Agenda

Company Overview

A Better Way

What It Means for Your Institution

Why partner with Cepheid?

Closer Look at Current Tests
An Established, Innovative Company

- **+550 Employees**
  Including 120 R&D Scientists

- **+9 Years**
  as a Public Company

- **9**
  FDA Cleared Tests

- **14 Years**
  Operating History

- **11 CE-IVD Tests**

- **+60 Countries**
  with a Distribution Presence

- **1,375 GX worldwide**

- **+8 Million**
  Anthrax tests with no false positives; only technology selected by gov’t

*Information as of Q4 ‘09*
Building Quality from the Ground Up

Development Expertise

Vertically Integrated Biologics

GeneXpert® System and Test Cartridges

A FULLY INTEGRATED Molecular Diagnostics Company
Delivering A Better Way

Delivering a Better Way to Realize the Benefits of Molecular Diagnostics

ACCURATE
Results

FAST
Answers

EASY
To Use
Defining Molecular Diagnostics

Any Test
Any Time
Any Sample
Any Place
Unique Ability to Meet Diverse Testing Needs

- WOMEN'S HEALTH / STDs
- CRITICAL INFECTIOUS DISEASE
- HEALTHCARE ASSOCIATED INFECTIONS
- IMMUNO-COMPROMISED
- ONCOLOGY
- GENETICS

Roche
GenProbe
Qiagen
BD
Abbott
bioMérieux

Each color denotes separate platform.
Strategic Market Development

REFERENCE LABS
- REFERENCE LAB
- CORE LAB

Hospitals
- DISSEMINATED
  (ICU, ED, Admissions, L&D, STAT)
- PHYSICIAN OFFICE LABS
  (GPs, Urology, OB/GYN)

Alternate Sites
- SURGERY CENTERS
- LONG TERM HEALTH CARE
- RETAIL PHARMACY/URGENT CARE

Each color denotes separate platform.
A Better Way: *The Molecular Lab in a Cartridge*

- **Universal Medical & Market Utility**
  - Infectious Disease
  - Oncology
  - Genetic Disease
- **All Testing Done Within Cartridge**
  - Sample Prep
  - Amplification
  - Detection
- **Same Basic Cartridge Works With all Tests and GeneXpert® Systems**
A Disruptive Technology: What it Means

- Optimal Implementation Requires Change
  - Change in the Way of Thinking
  - Change of Diagnostic Pathway
  - Change of Guidelines and Recommendations
  - Change in Power and Budgets
  - Change of Quality Control Procedures and “Control”
  - Change in Reimbursement
  - Change in the Way of Selling IVD, or Better “Detection Systems” ...
  - Redefines “Competition”
No Specialized Training Required to Achieve Reliable, Reproducible Results

INTEGRATED PLATFORM AND TEST

1. Insert Swab into Elution Reagent Vial and Break at Scope
2. Vortex and Dispense Sample into Port S
3. Insert Cartridge and Start Assay

Total Hands-On time <1 Minute
Medical Value: Time to Result is Crucial

Cepheid mPower vs. Batch PCR and Culture

Articles that look at time to result as crucial to maximizing diagnostic value:
2. Lance R. Peterson, M.D., Rapid Diagnosis of Community-Acquired MRSA, printed in Clinical Updates in Infectious Diseases, Volume Issue 3, October 2008
3. Eli N. Perencevich, MD, MS et al., SHEA Guideline: Raising Standards While Watching the Bottom Line: Making a Business Case for Infection Control, Infection Control and Hospital Epidemiology, Volume 28, Number 10, October 2007
mPower: Diagnostic Value
Within and Beyond Hospitals

**Within**
- Micro Lab
- Core Lab
- Ob/Gyn
- Oncology
- Emergency Department
- ICU

**Beyond**
- Satellite/Reference Labs
- Clinics
- Surgery Centers
- Retail Pharmacy
- Urgent Care
### PROVEN REDUCTION OF MRSA INFECTIONS

<table>
<thead>
<tr>
<th>Institution</th>
<th>Reduction Percentage</th>
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</thead>
<tbody>
<tr>
<td>Mather</td>
<td>34%</td>
</tr>
<tr>
<td>Loyola</td>
<td>68%</td>
</tr>
<tr>
<td>New England Baptist</td>
<td>60%</td>
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<tr>
<td>VA Palo Alto</td>
<td>70%</td>
</tr>
<tr>
<td>Albert Einstein</td>
<td>30%</td>
</tr>
<tr>
<td>Birmingham Sandwell and City</td>
<td>39%</td>
</tr>
</tbody>
</table>

1. In house data as reported in J.T. Mather Hospital, 2008 Annual Report.
6. To be published
## Projected Xpert® Test Menu — CE-IVD

<table>
<thead>
<tr>
<th>Women’s Health / Sexually Transmitted Diseases</th>
<th>Now Available</th>
<th>Near Term 2011</th>
<th>Mid-Term 2012 - 2013</th>
<th>Longer Term 2014 - 2015</th>
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<tbody>
<tr>
<td>GBS</td>
<td>CT/NG (2011)</td>
<td>CT/NG FluroQ Resistant Vaginitis Panel Trichomonas HPV</td>
<td>HSV-CSF</td>
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<tr>
<td>Healthcare Associated Infections</td>
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<tr>
<td>MRSA</td>
<td></td>
<td>MRSA Nasal Next Gen (2011)</td>
<td>Norovirus</td>
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<tr>
<td>MRSA/SA BC</td>
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<tr>
<td>MRSA/SA SSTI</td>
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<tr>
<td>MRSA/SA Nasal C. difficile vanA/vanB</td>
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<td>Healthcare Associated Infections</td>
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<tr>
<td>MRSA/SA Nasal Next Gen</td>
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<tr>
<td>Critical Infectious Disease</td>
<td>EV Flu MTB/RIF</td>
<td>RSV/Metapneumovirus Group A Strep</td>
<td>HSV Typing Lesion</td>
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<td>Immuno-Compromised</td>
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<tr>
<td>HIV Quant</td>
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<tr>
<td>HCV Quant</td>
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<td>Oncology</td>
<td>BCR ABL</td>
<td>Bladder CA Symptomatic Bladder CA Monitor/Recur. Lung CA</td>
<td>Bladder CA Asymptomatic</td>
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<tr>
<td>Genetics</td>
<td>HemosIL FII, FV*</td>
<td>2C19</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Exclusively distributed worldwide by Instrumentation Laboratories
Why Partner with Cepheid?

- Automated, Scaleable, Easy-to-Use
- Operational Efficiency
- Better Patient Care
- Ability to Multiplex
- Broad & Expanding Test Menu
- Actionable Results
- Proven Quality
Current Test Menu: A Closer Look
Patients colonized with MRSA not accurately identified create opportunities for:
- Spread of infection to other patients
- Spread of infection to hospital personnel
- Potential spread to family members and the community

Rapid and Accurate detection of MRSA colonization in 66 minutes or less means:
- Quickly identify patients requiring contact precautions
- Improve resource utilization and reduce IC costs
- Detect breakdown in infection control sooner and reduce the risk of potential outbreak
- Patient counseling to reduce transmission to family and community
Clostridium Difficile

CHALLENGES

- Test Result for Highly Suspicious Patient Often Comes Back as “C. difficile Negative”
- Additional Tests Are Needed to Confirm C. difficile Infection
- Significant Impact from Diagnostic Delay
  - Incremental Cost
  - Incremental LOS
  - Increased Mortality Rate

45 MINUTES WITH Xpert® C. difficile

- Diagnosis of CDI & presumptive 027 in 45 Minutes
- Determine Whether to Isolate or Not
- Determine Optimal Therapy Options
- Reduce Number of Patient Follow-Ups
- Patient Counseling to Reduce Transmission to Family and Community

Rapid & Accurate CDI detection Improves Infection Control
Tuberculosis and MDR Tuberculosis

CHALLENGES

- According to the WHO, MTB is vastly under-diagnosed
- Current assays either lack sensitivity or take too long
- There is an emerging problem with drug-resistant strains.
- Early implementation of appropriate treatment is important but difficult to realize

2 HOUR TEST WITH Xpert® MTB/RIF

- Simultaneous detection of both MTB and rifampicin resistance: marker for MDR strains
- Unprecedented sensitivity for detecting MTB — even in smear negative, culture positive specimens
- Results in two hours; requires no instrumentation other than the GeneXpert® System
- On-demand results enable physicians to treat rapidly and effectively

Rapid pathogen detection enables clinicians to make appropriate decisions on patient isolation and treatment.
Pre-surgical *S. aureus* screening

**CHALLENGES**

- Patients colonized with *S. aureus* are at a 2- to 9-fold increased risk for a post-operative surgical site infection (SSI).
- Not knowing on time who is *S. aureus* carrier before clean surgery, means not being able to optimally prepare the patient for the operation, in order to avoid unnecessary SSI.

<50 MIN. WITH Xpert<sup>®</sup> **MRSA/SA Nasal**

- Prevent SSI effectively
- Improve resource utilization
- Optimize pre-admission workflow and timely pre-operative decolonization
- Optimally prepare emergency operation with best antibiotic stewardship
MRSA/SA Skin and Soft Tissue Infections

CHALLENGES

- The cost for cure of skin and soft tissue infections (SSTI) has been rising constantly in parallel with increasing antibiotic resistance.
- For key therapeutic decisions physicians need to know whether wounds contain MSSA or MRSA.
- With current culture methods, it takes from 30 to 72 hours to get an answer.

< 1 HOUR WITH Xpert® MRSA/SA SSTI

- Enables Improved Infection Control, Lower Costs & Shorter LOS
- Allows for Appropriate Treatment Sooner, Better Management in ED, and Better Clinical Outcomes
- Ensures Proper Patient Education to Reduce Transmission of MRSA to Family and Community
MRSA/SA Blood Culture

CHALLENGES

- *S. aureus* is one of the two most common pathogens causing bacteraemia and sepsis
- Sepsis is the main cause of mortality in hospitals
- Current Sepsis Triage Protocols Begin With Empiric Antimicrobial Therapy; Empiric Therapy is Often Suboptimal, Resulting in Advancing Infections
- Current laboratory methods require 30 to 72 hours to get an answer

< ONE HOUR WITH Xpert® MRSA/SA BC

- Prescription of Targeted Active Antimicrobial Therapy Days Sooner
- Improved Patient Management
- Decreased Length of Stay

Prescription of Targeted Active Antimicrobial Therapy Days Sooner
vanA/vanB

CHALLENGES

- Patients colonized with VRE not accurately identified create opportunities for additional infection
- 28.5% of enterococci causing HAI in intensive care units (ICU) were VRE*
- Current VRE surveillance tests are based on culture method requiring 24-48 hours to generate a result

45 MINUTES WITH Xpert® vanA/vanB

- Rapid identification of patients requiring contact precautions
- Improve resource utilization and reduce IC costs
- Detect breakdown in infection control sooner and reduce the risk of potential outbreak
- Patient counseling to reduce transmission to family and community


Identify Patients in Need of Contact Precautions
Group B Streptococcus

CHALLENGES

- Leading Cause of Neonatal Morbidity and Mortality
- Culture is Time Consuming
- Culture Not an Option for Preterm Births, Women with no Prenatal Care or When Results Are Unavailable (15-35% of Births)
- Prophylactic Antibiotics Prescribed Unnecessarily–Potential for Increasing Antibiotic Resistance

32-50 MINUTE TEST WITH Xpert® GBS

- Ability to Test Mother Upon Arrival
- Timely Information to Determine Appropriate Treatment

Sources MMWR Weekly; August 16, 2002; 1001.51; No. RR-11
Enterovirus Meningitis

CHALLENGES

- No Acceptable Non-Molecular Test
- Existing Molecular Tests Too Slow/Unavailable to Prevent Most Admissions
- Slow and Expensive Conventional Diagnosis and Treatment
- Unnecessary Antibiotic Treatment due to Uncertainty

2½ HOUR TEST WITH Xpert® EV

- Improved Detection
- Provides 24/7 Testing Access
- Reduced Need for Ancillary Tests and Unnecessary Antibiotics

On-Demand Testing Reduces Unnecessary Admissions
Influenza

CHALLENGES

- Antigen Tests are Not Accurate
- Accurate Test Takes Too Long for a Result
- Currently Available Rapid Tests Do Not Call Out for 2009 H1N1 Which Has a Different Antiviral Susceptibility Profile

< ONE HOUR WITH Xpert® Flu A Panel

- Accurate Determination of 2009 H1N1
- Rapid Identification of Patients Requiring Contact Precautions
- Improve Resource Utilization / Reduce Costs
- Prescribe Appropriate Therapy
- Patient Counseling to Reduce Transmission to Family and Community
In Europe, every year ~4000 patients are newly diagnosed with Chronic Myeloid Leukemia.
Molecular monitoring of bcr-abl in CML patients is recommended (European Leukemia Network)
Current molecular assays require many manual steps, and extensive hands-on time with the risk of user-variation, errors and contamination.

2 ½ HOUR TEST WITH Xpert® BCR/ABL
- Standardized molecular monitoring to determine correct dosage adjustments
- Ability to test during consultation
Factor II and Factor V mutations represent significant independent risk factors for deep venous thrombosis and associated complications for patients with hemostasis disorders.

Batch testing or send-outs resulting in TAT of often 2-3 weeks.

Patients & physicians are left waiting for important results, while the other parameters of the thrombophilia panel are available in hours.

~32 MINUTE TEST WITH Xpert® FII/FV

- Easy-to-use assay: Enables daily testing
- Timely information empowers physicians with rapid actionable information
- Requires no instrumentation other than the GeneXpert® System
A Better Way: Immediate Answers to Make Better Clinical Decisions, Faster

- **Detect**
  More Carriers

- **Decrease**
  Length of Stay

- **Lower**
  Hospital Costs

- **Improve**
  Patient Care

- **Reduce**
  Infection Rates

- **Optimize**
  Antibiotic Utilization

- **Promote**
  Community Leadership