

Building and Implementing a Scalable Decision Support Technology to Deliver Regional-Based Oncology Care & Clinical Trials

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NORTH CAROLINA *Chapter*



Introduction to Atrium Health & Levine Cancer Institute

About Atrium Health

65,000+ teammates | **44** hospitals

30 urgent care locations | **35** EDs | **25+** cancer care locations

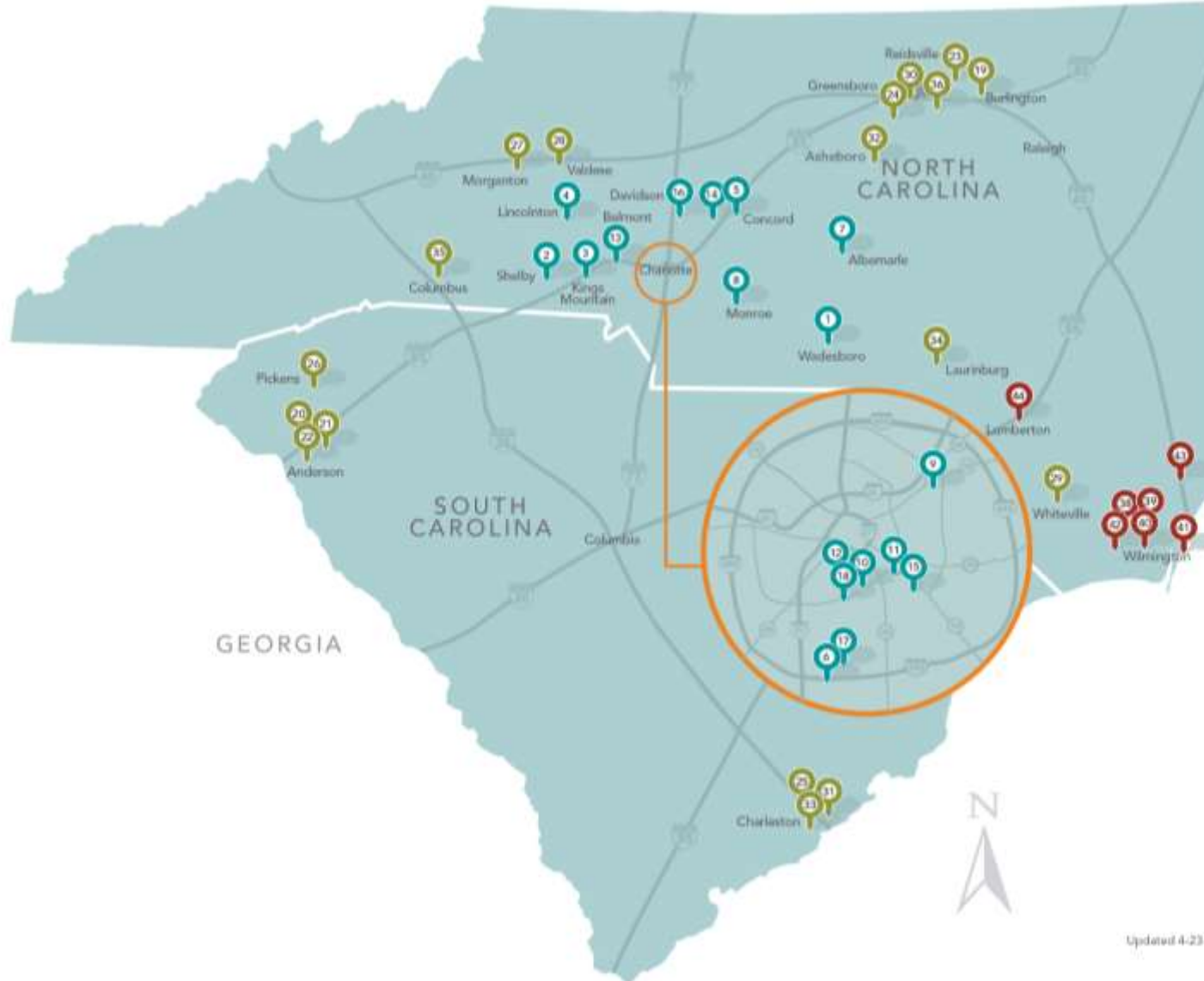
3,000+ physicians | **16,000+** nurses

\$9.9 billion
net operating revenue

\$2.9 billion
in last 5 years

invested into renovations,
new care locations,
equipment upgrades and
other capital projects

Atrium Health Facility Locations



PRIMARY ENTERPRISES

1. Carolinas HealthCare System Anson
2. Carolinas HealthCare System Cleveland
3. Carolinas HealthCare System Kings Mountain
4. Carolinas HealthCare System Lincoln
5. Carolinas HealthCare System NorthEast
6. Carolinas HealthCare System Pineville
7. Carolinas HealthCare System Stanly
8. Carolinas HealthCare System Union
9. Carolinas HealthCare System University
10. Carolinas Medical Center
11. Carolinas Medical Center-Mercy
12. Carolinas Rehabilitation
13. Carolinas Rehabilitation-Mt. Holly
14. Carolinas Rehabilitation-NorthEast
15. CHS Behavioral Health-Charlotte
16. CHS Behavioral Health-Davidson
17. CHS Rehabilitation (Pineville)
18. Levine Children's Hospital

REGIONAL ENTERPRISES

19. Alamance Regional Medical Center
20. AnMed Health Medical Center
21. AnMed Health Rehabilitation Hospital
22. AnMed Health Women's and Children's Hospital
23. Annie Penn Hospital
24. Behavioral Health Hospital (Cone Health)
25. Bon Secours/St. Francis Hospital
26. Cannon Memorial Hospital
27. CHS Blue Ridge-Morganton
28. CHS Blue Ridge-Valdese
29. Columbus Regional Healthcare System
30. Moses H. Cone Memorial Hospital
31. Mount Pleasant Hospital
32. Randolph Hospital
33. Roper Hospital
34. Scotland Memorial Hospital
35. St. Luke's Hospital
36. Wesley Long Hospital
37. Women's Hospital (Cone Health)

AFFILIATED ENTERPRISES

38. Betty H. Cameron Women's and Children's Hospital
39. New Hanover Regional Medical Center
40. New Hanover Regional Medical Center Behavioral Health
41. New Hanover Regional Orthopedic Hospital
42. New Hanover Regional Rehabilitation Hospital
43. Pender Memorial Hospital
44. Southeastern Health

Updated 4-23-18

Levine Cancer Institute

The only cancer network in the world to earn Planetree Designation,
the highest achievement in person-centered care.

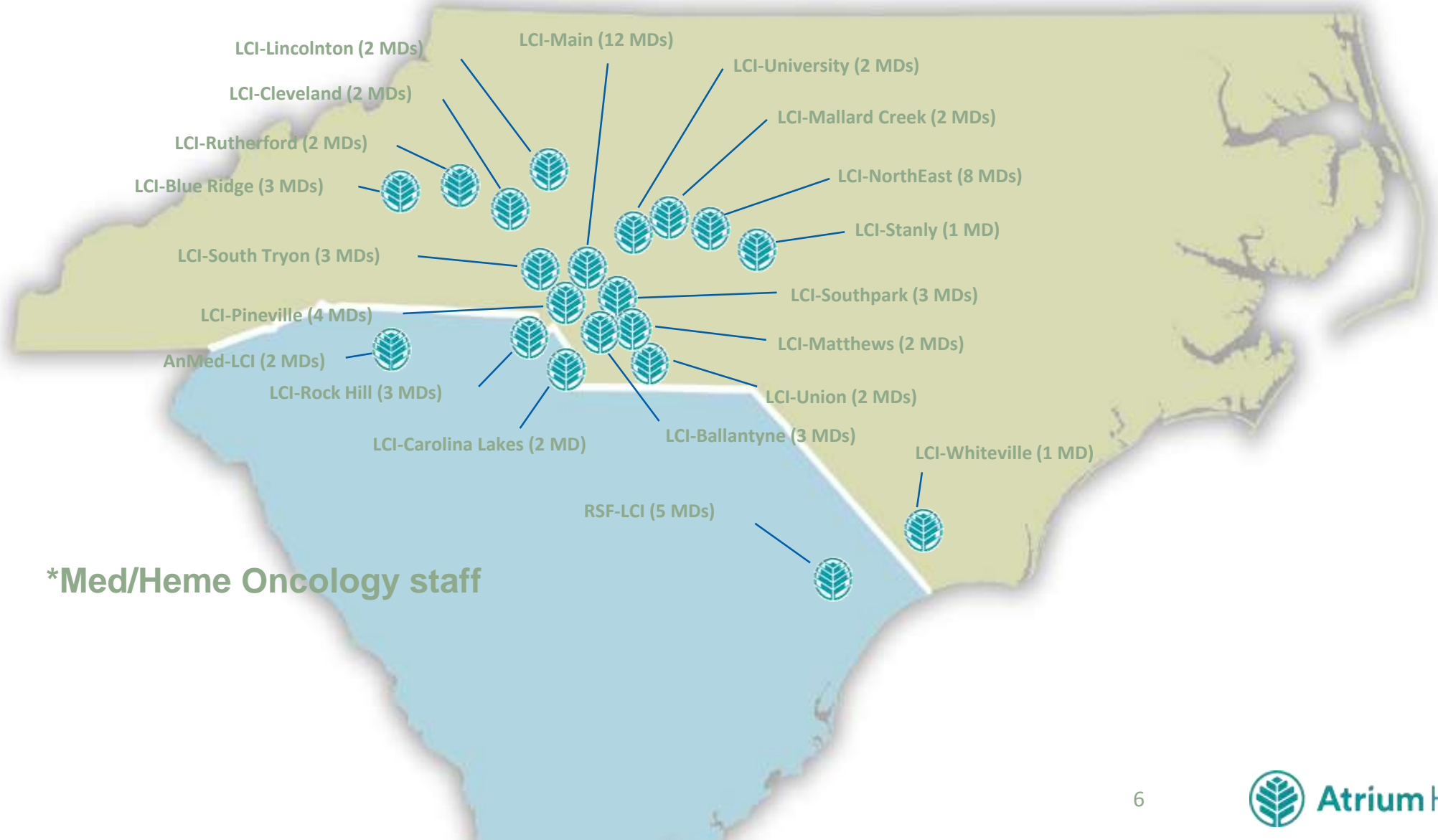
Our team treats the full spectrum of solid tumor and blood cancers, including the rarest and most challenging cases

- **15,000+** new patients each year
- **1,000+** teammates in North and South Carolina, working across **25+** care locations
- The region's only adult blood and marrow transplant unit
- Phase 1 clinical trials unit provides access to the newest, most innovative therapies and cancer treatments



CANCER

Levine Cancer Institute: Regional-Based System



***Med/Heme Oncology staff**

Key Objectives

- Key drivers that make evidence-based care pathways essential to delivering standardized oncology care.
- Lessons learned from building and implementing a scalable technology platform to drive standardization in oncology services across a geographically disperse regional network.
- Best practices for integrating technology into the clinical workflow and EMR infrastructure.



Electronic Health Records & Evidence-Based Pathways

Electronic Health Records

- Electronic Health Records (EHRs) are the first step to transforming healthcare
- The benefits of electronic health records include better health care by improving all aspects of patient care, including:
 - Safety
 - Effectiveness
 - Patient-centeredness
 - Communication
 - Education
 - Timeliness
 - Efficiency, and
 - Equity.

Technology

- Technology: Science or knowledge put into practical use to solve problems or invent useful tools
- Enable efficiency
- Connection
- Apply information
- What is being developed to assist with EHR deficiencies?

Patient-Centric Care

- Medical team communication
- Clinical pathways
 - Updated and adaptable
- Clinical trials
- Patient services (counseling, tobacco cessation)
- Allow physicians to deliver better care?
 - Comprehensive
 - Up-to-date

The Need for a Scalable Pathways Platform

- **Support consistently world class oncology services** across 25 care locations
- Provide physicians and care teams with **evidence-based, standardized treatment and clinical trial options**
- Plan and implement appropriate treatment paths and provide **“source of truth” for constantly evolving treatment standards**
- Engage in shared decision making and **connect patients with resources, services** and supplemental programs easily
- Improve workflow efficiency by **removing administrative barriers**



Lessons Learned from Building EAPathways™

First Must Align People & Processes

1. Start with aligning people and processes

- Develop governance structure to create and revise pathways
- 64 expertly-validated evidence-based oncology care pathways
- Near real-time content updates that empower users with current medical knowledge

2. Always keep the patient in mind

- Comfort in knowing the best standard of care is provided
- Higher patient satisfaction from enabling patients to receive world class care close to home

How EAPathways™ Works

LCI has treatment pathways for every major cancer type

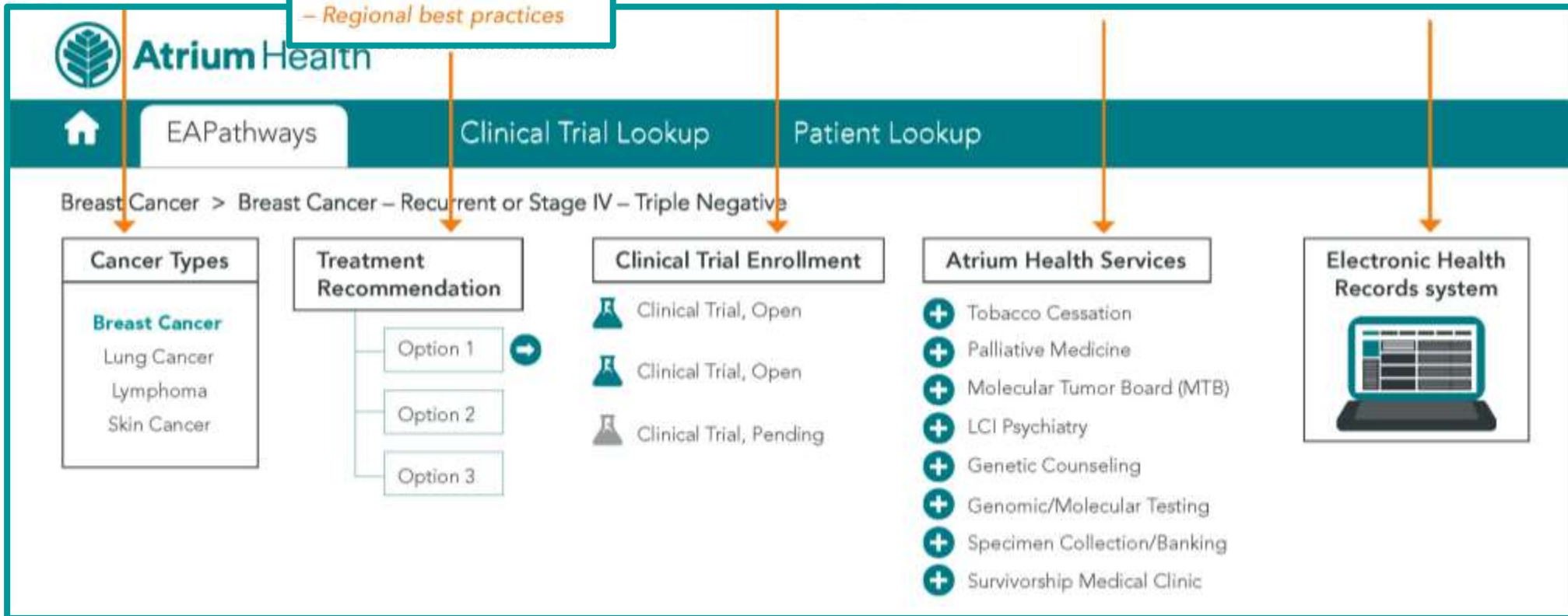
EAPathways incorporate the latest information on:

- Peer-reviewed research
- National clinical guidelines
- FDA drug approvals
- LCI's 400+ clinical trials
- Regional best practices

Physicians can use EAPathways to enroll patients in active trials

Medical teams can easily refer patients to other Atrium Health services

EAPathways are integrated into Atrium Health's entire Electronic Health Records system



Automate & Integrate to Fit Into Workflow

3. Focus on fitting into the clinical workflow

- Access to updated references, standardized content and other supporting documentation at the point of care
- Improved communication between practicing providers, various programs and coordinators
- Reporting to highlight clinical trial requests

4. Find ways to automate and integrate with EMR

- Built clinical trial lookup and “One Click” enrollment to auto-generate key documents needed to enroll patients in clinical trials (informed consent, educational material and fax cover sheets)
- Integration into Cerner via FHIR and into Microsoft Office suite (e.g. SharePoint)

Integration of EAPathways™ in 2016

Cerner Unveils HL7 FHIR-based API to Integrate EHR Data with 3rd-Party

by HITEC Staff 10/12/2015 2 Comments

Cerner, a global leader in health care technology, has unveiled a production version of HL7's FHIR standard that is being tested in the Cerner Millennium electronic health record (EHR).

"This next-generation standards framework enables health care organizations to utilize Cerner's open platform, which is designed to enable third-party delivery and improve interoperability compliant EHR systems," said Dr. D. provide clinicians access to 'pluggable' workflows that are designed to exp delivered."

Cerner Launches Open Developer Platform for Smart on FHIR Apps

by Jasmine Pennic 02/10/2016 0 Comments



To help accelerate an open community of healthcare innovation, EHR giant Cerner has launched the Cerner Open Developer Experience (*code*) to enhance collaboration with third-party and client developers on SMART® on FHIR® applications. *code* is a digital experience designed to meet market expectations of open communications, robust API documentation, provide clearly defined guidelines and access to tools that enable innovative app development.

- EAPathways™ registered as SMART App with Cerner
- Launches within Cerner environment
- FHIR calls retrieve current patient information
- Patient information prefilled throughout for enrollments or inquiries
- Integration with Active Directory and SharePoint/Office 365

Lessons Learned from Integration

- **Establish Governance**
 - Governance managed via internal HIT Committees
 - Instill process for maintaining single source of truth
- **“Perfect is the Enemy of Good”**
 - Launched via Table of Contents
 - Not ideal but was only option available at that time with Cerner
- **Integrating Technology into Provider Workflow**
 - Minimize clicks
 - Streamline navigation with pre-filled values



Results from EAPathways™ at Levine Cancer Institute

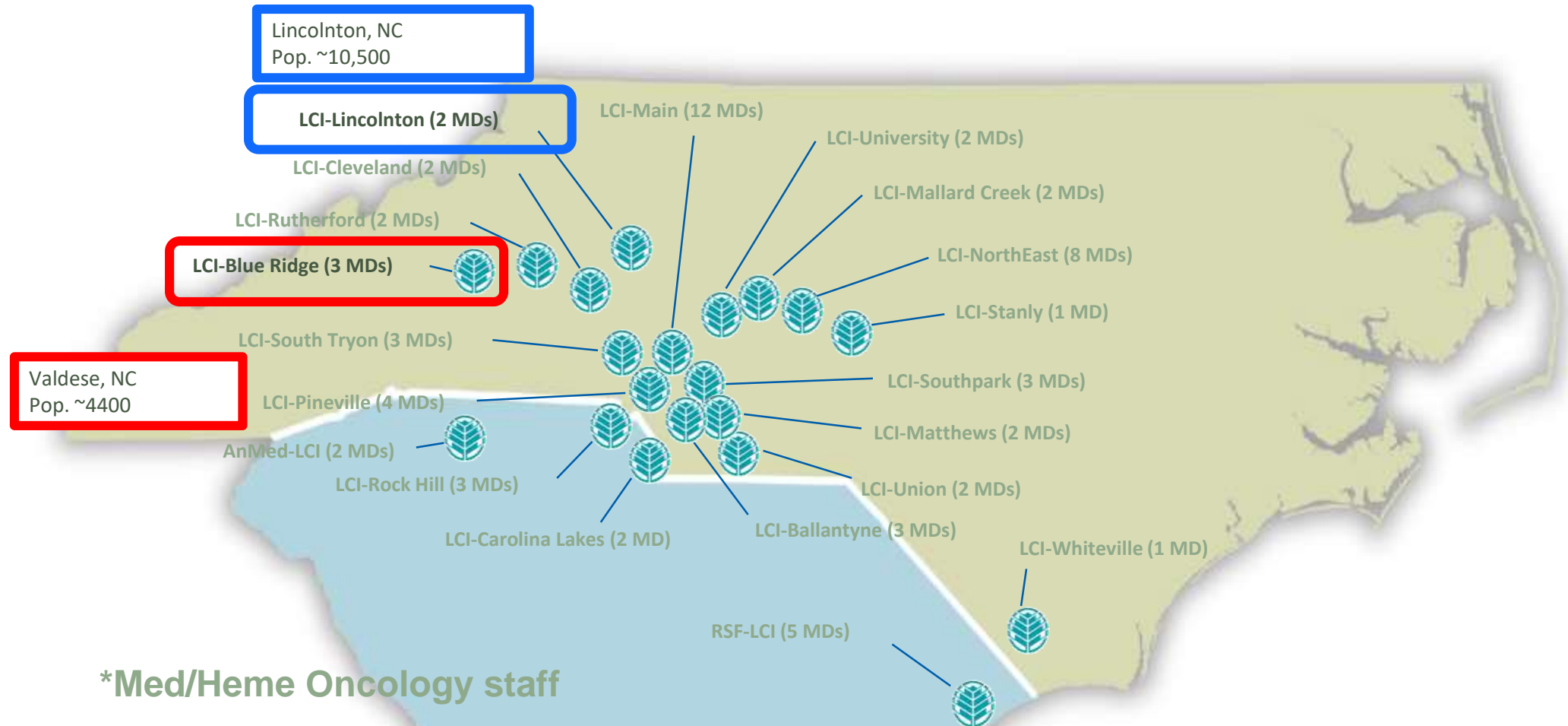
Case Study: Enrollment on TAPUR Study with EAPathways™

ASCO TAPUR™

Targeted Agent and Profiling Utilization Registry Study

- Pragmatic phase 2 study with FDA-approved, targeted agents
- 60-70% match rates
- Incorporates general and drug-specific eligibility criteria
- Adopted ASCO-Friends Eligibility Criteria

Result: TAPUR Enrollment Across LCI Regional Network

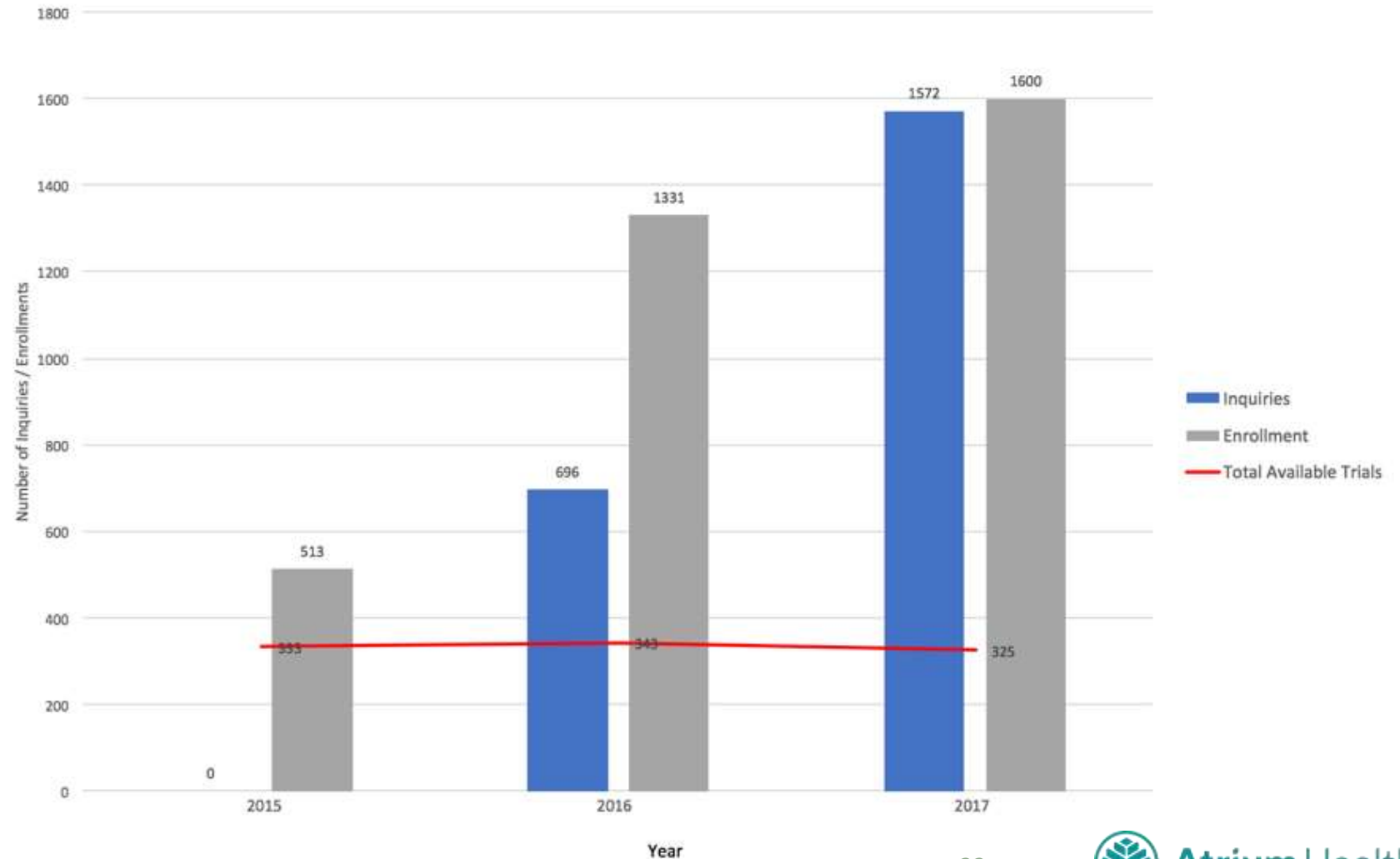


EAPathways™ Engagement

Since launching in May 2015, EAPathways™ has over:

- 200 unique users
- 30K engagements
- 7K treatment regimen enrollments and 2K regimen “opt-outs”

EAP Clinical Trial Inquiries Compared to Total Clinical Trial Enrollment



EAPathways™ “Customer” Feedback



Patients feel confident that they are getting the best care. In my experience at my practices, they feel comfortable that we are giving them the same treatment as they would receive in Charlotte.

This tool is wonderful and very valuable. **I rely on [EAPathways™] to remain “up-to-date”** for my daily work.

You can get to the EAPathways™ easily and print documents and information for your clinic and patients that were not so readily available before. The order sets that are attached are extremely helpful.

In a few clicks, you can gain access to all of the flow diagrams, chemo documents, and patient teaching information you need.

There is no question that the **EAPathways™ saves us time.**



Key Takeaways

- Evidence-based care pathways are essential to delivering standardized oncology care, especially in geographically disperse systems.
- Focus on people, processes and governance before implementing technology.
- Automation of routine administrative tasks and integration with existing infrastructure is key to long-term engagement. EMR integration isn't perfect right away – it's more important to get started and iterate.



HEALTH HOPE HEALING

FOR ALL

