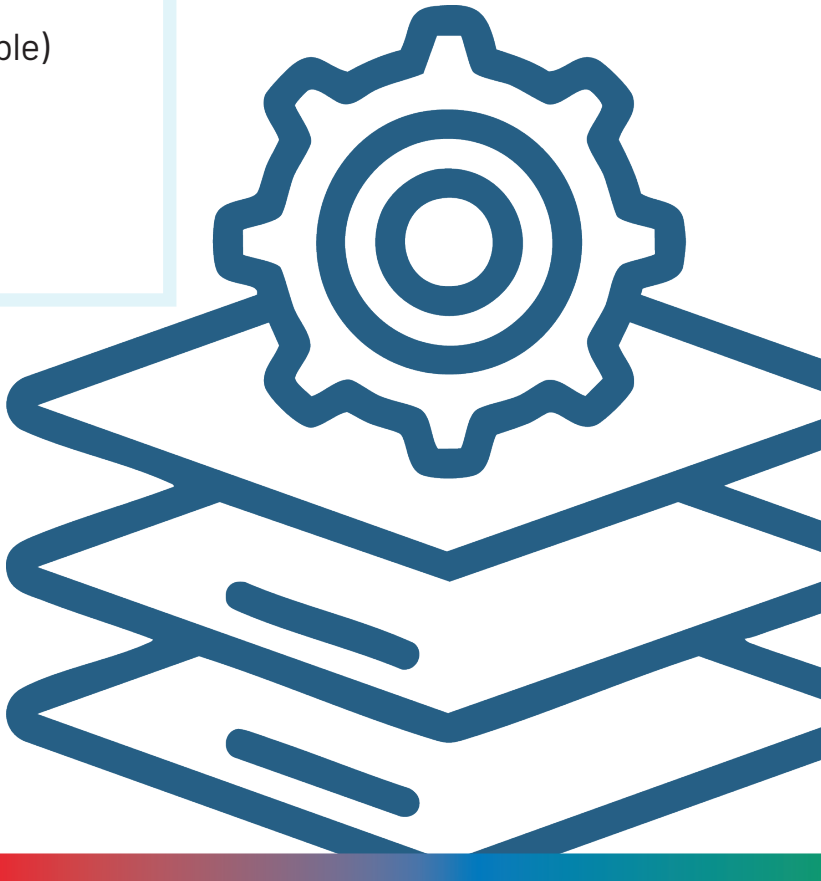
Strand's qPCR Reporting Software (PQRS)

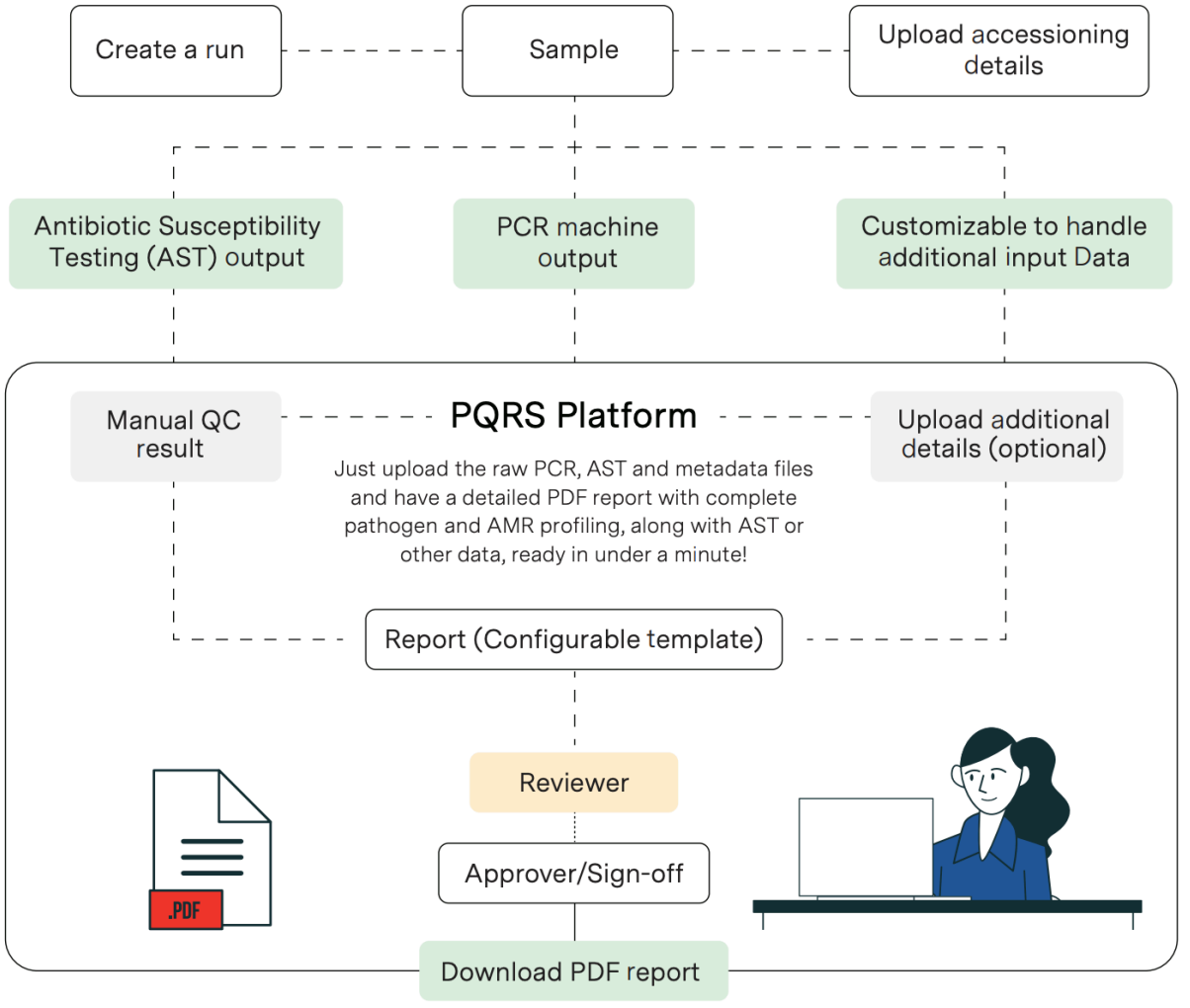
Our in-house customizable infectious-disease reporting end-to-end solution processes qPCR input and generates a comprehensive and actionable report with detailed pathogen profiles, antibiotic susceptibility status, and drug recommendations.

- 2-Minute Report Turnaround Time
- Highly Customizable Features
- Seamless LIMS Integration
- Broad test range (expandable)
  - 91 Pathogens
  - 42 AMR Genes
  - 513 Pathogen-Drug recommendations



The PQRS Workflow

- PQRS software offers an end-to-end solution for qPCR reporting.
- The process is initiated by inputting qPCR result files, and the PQRS platform can be customized to handle other input data types as well.
- Additionally, culture test output files can also be entered into the workflow, thus enabling combined reporting of pathogens, AMR genes and antibiotic susceptibility testing (AST).
- A manual QC step is performed to ensure accuracy.
- Following this, a comprehensive report based on a configurable template is compiled and generated.
- A brief review by a senior scientist follows and the report is made available to the end user as a PDF download.
- The entire workflow — from file input through QC to report generation — is completed in under 2 minutes.
- PQRS can be integrated into existing LIMS setups, enabling seamless report generation and retrieval.

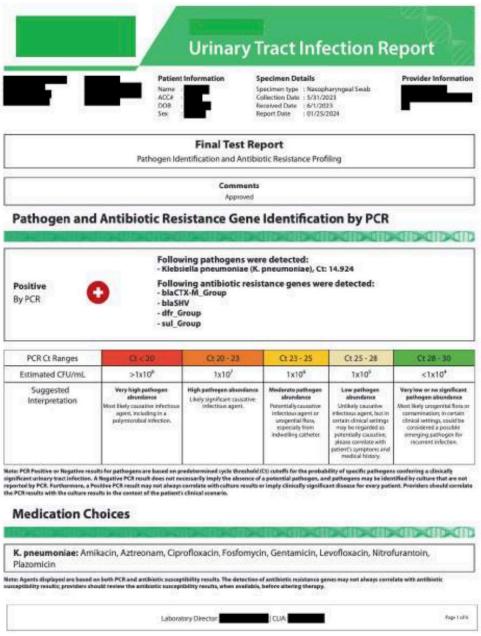


Tailored qPCR and AST Report with Medication Options

Our customizable report offers the following benefits

1. **Clinician-approved format:** We incorporate client-specific requirements into the qPCR report through frequent interactions with the clinician team.
2. **Combined qPCR and AST reporting:** The end report captures the qPCR-identified pathogens, antibiotic resistance genes, as well as antibiotic susceptibility test results, offering insights on infectious pathogens as well as AST status.
3. **Broad array of medication options:** Our platform currently supports over **500 drug-pathogen** recommendations across **91 pathogens** and **42 resistance genes**. Clinicians can choose from multiple antibiotic recommendations based on pathogen profiles to make patient-tailored decisions.
4. **Dosage guidance:** PQRS can be configured to include **medication dosage guidance** based on pathogen profiles and antibiotic susceptibility.
5. **Additional customization:** Reports can be **customized to include drug tiers, and administration routes** based on curated treatment protocols and clinician preferences.
   Reports can also have **embedded audit logs** to track report creation times and approval status, and optionally include **sign-offs by subject matter experts**.
   Minimal and basic customizations, such as branding, logo, and template modifications, can be completed in **~2 weeks**. Additional features, depending on their complexity, can be implemented in 1-3 months.

The high-level summary in the first page is followed by a detailed account of identified pathogen profiles.


Urinary Tract Infection Report

Patient Information

Specimen Details

Provider Information

Final Test Report

Pathogen Identification and Antibiotic Resistance Profiling

Comments

Approved

Pathogen and Antibiotic Resistance Gene Identification by PCR

Positive By PCR

Following pathogens were detected:
- Klebsiella pneumoniae (K. pneumoniae), Ct: 14.924

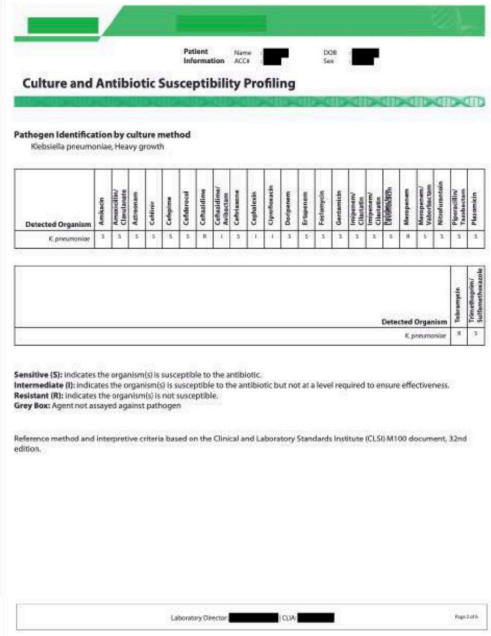
Following antibiotic resistance genes were detected:
- blaCTX-M_Group
- blaSHV
- dfr_Group
- sul_Group

PCR Ct Ranges	Ct < 20	Ct 20 - 23	Ct 23 - 25	Ct 25 - 28	Ct 28 - 30
Estimated CFU/mL	>1x10⁶	1x10⁷	1x10⁶	1x10⁵	<1x10⁴
Suggested Interpretation	Very high pathogen abundance	High pathogen abundance	Moderate pathogen abundance	Low pathogen abundance	Very low or no significant pathogen abundance

Medication Choices

K. pneumoniae: Amikacin, Aztreonam, Ciprofloxacin, Fosfomycin, Gentamicin, Levofloxacin, Nitrofurantoin, Plazomicin

Laboratory Director [redacted] CLIA [redacted]


Patient Information

Culture and Antibiotic Susceptibility Profiling

Pathogen Identification by culture method

Klebsiella pneumoniae, Heavy growth

Detected Organism	Amikacin	Amoxicillin/ Clavulanate	Aztreonam	Cefdinir	Cefepime	Cefotaxime	Ceftazidime/ Avibactam	Ceftriaxone	Cephalexin	Ciprofloxacin	Doripenem	Ertapenem	Fosfomycin	Gentamicin	Imipenem/ Cilastatin	Levofloxacin	Meropenem	Meropenem/ Vaborbactam	Nitrofurantoin	Piperacillin/ Tazobactam	Plazomicin
K. pneumoniae	S	S	S	S	S	R	I	S	I	S	S	S	S	S	S	S	R	S	S	S	S

Detected Organism	Tobramycin	Trimethoprim/ Sulfamethoxazole
K. pneumoniae	R	S

Sensitive (S): indicates the organism(s) is susceptible to the antibiotic.
Intermediate (I): indicates the organism(s) is susceptible to the antibiotic but not at a level required to ensure effectiveness.
Resistant (R): indicates the organism(s) is not susceptible.
Grey Box: Agent not assayed against pathogen

Reference method and interpretive criteria based on the Clinical and Laboratory Standards Institute (CLSI) M100 document, 32nd edition.

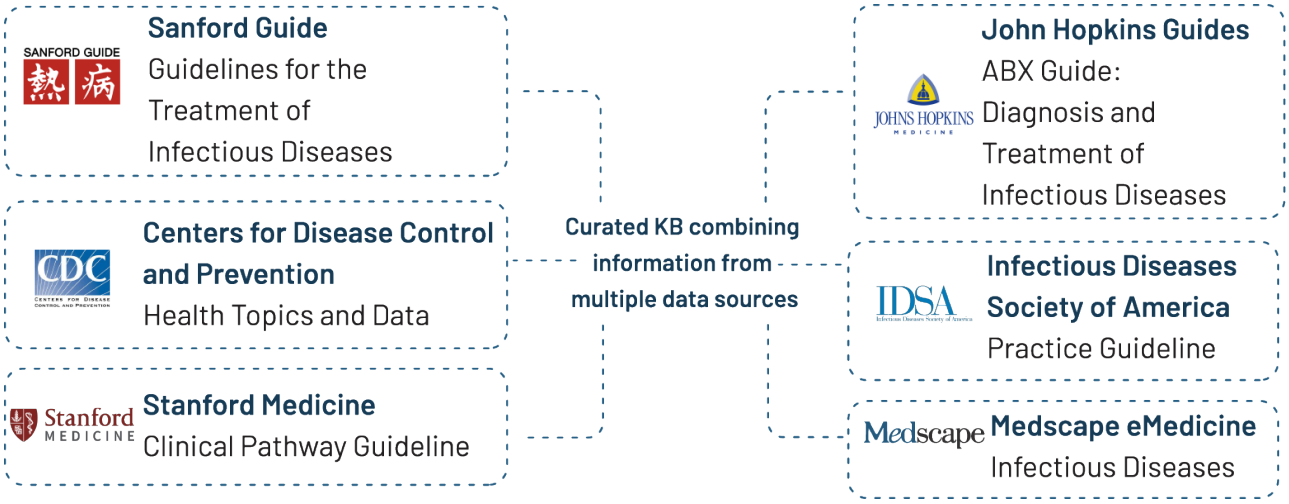
Laboratory Director [redacted] CLIA [redacted]

Reference Databases and Compliances

- The PQRS platform is equipped with an infectious-disease knowledge base curated by referencing established and licensed publicly available data sources.
- The knowledge base currently caters to UTI panels, but is evolving to include other panels, such as the respiratory pathogens panels (RPP), women's health, and wound

healing panels. Thus, it can be adapted and augmented to align with the clients panels and evolving treatment protocols to ensure accurate and relevant medical suggestions.

- Our privacy and security protocols also ensure that patient data remains confidential as per HIPAA guidelines, and the data received through our API is HL7 compliant.



Recent Stories

We worked with a US-based CLIA/CAP-certified diagnostic laboratory offering infectious-disease testing to deliver a bespoke PQRS solution:

1. We customized the report to include all medication choices without details on tiers, route of administration, or dosage.
2. The antibiotic choices provided in the report were filtered for those approved in the US and referred to by their US trade names instead of generic names.
3. The report generation process was modified to require a medical director's approval.
4. The report was made available in both PDF and JSON formats.

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