

Extending the Medical Home with a Single Digital Platform for Families

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Welcome



Gina Altieri

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Agenda

- Background on Nemours
- How and why we are extending the medical home with a single digital platform for families
- How we organized to get the job done
- How we had to change the way we work and think
- How the app allows us to go beyond convenience for the consumer to providing better care, and it's potential for high-risk and difficult-to-treat patients
- Where we're going from here

Learning Objectives

- **Learning Objective 1:** Explain how health systems can leverage existing technology to improve access to care and cost-efficiency
- **Learning Objective 2:** Show how to align clinicians and patient-families in discovering solutions and designing optimal technology
- **Learning Objective 3:** Demonstrate how to integrate platforms and select vendors to develop a tool that changes care management in an effective and measurable way

Nemours Children's Health

A leading multistate, multisite children's health system

● **Primary, Specialty, Hospital & Urgent Care**

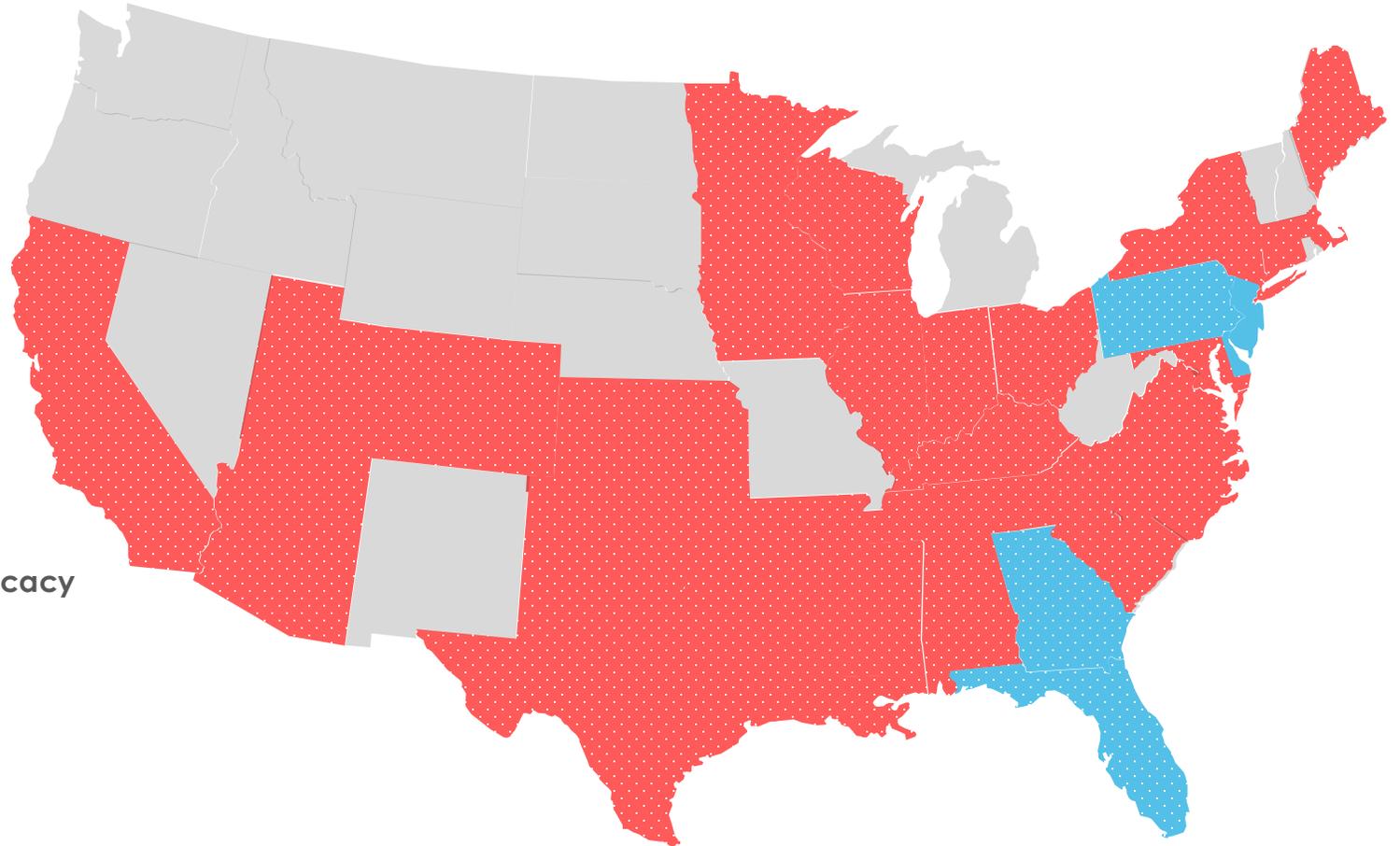
- 80 care locations in 5 states
- 1.8 million patient encounters
- 8,000 associates
- 900 employed physicians
- 3,800 Trainees
- \$1.9 billion annual revenue

● **National Office of Population Health & Advocacy**

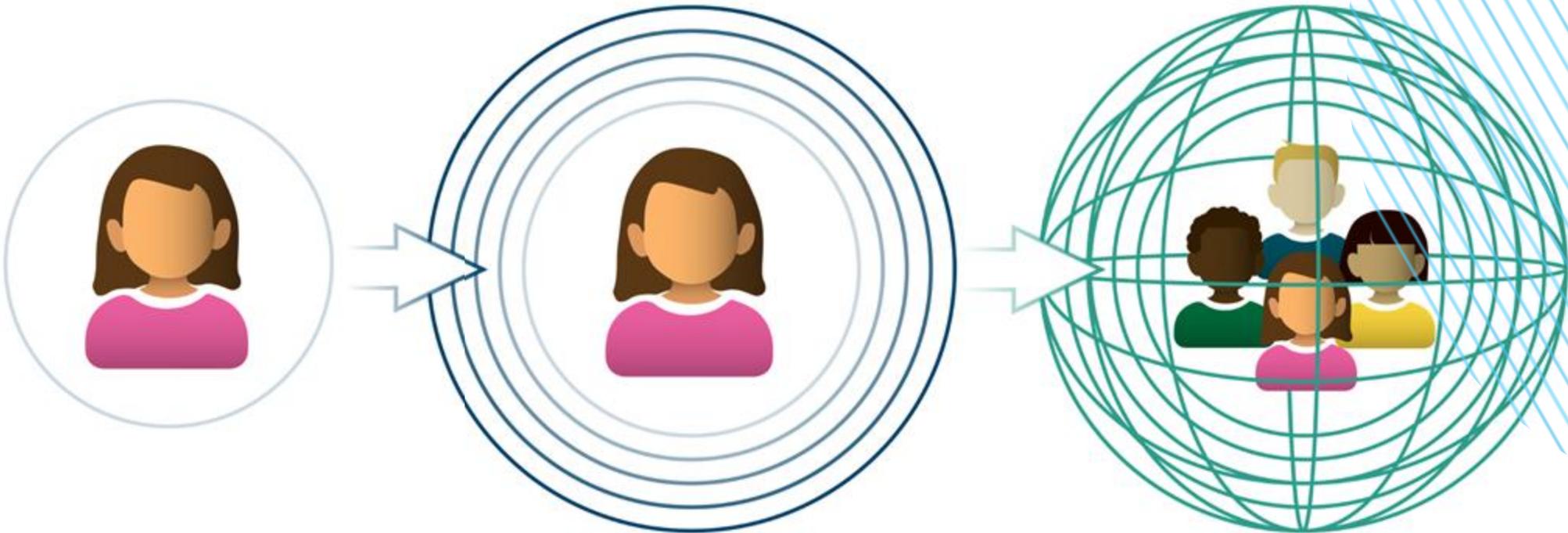
- Early Childhood Education
- Learning Center
- Reading BrightStart!

● **Nemours KidsHealth**

- Available in 50 states and worldwide



Nemours Evolution



Nemours Legacy

Child is at the center of all we do – your child our promise

Evolved State

Moving beyond our walls to impact the world in which each child lives

Future State

Impacting not just one child, but communities of children around the world and for generations to come

Well Beyond Medicine

Nemours seeks to transform the health of children by adopting a holistic health model that utilizes innovative, safe, and high-quality care, while also caring for the health of the whole child beyond medicine.



NEMOURS
CHILDREN'S HEALTH

Digital Health's Role in Advancing Value

- Pay-for-health model requires the right digital tools
- Nemours telehealth survey: families with one or more SDOH value virtual visits more
- Going beyond medicine to address nonmedical factors impacting children's health
- Leveraging predictive analytics to better understand populations and drive meaningful interventions for children



Nemours KidsHealth Pediatric Content

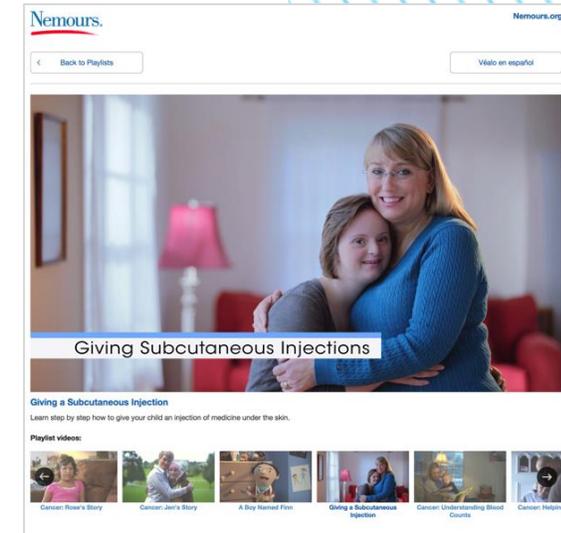
KidsHealth is more than a consumer website. KidsHealth products include how-to videos, patient instructions in English and Spanish integrated into Epic, and condition-specific content integrated into patient care plans – **accessible when and where it's most useful.**



Digital Content



Patient Instructions



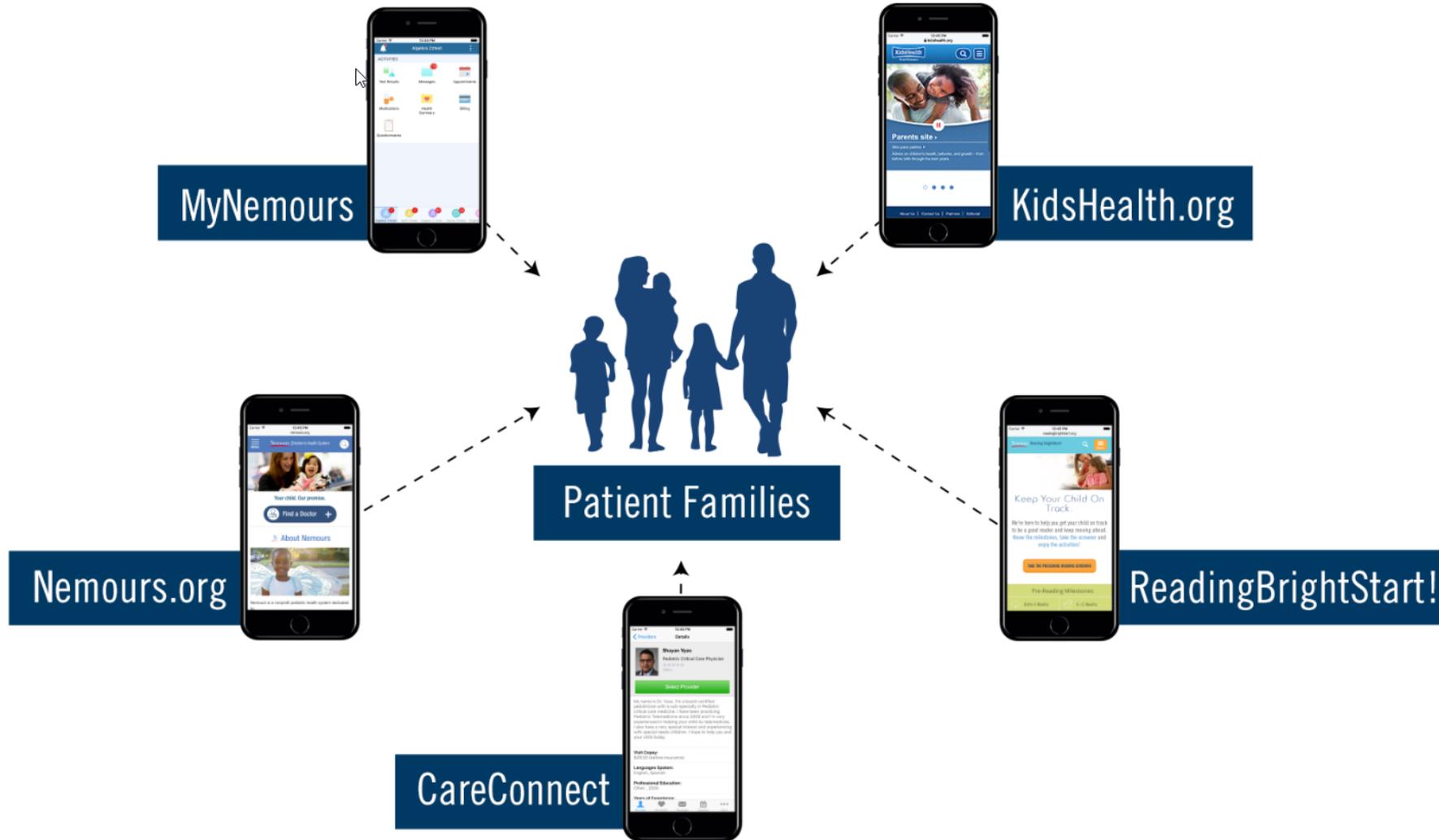
Videos

Telehealth: Building a Solid Infrastructure

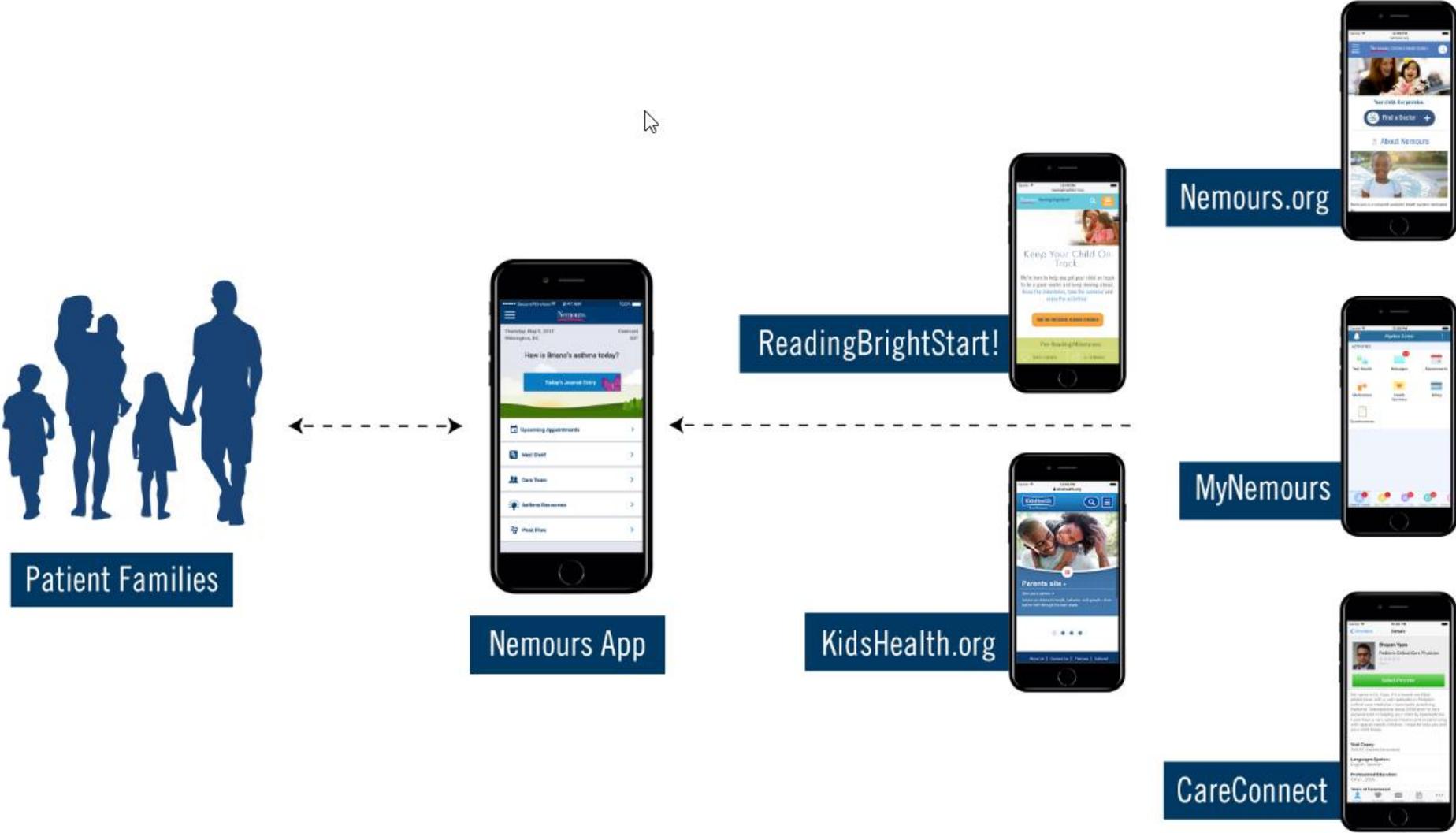
- Scheduled visit integration with Epic
- Telehealth encounters created for different workflows, IP consults, home visits, site-to-site visits
- Billing infrastructure
- Documentation guidelines
- Nemours KidsHealth patient instruction post-visit



Challenge: A Fractured Digital Landscape



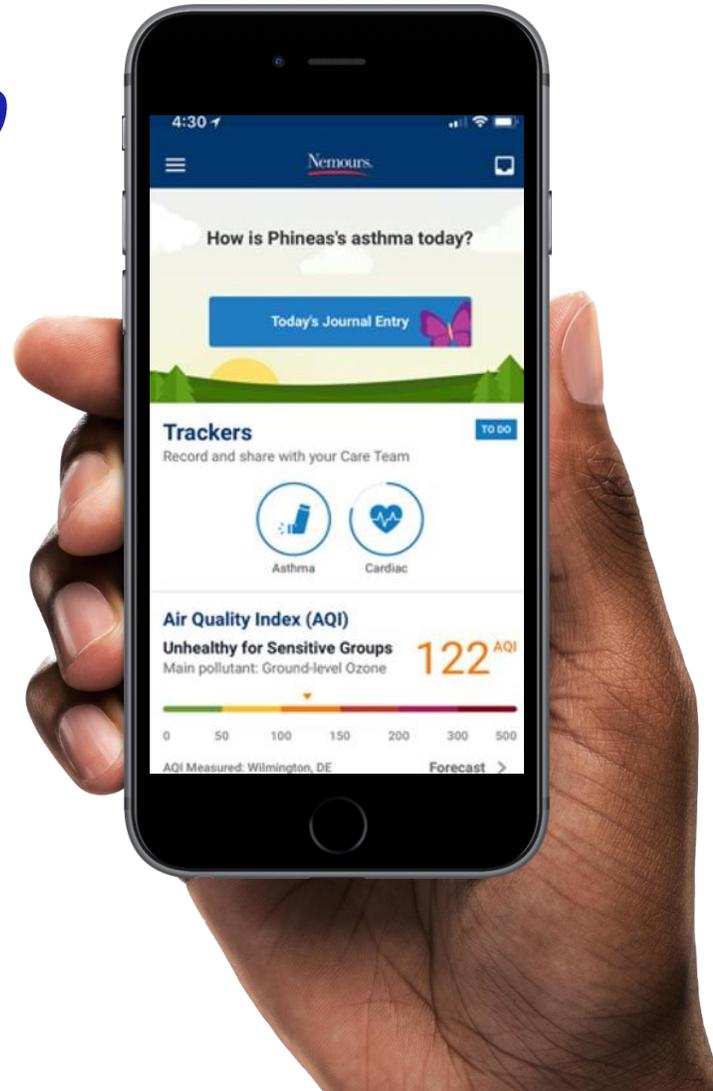
Solution: The Nemours App





Nemours App

Bringing the best content and tools together for our patient families



1

Patient Portal

- Scheduling • Messaging
- Test Results & Refills • eCheck-in
- Questionnaires

2

Telehealth

- 24/7 On Demand • Scheduled
- After-Visit Summaries

3

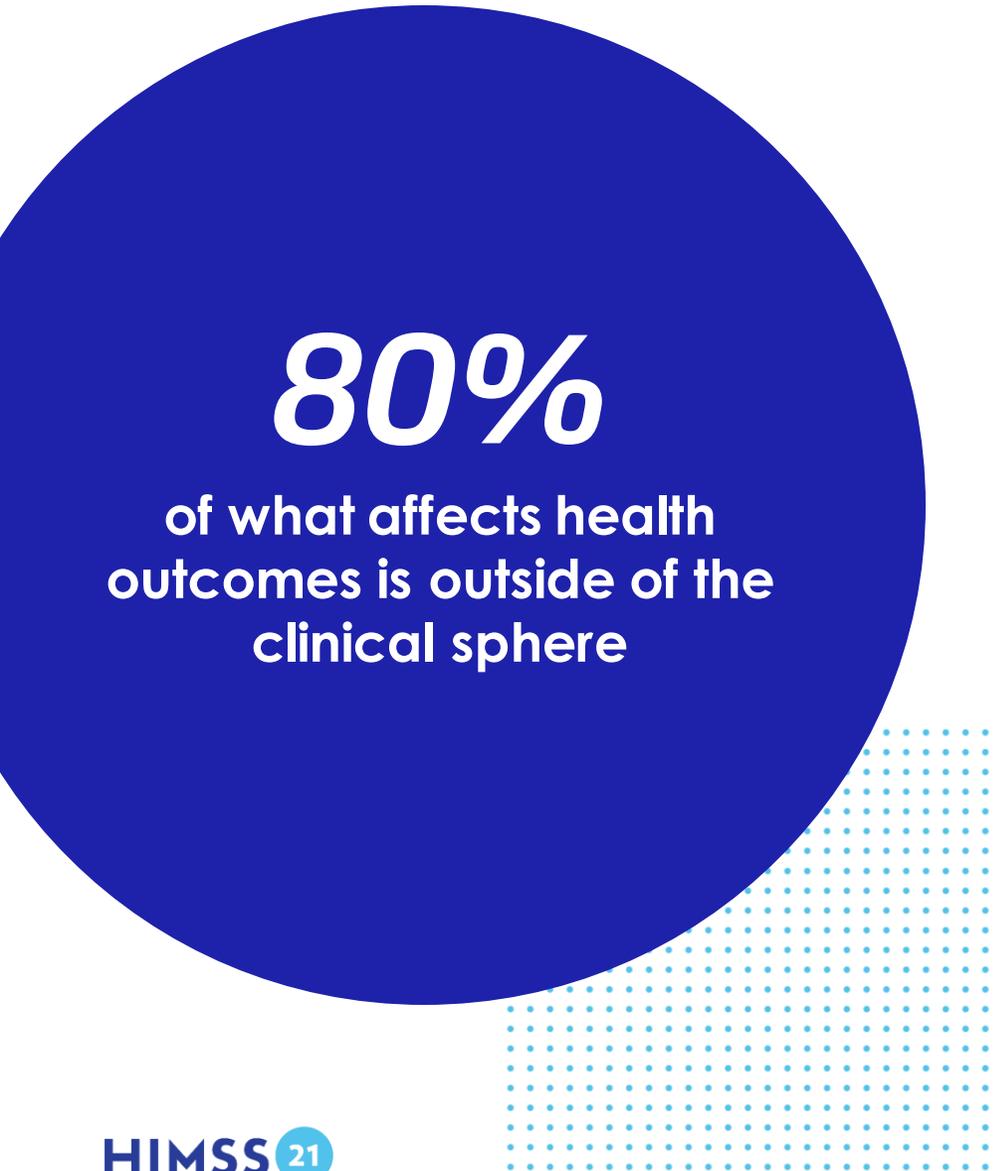
KidsHealth Education

- Health content for Parents, Kids & Teens • Patient Instructions
- Instructional Videos

4

Custom Features

- Asthma • High-Risk Cardiac
- Heart Loop • Concussions, Wayfinding, etc.



80%

**of what affects health
outcomes is outside of the
clinical sphere**

Nemours App

An innovative option to integrate care into the lives of children and families, while staying true to the Nemours commitment to treating the whole child and trying to keep children out of the hospital.

What we did to lower barriers to care in our system and wellness at home through the app:

1

Reorganized Nemours teams to **better leverage** digital assets and **strategically invest** in consumer capabilities

2

Incorporated the principles of **Agile and human-centered** design thinking

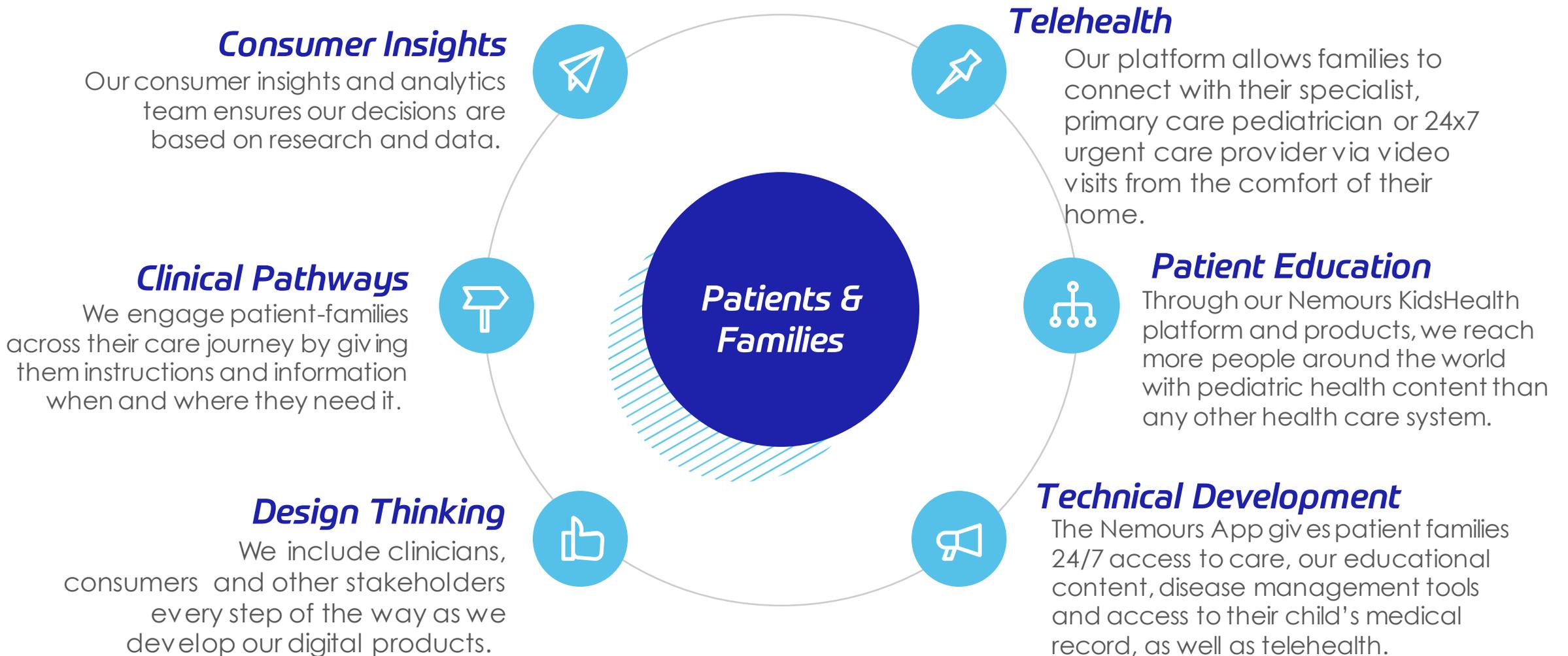
3

Enhanced consumer insight capabilities to be **more data informed**

4

Improved readability and literacy level at every consumer touchpoint

Making Health Care Simpler



Three aspects important to our product evolution and structure integration work:



Applied Design Thinking

With design thinking, we ensured the app was truly built for Nemours clinicians, patients and families.



Adopted Agile Methodology

The Agile software development model encourages iterative, stakeholder-driven product development, focused on delivering value to patient families.



Committed to Health Literacy

Literacy and education are the most significant predictors of life-long health and add more quality years to a person's life than regular preventive screenings, quitting smoking and moderating other risk behaviors.

*A commitment
to literacy level
and engaging
consumers in
their care*



Clinical Buy-in

There was initial clinician reluctance to digital health platforms that would integrate technology deeper within the model of care. Here are five takeaways that have been critical to winning them over.



Involve Them in Design

Nemours involves clinicians in its design thinking and agile processes to ensure developed products help solve clinical and operational problems and deliver real value to their practice.



Analytics & Coaching

The Nemours “PhIT” team (Physicians Informatics Team), a specially-trained group of Nemours’ clinicians, uses analytics and coaching to address the causes of technology burnout to ensure the organization’s clinicians are optimally using the EMR and other digital technologies for maximum benefit.



Overcommunicate

The team delivers information to Nemours staff through a variety of methods – an internal blog, individual training sessions, lunch and learns, and attendance at a variety of department huddles and meetings.



Enlist Champions

Engaging clinical and administrative staff as “champions” can really help drive internal engagement.

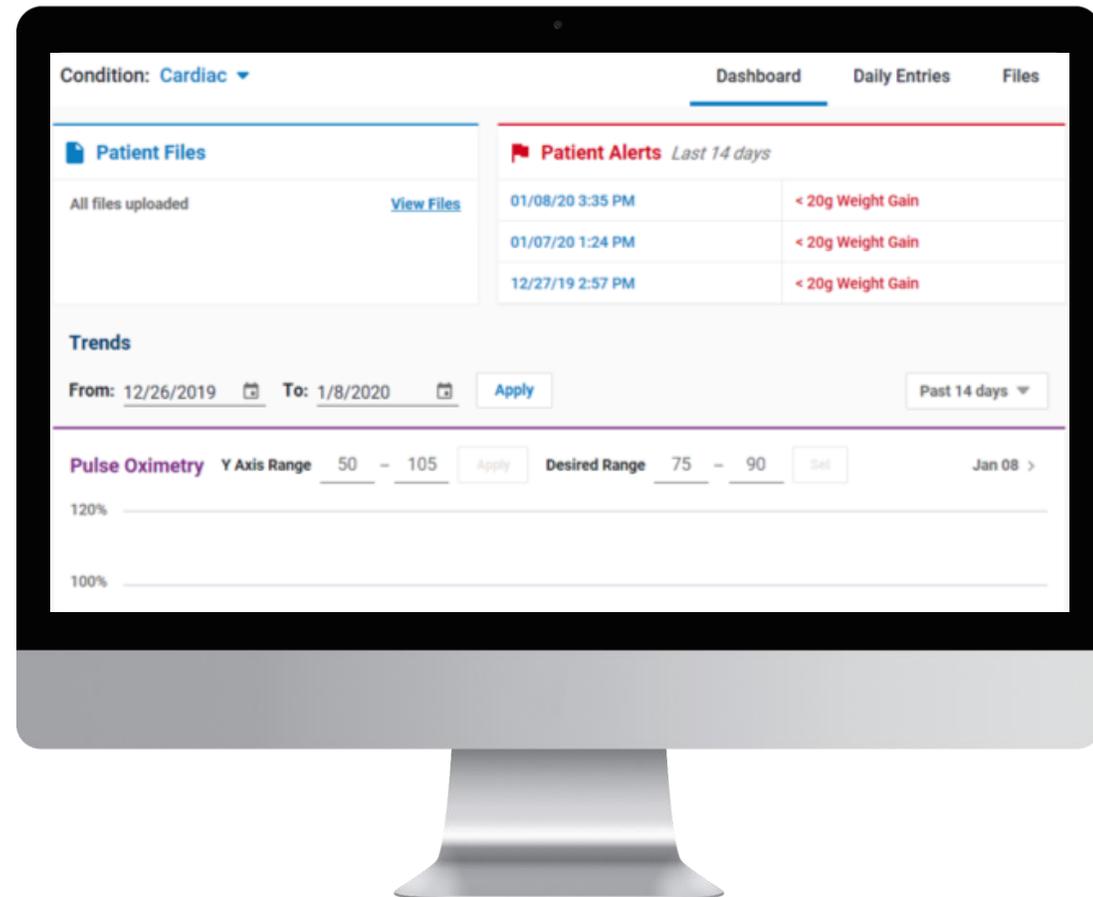


Use Data

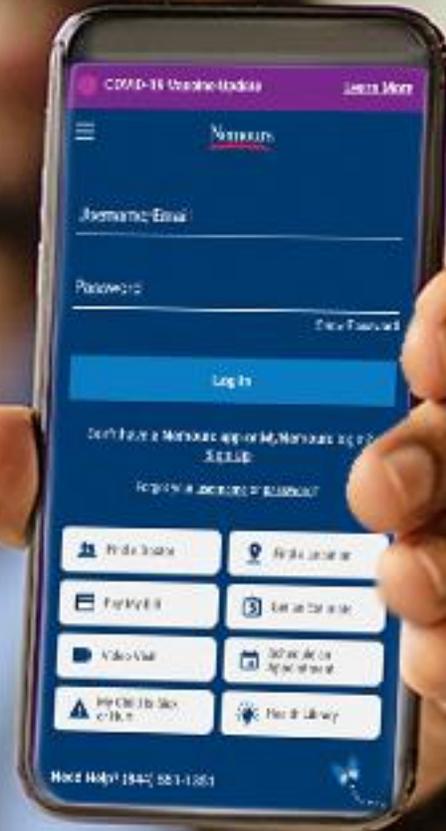
Clinical staff are much more supportive of initiatives that are supported by data, such as the research study we did with our asthma tracker.

Nemours App

A tool for clinicians as much as consumers. Asthma became our model for improving **chronic disease management**, while cardiac functionality established a pathway for **'early warning' monitoring** of high-risk conditions.



Case Study: Asthma



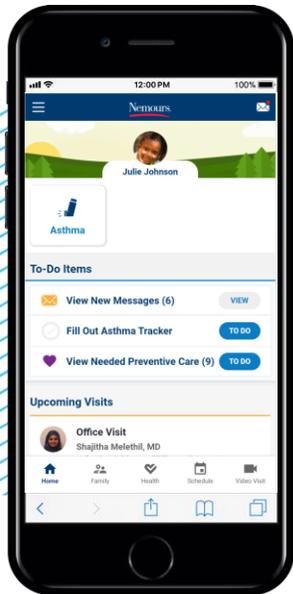
The Problem

- Providers may only see patients periodically, and for a brief amount of time, especially for chronic conditions like asthma.
- Providers needed a better way to know what's going on with the patient between visits.
- We needed a plan for keeping these patients out of the emergency room/urgent care for manageable issues.
- We needed a way to extend the medical home to better help these patients manage their condition between visits.

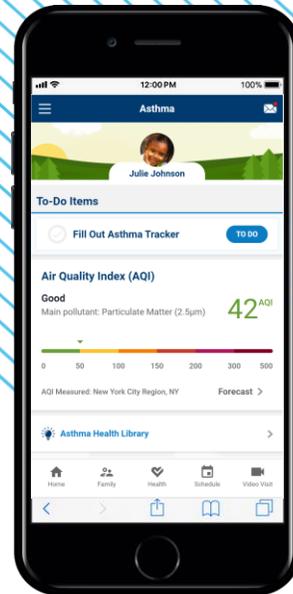
The Solution

- Allows families to track asthma symptoms.
- Provides feedback/encouragement.
- Gives patient constant access to an asthma action plan.
- Allows providers to review and adjust treatment plans accordingly.
- Provides patients and families with educational resources.

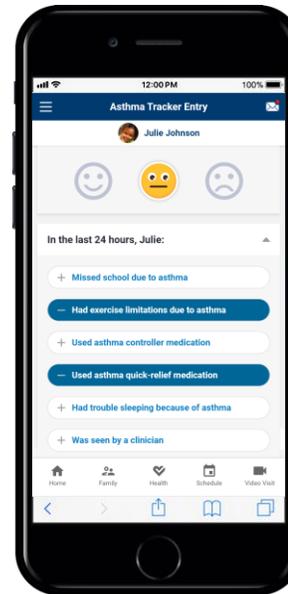
Patient/Family In-App Experience



Main Dashboard
(Child View)



Asthma (Condition-Specific View)



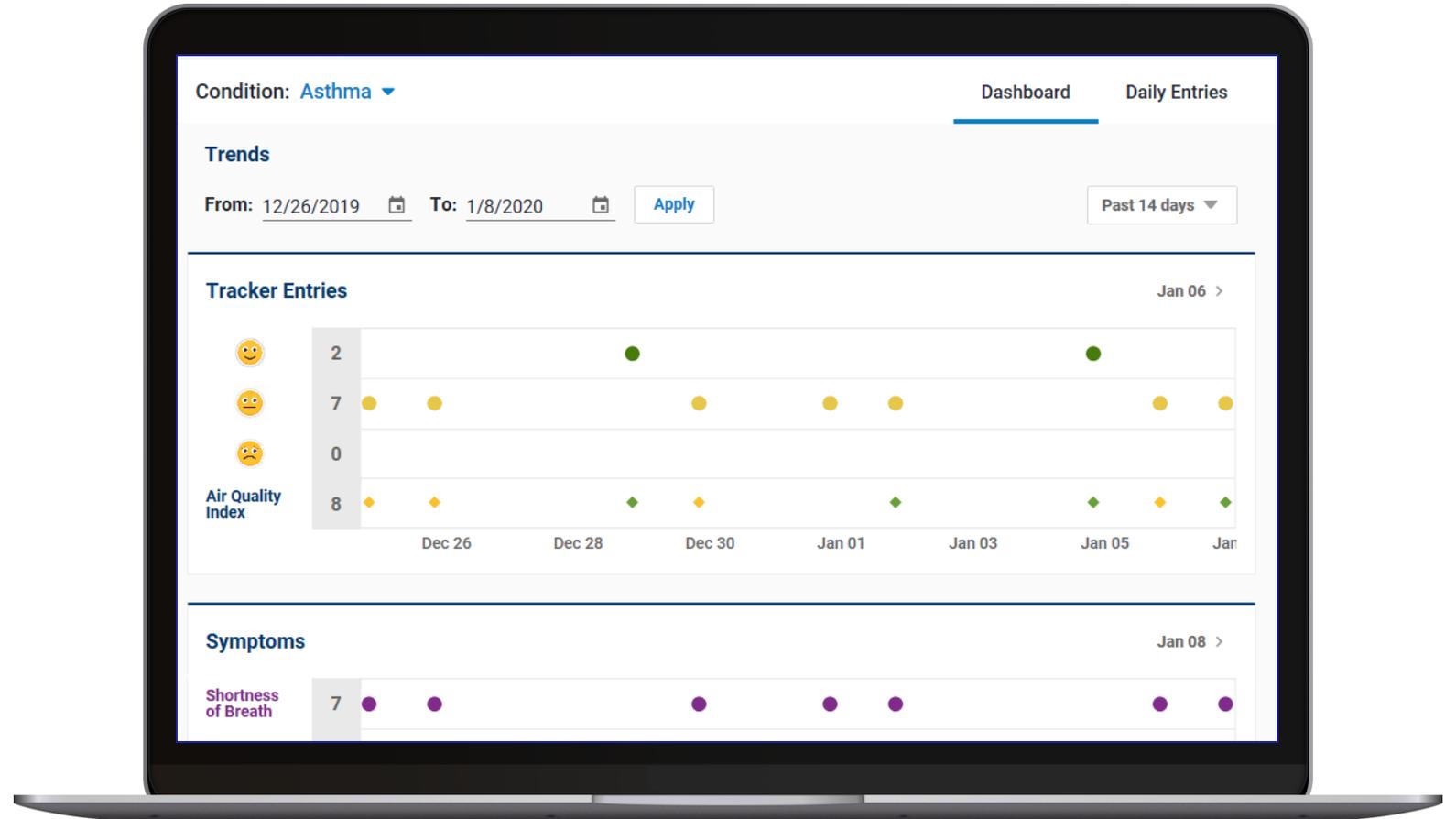
Asthma Tracker



Printable Asthma Action Plan

Provider In-App Experience

Direct access to patient data that is integrated with Epic.



Nemours App: Asthma Study

Nemours conducted a research study examining how technology can be leveraged to facilitate asthma management. We examined:

- Use of the Nemours app
- Provider and patient-family use of the Nemours app for asthma management
- Potential benefits of using the Nemours app for providers and patient-families

9
Nemours
Allergists &
Pulmonologists

80
Nemours
Patient Families

Key Findings: App Use

56%

of providers reported
accessing the app during
the study

61%

of patient families
reported accessing the
app during the study

Caregivers
whose child's
asthma was not
well controlled
were significantly
more likely to be
app users

Key Findings: App Use

22%

of providers used patient-family symptom tracking and messaging app features to inform clinical care decisions



Increase in percentage of patient-family app users who accessed messaging, telehealth, and asthma tracker features

273%

Usage of asthma tracker feature increased dramatically over the course of the study

Key Findings: App Use

100%

of provider app users reported satisfaction with the app dashboard

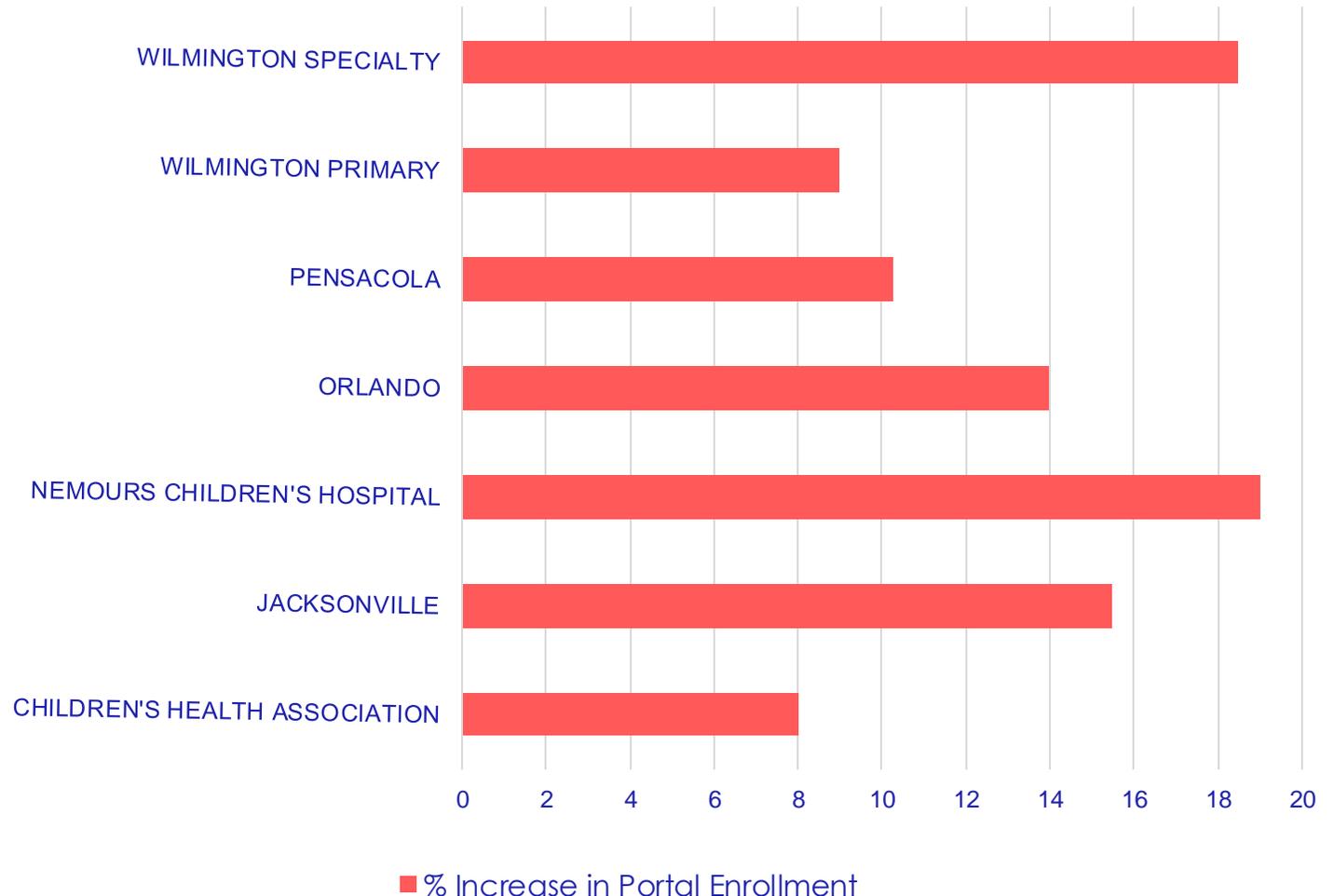
70%

of patient-family app users reported the app helped improve communication with providers

Providers and patient-families noted informational/educational benefits from app-facilitated communication between, and during visits

Drive to One Integrated Digital Experience

- Portal enrollment up 10% across organization since launch
- 132,000 active accounts linked to 178,000 patients
- Over 58,000 distinct users logging in per month
- Logins per user up 30%
- Consistent 4.8 average rating in app store



System Integration & Vendor Challenges

1

True Partners

Find vendors willing to invest the time and energy to understand your business

2

Integration Philosophy

Find vendors/systems that embrace integration, not ones that do it as an afterthought

3

Support Model

Understand how vendors/systems handle support for integration partners

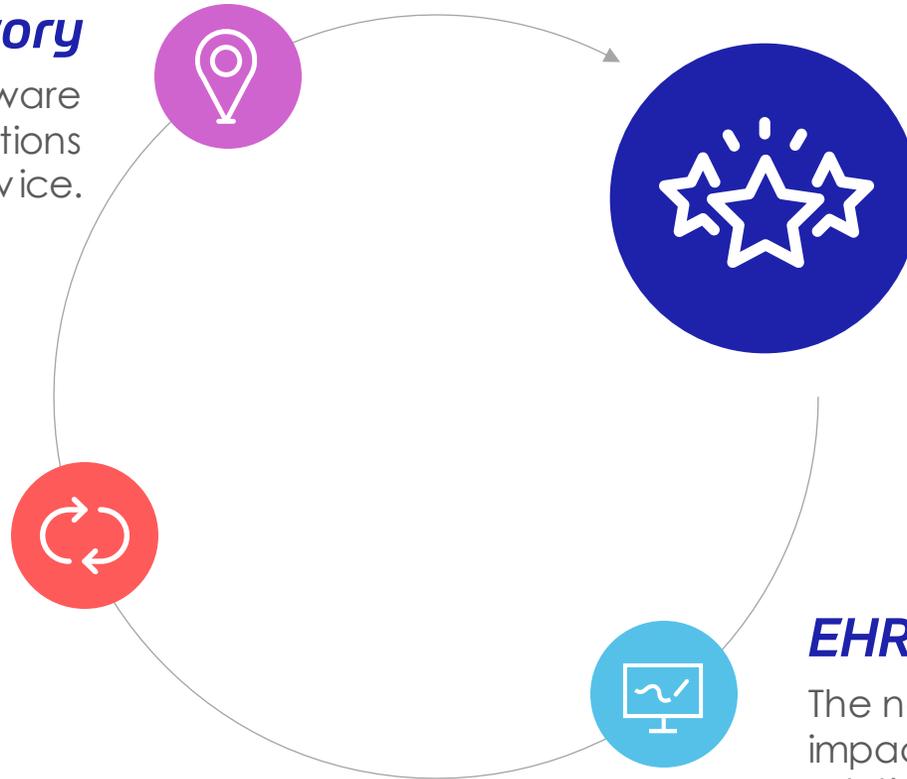
Replicability

Regulatory

Digital health solutions need to be aware of and pay attention to federal regulations on Software as a Medical Device.

Change Management

Change management is critical; implementing a platform like this has broad process and people implications. Significant attention needs to be paid to ensuring you're not just building technology for the sake of technology.



Dedicated Team

Nemours has a dedicated software development team that built and supports this initiative. It has varied in size from just a few people to 15 members over several years. An organization looking to accomplish something like this must be willing to invest significant resources on the software engineering side.

EHR care

The nature of your EHR system will impact the feasibility of building a solution like this. Some medical record systems are better about integration with third parties than others.

Keys to Maintaining Operational Effectiveness

- Have an effective support process (both internally and externally)
- Communicate regularly with staff about features and functionality (blog, e-mail digests, system notifiers, rounding, etc.)
- Monitor key metrics
 - Enrollment rates
 - E-Check-in rates
 - Patient message response rates
 - Customer satisfaction (app store reviews, surveys, etc.)



Next Steps for Nemours



Step 1

Continue to increase the percentage of active patients who are on the platform



Step 2

Add support for foreign languages



Step 3

Drive engagement of patient families in the platform



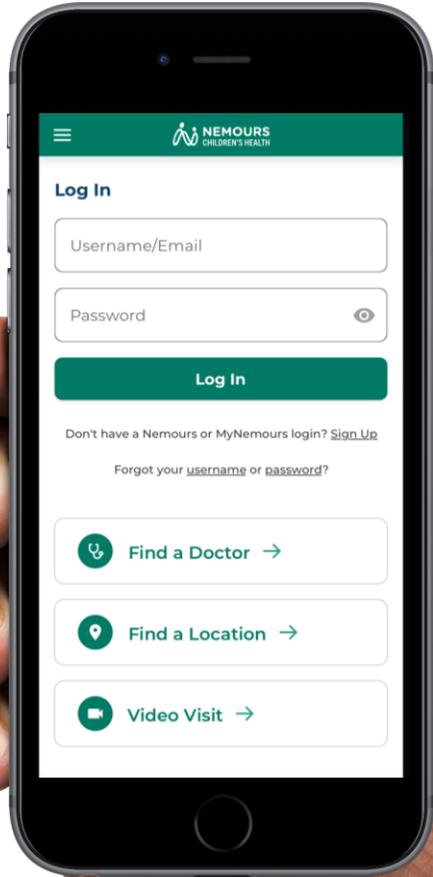
Step 4

Improve existing features and adding new features (scoliosis, hospital wayfinding, weight management, diabetes, etc.)



Step 5

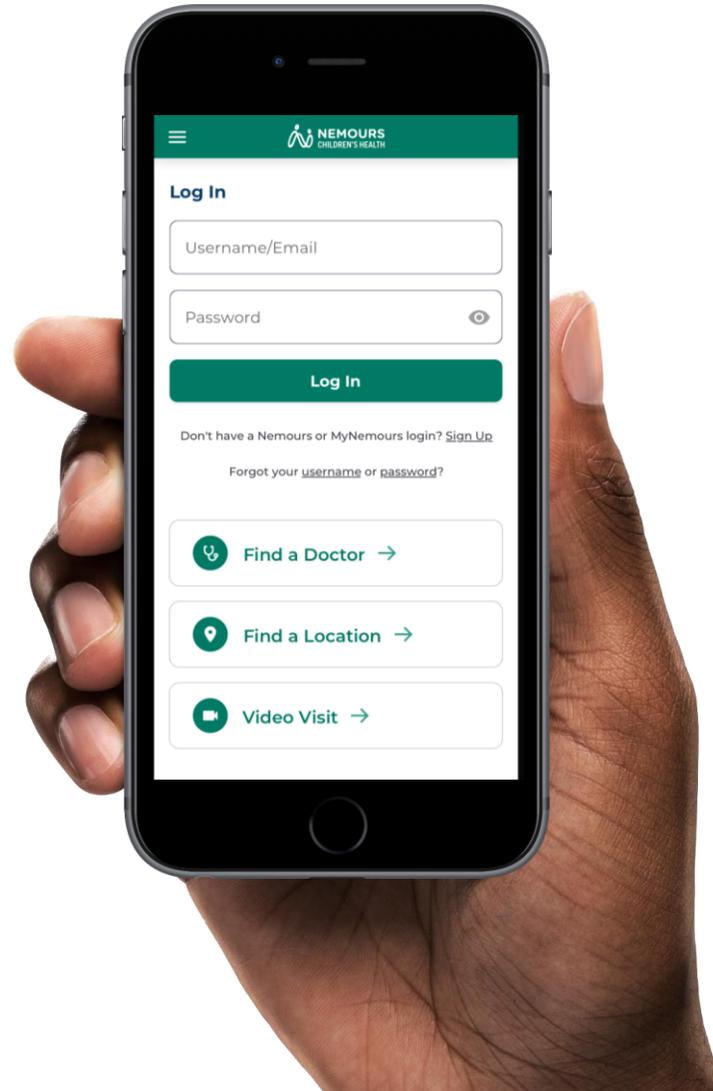
Work with Nemours researchers to use our platform as a component of clinical research projects



Nemours App

Launching a rebranded interface with our new **'loop of care'** identity in mid-August

Questions



Thank you!



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