

Optimizing PCR Testing in Urgent Care: A Case Study on an In-House PCR Lab Transformation

UwmgXeo

Executive Summary

Streamline Scientific and Molecular Designs recently partnered with one of the United States' largest providers of urgent medical care to help establish in-house PCR labs for its network of over 150 urgent care centers. Since this client regularly used molecular testing across its locations, it sought to enhance its capabilities by adopting PCR as an in-house service.

24hr

Result Turnaround
(Down from 3-4 days)

3

Hub Labs Serving
150+ Locations

6 week

Implementation
Timeframe

Identifying Challenges and Goals

Having worked with reference laboratories to satisfy their PCR needs for years, the urgent care organization had several goals in mind to address a defined set of difficulties they had been encountering:

Reference Lab-Related Challenge

Patients were receiving multiple bills and communications from various parties involved.

Patients were waiting 3 to 4 days for their PCR results.

Third-party labs dictated which panels could or could not be used.

In-House PCR Lab Goal

Simplify the patient experience.

Reduce result time to within 24 hours.

Customize panels for better alignment to patient needs.

Turning Challenges into Strategic Opportunities

The urgent care network chose to establish its first lab as a pilot for in-house PCR adoption, but the launch proved challenging. **They encountered difficulties** in procuring equipment, were constrained by oversized panel options that didn't align with their population's target pathogens, and found themselves with minimal guidance to help them navigate their unique use case.

Architecting a Personalized Approach

After these initial setbacks, the urgent care organization engaged with Molecular Designs and Streamline Scientific to craft a more comprehensive strategy for their in-house PCR lab. This took place through a two-pronged approach:

1

Optimize Analytical Component Selection Through Molecular Designs

In addition to helping our client procure appropriate equipment for their site, Molecular Designs' *Simplicity™* line of breakaway, pre-plated analytes addressed several key challenges:

- **More targeted** selection of assays due to a broader variety of panels
- **Reduced waste** and more adaptability through its breakaway design
- **Simplified inventory** management via pre-plated, ready-for-use reagents

2

Strategically Consult on Lab Processes with Streamline Scientific

Streamline Scientific provided consulting services in several key domains:

- **Assay Strategy:** We helped our client identify products and processes that strike an optimal balance between clinical relevance and throughput capacity.
- **Staffing Support:** We assisted in recruitment, candidate selection, and training to make sure our client's laboratory was equipped with skilled personnel who could meet operational and regulatory requirements from day one.
- **Lab Buildout and Design:** Our team guided site selection, facility layout, equipment procurement, and workflow setup, ensuring a smooth, compliant, and cost-efficient lab launch.



Re-Piloting and Expanding The In-House PCR Network

The new collaboration began with optimizing the existing pilot lab location. The program quickly delivered better results than the urgent care organization had seen to this point, so they expanded to two additional sites. Implemented at different times, both additional labs **were fully operational within six weeks of startup**. What's more, **these sites together were able to serve all of the client's established urgent cares**.

The speed at which the new locations were launched helped the urgent care network rapidly realize its vision for in-house PCR.

Finally Achieving Results with In-House PCR

The partnership between our client, Molecular Designs, and Streamline Scientific yielded significant operational improvements that were reflective of the original goals they set out:



Better Panel Selection:

The urgent care network initially set out to eliminate dependence on third parties for panel selection, but soon faced similar constraints after launching their first lab. Molecular Designs, with its wide range of panels and PCR-based testing components, helped our client **choose appropriately-sized panels containing targeted assays** that best aligned with the testing they developed.



Improved Patient Experience:

Providers and patients were accustomed to waiting 3-4 days for PCR results, so **achieving a sub-24-hour turnaround time** created a tangible difference and allowed providers to target antibiotic therapy on a much shorter timeframe. This, along with simplified, one-source billing, helped engender positive patient feedback.

What started as apprehension on whether a vendor could help our client launch their lab turned to an appreciation of the expertise, commitment, and close support of the Molecular Designs and Streamline Scientific teams.

Key Factors in The New Lab Implementation

The renewed success of this in-house PCR lab implementation came down to a few variables:

1

A Consultative Approach:

Streamline Scientific engaged deeply with the client's specific needs and challenges to offer targeted solutions rather than simply providing products.

2

An Optimized Product Design:

The pre-plated, breakaway panels from Molecular Designs' *Simplicity™* line aligned with the operational needs of a multi-site urgent care network needing high throughput capabilities and workflow flexibility.

4

A Scalable Hub-and-Spoke Model:

By strategically placing three reference labs to serve multiple locations, our client achieved optimal coverage while keeping operational costs reasonable.

3

A Rapid Implementation:

The ability to establish a fully functional PCR lab within just one month accelerated the realization of benefits across the network with less guesswork along the way.

Achieving Excellence: Our Client's Strategic Leap Forward

In-house PCR labs represent a historical new opportunity for urgent care networks: the ability to assert control over workflows, improve the patient experience, and eliminate dependence on third parties for molecular testing. Our client's strategic investment in in-house PCR, powered by Molecular Designs and Streamline Scientific, has positioned the organization at the forefront of modern urgent care delivery.

Transform Your Urgent Care Operations with In-House PCR

For more information, please visit streamlinesci.com/urgent-care

About Molecular Designs and Streamline Scientific

Molecular Designs was founded by physicians seeking to simplify the delivery and accessibility of cost-effective, streamlined, and easy-to-use molecular technologies. It offers numerous multiplex PCR-based components produced under GMP and ISO 13485:2016 quality standards for research use only, as well as novel extraction systems, an optimized laboratory information system (LIS), collection kits, a forthcoming in vitro diagnostic (IVD) for respiratory viruses, and other molecular research products.

Streamline Scientific is both a CLIA-certified reference laboratory and a trusted consulting partner for lab startups and diagnostics development. With experience launching over 200 laboratories, Streamline offers end-to-end support, including buildout design planning, equipment procurement, staffing development, assay guidance, analytical validation under CLIA, regulatory strategy, and commercialization guidance.