by **4.7 days**



Reduced Time to Definitive Therapy by **22.1 hours**

“As a residency Program Director and quality and patient safety educator, I remain aware that adverse drug events are one of the most frequent causes of preventable adverse events. Within the first few days of admission, we often change the antibiotics 2 times, sometimes even 3 times, as we navigate diagnostic uncertainty. Accelerate makes a difference here.”

Anastasios Kapetanos, MD
Medical Director, Internal Medicine
Residency Program Director

CUSTOMER CASE #3

Peninsula Regional Medical Center³

Community Hospital in Salisbury, MD

Previously implemented Verigene® BCID
24/7 antimicrobial stewardship with real-time notification

DEMOGRAPHICS

# beds	289
# ICU beds	24
Average LOS	4.4
# positive BC annual	1,500
mean LOS DRG 870	no data
mean LOS DRG 871	6.2
mean LOS DRG 872	4.4

TESTING GRAM-NEGATIVE & YEAST BLOOD CULTURES ON ACCELERATE PHENO SYSTEM



Reduced inpatient LOS by **2.0 days**



Reduced broad-spectrum DOT by **2.0 days**

“We have seen a substantial impact on decreasing hospital costs with savings coming from LOS from \$150k–\$200k each year.”

Michael Miller
Head of Antimicrobial Stewardship

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CUSTOMER CASE #4

Arnot Ogden Medical Center⁴

Community Hospital in Elmira, NY

No previous rapid ID or molecular diagnostics platforms implemented
Weekday-only antimicrobial stewardship

DEMOGRAPHICS

# beds	225
# ICU beds	20
Average LOS	4.2
# positive BC annual	600
mean LOS DRG 870	no data
mean LOS DRG 871	6.4
mean LOS DRG 872	4.3

TESTING ALL POSITIVE BLOOD CULTURES ON ACCELERATE PHENO SYSTEM



Reduced inpatient
LOS by **3.8 days**



Reduced DOT
by **4.7 days**



Reduced TTOT
by **40.4 hours**

“The Accelerate Pheno system has proven to be pivotal in further advancing our patient-centered initiatives of the Antimicrobial Stewardship Program; allowing faster optimal care and discharge planning in addition to comprehensive collaboration with front-line providers. Clinically implementing the Accelerate Pheno system was easy in regards to education and uptake by providers because it was a rapid diagnostic that provided results in a format that everyone was already accustomed to interpreting.”

Scott Morrissey
Stewardship Pharmacist

CUSTOMER CASE #5

Texas Health Huguley Hospital⁴

Integrated Health Network in Fort Worth, TX

No previous rapid ID or molecular diagnostics platforms implemented
Weekday-only antimicrobial stewardship

DEMOGRAPHICS

# beds	213
# ICU beds	28
Average LOS	4.6
# positive BC annual	1,095
mean LOS DRG 870	no data
mean LOS DRG 871	5.3
mean LOS DRG 872	3.7

TESTING ALL POSITIVE BLOOD CULTURES ON ACCELERATE PHENO SYSTEM



Reduced inpatient
LOS by **2.3 days**



Reduced TTOT
by **55.9 hrs**

BC = Blood Cultures; LOS = Length of Stay; TTOT = Time to Optimal Therapy; DOT = Days of Therapy. DRG 870, 871, and 872 are diagnosis-related groups associated with sepsis.

Getting Started

Using the ROI toolset from Accelerate Diagnostics, Inc. allows you to accurately forecast the benefits of improving the care experience and reducing the per-capita cost of care at your institution. Your Accelerate consultant will prepare and deliver to you a contextualized report that conservatively estimates the clinical and financial benefits of implementing the Accelerate Pheno system at your institution and gives you a comparison to hospitals like yours. **Contact your Accelerate consultant or email tripleaim@axdx.com to get started.**

Learn more about how your hospital can deliver on the Triple Aim

Contact your Accelerate consultant,
call us at **(520) 777-2366**, or email us at
tripleaim@axdx.com to get started.

Our team will create a custom report for your institution that shows how you can improve the patient experience, reduce the per capita cost of care, and improve the health of the population you serve by implementing a proven technology and approach to standardizing antibiotic therapy decisions and reducing the time to effective therapy.



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1. Dare RK, Lusardi K, Pearson C, et al. Clinical Impact of Accelerate Pheno Rapid Blood Culture Detection System in Bacteremic Patients. *Clin Infect Dis* 2020; <https://doi.org/10.1093/cid/ciaa649>.
2. Walsh TL, Bremmer DN, Moffa MA, et al. Impact of an Antimicrobial Stewardship Program-bundled initiative utilizing Accelerate Pheno™ system in the management of patients with aerobic Gram-negative bacilli bacteremia. *Infection* 2021. <https://doi.org/10.1007/s15010-021-01581-1>.
3. Sheth S, Miller M, Prouse AB, et al. Pharmacist-Driven Implementation of Fast Identification and Antimicrobial Susceptibility Testing Improves Outcomes for Patients with Gram-Negative Bacteremia and Candidemia. *Antimicrob Agents Chemother* 2020 Aug 20;64(9):e00578-20. doi: 10.1128/AAC.00578-20.
4. Unpublished customer data.

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