It’s quite remarkable to think back to our humble beginnings ... when a group of ambitious, young clinicians, not being satisfied with the services available to the public, relentlessly lobbied for a new hospital to better meet the needs of the community.
This building is not a private enterprise ... It is a great, public compassion. Here is a living monument to the heart of the people.
Who We Are Today
MISSION:
TO IMPROVE HEALTH
ELEVATE HOPE
AND ADVANCE HEALING
- FOR ALL

VISION:
TO BE THE FIRST AND BEST CHOICE FOR CARE
In One Day at Atrium Health

- 37,800 Patient Encounters (1 every 2 seconds)
- 25,000 Physician Visits
- 3,900 ED Visits
- 700 Home Health Visits
- 475 New Primary Care Patients
- 14,000 Virtual Care Encounters
- 91 Babies Delivered
- 635 Surgeries

$5.6 Million Each day in uncompensated care and other benefits to our community.
Size & Scope

69,800+ Teammates  |  50 Hospitals
44 Urgent Care Locations  |  45 EDs  |  25 Cancer Care Locations
4,650+ Physicians  |  17,000+ Nurses

$11.1 Billion  
Net Operating Revenue

$2.9 Billion  
In last 5 years

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

*Includes Joint Venture and Affiliated Enterprises
FOR ALL
Local Problem: Utilizing Clinical Decision Support to Assist in Opioid Prescribing
THE UNITED STATES

We account for:

5% of the global population

&

75% of the global prescription opiate consumption
Staggering Statistics

63,600
Overdose deaths in 2016 making it the leading cause of death

170 MILLION
Opioid prescription increase from 1992 to 2012

504 BILLION
In economic costs

236 MILLION
Opioid prescriptions written in 2016

4 / 5
Heroin users started out using prescription painkillers

94%
In opioid addiction care chose to use heroin due to expense and access
Local Impact

OPIOIDS IN THE CAROLINAS

<table>
<thead>
<tr>
<th>Opioid prescriptions per 100 persons*</th>
<th>Increase in opioid-related deaths*</th>
</tr>
</thead>
<tbody>
<tr>
<td>72.0 North Carolina</td>
<td>18.3% North Carolina</td>
</tr>
<tr>
<td>79.3 South Carolina</td>
<td>6.8% South Carolina</td>
</tr>
<tr>
<td>58.7 U.S. average</td>
<td>5.1% U.S. average</td>
</tr>
</tbody>
</table>

* 2017 data
  + From 2016-2017
  Source: U.S. Centers for Disease Control and Prevention (CDC)
Integration of Clinical Need with Research and Quality

- **2014**: Original PRIMUM Study Funded by the CDC
- **2015**: PRIMUM Alert Launched in the EMR
- **2016**: CDC Guideline for Prescribing Opioids for Chronic Pain Released
  - 23,000 High-Risk Prescriptions Cancelled
- **2017**: Awarded CDC Grant for Operationalization of CDC Guideline
  - Controlled Substance Review Component Launched
- **2018**: Opioid Dashboard Launched
  - Awarded CDC R01: IMPROVE
  - Cerner made PRIMUM available
  - Over 43,000 High-Risk Prescriptions Cancelled and Counting
Atrium Health creates new system to cut down on opioid prescriptions

Fighting Opioid Abuse

Leading the Way to Solutions to the Opioid Epidemic: AOA Critical Issues

Former opioid addict reacts to new effort to prevent addiction

Hospitals harness EHRs, state databases to combat opioid epidemic

To Curb Opioid Use, Carolinas HealthCare System Using Alternative Treatments
Today in CEO Brent Shafer’s 2018 Cerner Health Conference (CHC) keynote, he had a special announcement: In the coming weeks, Cerner will introduce a new suite of advancements intended to help our clients win the battle against the opioid epidemic. The Opioid Toolkit, which includes a number of resources, will be available to all clients.
PRIMUM Platform

How PRIMUM Works

PRIMUM triggers an alert when one of the five risk factors is identified in a patient's health record:

1. **Early Refill**
   - Of current opioid/benzodiazepine prescription (with >50% remaining)

2. **Multiple Visits**
   - Two or more visits in past 30 days to facilities with onsite opioid treatment

3. **Multiple Prescriptions**
   - Three or more opioid/benzodiazepine prescriptions in past 30 days

4. **Past Overdose**
   - On opioids or benzodiazepines

5. **Positive Toxicology Screen**
   - For blood alcohol, cocaine, or marijuana

Prescribers choose to either continue or cancel the prescription and prescribers initiate appropriate follow-up care.

*Risk factors identified in CPG's 2018 Guidelines for Prescription Opioids for Chronic Pain*
Silent Phase

- Anticipated workflow impact was high
- Concern for alert fatigue
- Ran the rules in the background
- After 1 month – the impact was substantial
- Go/No-Go decision was made
- Response was far less than anticipated
Phase 1 - Alerting
Impact of Phase 1

In 6 months

3,860 opioid prescriptions

2,857 benzodiazepine prescriptions

prevented
Phase 2 – Alerting Advances

Provider receives alert when extended release opioid is prescribed without a 30-day history of previous prescription.
Phase 2 – Naloxone Co-Prescribing

Prescribe Naloxone Alert

National guidelines strongly suggest a prescription for Naloxone for the following:
- MME greater than or equal to 50
- Co-prescribing opioids and benzodiazepines
- History of overdose

Alert Action

- Do not want to add Naloxone
- Return to D/C Meds Rec to add Naloxone

OK
Phase 2 – Therapy > 90 Days

Opioid 90 Day Therapy Alert

CDC Guidelines define chronic pain as a patient on continuous opioids for > or = to 90 days. When opioid therapy is maintained for longer than 90 days, the following is considered best practice:

- Engage patient in a pain agreement
- Ensure follow-up in 1-4 weeks
- Perform random urine drug screen

If you are the primary prescriber of opioid therapy, click on "Launch Form" below to initiate a pain agreement. Click on "Continue" to review controlled substance details.

CHS Pain Agreement: 11-SEP-2017
Rapid Increase in Alerting

- Noted an increase in opioid alerting
- High rate of cancelation beyond expected
- Physicians ordered non-indicated opioids in order to trigger the alert for the purpose of *getting the information*
- Then cancelling the order
Opioid Widget – Workflow

- Daily Rx Morphine mg Equiv: 30
- 3 or More Rx In Last 30 Days: No
- Total Prescribed Morphine Mq Equiv (150)
- Coprescribed Opioid and Benzo: No
- Previous Overdose: No
- CHS Pain Agreement on Record: Completed 13
  NOV-2017
- Previous Positive Tox Screen: Yes

Order Data | Rx | Order Status | Disp Qty | Refill | Duration | NME Day | NME Total
---|---|---|---|---|---|---|---
02-27-2018 | oxyCODONE-acetaminophen 5 mg-325 mg Tablet | Active | 20 tablet | 0 | 5 day(s) | 30 | 150

Narcotic Administrations Last 30 Days: Total Administered Morphine mg Equiv (271)

- 03-02-2018 | oxyCODONE | 7.500 mg | 11.25
- 03-02-2018 | oxyCODONE | 7.500 mg | 11.25
- 03-02-2018 | oxyCODONE | 7.500 mg | 11.25
- 03-02-2018 | morphine | 2.000 mg | 2
- 03-01-2018 | oxyCODONE | 7.500 mg | 11.25
- 03-01-2018 | morphine | 2.000 mg | 2
- 03-01-2018 | oxyCODONE | 7.500 mg | 11.25

PDMP Database
NC PDMP Link
SC PDMP Link

Click to Mark as Reviewed
Opioid Widget – MME & Active Rx

Calculates total MME per day. Displays green if <50, yellow if 50-89, and red if ≥90

Displays all active prescriptions and 30 day history of onsite administrations
Opioid Widget – 3 or More & Benzo

Indicates whether patient has had 3 or more prescriptions in past 30 days. Displays green if no, red if yes.

Indicates if patient has active opioid and benzodiazepine prescriptions. Displays green if no, red if yes.
Opioid Widget – Pain Agreement

Displays total MME prescribed

Indicates whether patient has current pain agreement. If so, displays date. Includes hyperlink to launch pain agreement for all patients.
Opioid Widget – Pain Agreement

ChS Pain Agreement on Record: Completed 13: Launch Pain Agreement NOV-2017

Carolinias HealthCare System - Pain Agreement Form

I acknowledge that I have printed and reviewed the following Pain Agreement information with the patient:

Click the green check mark to sign and print the Pain Agreement Form. The form will automatically print to your designated printer. Please review with patient.
Opioid Widget – Connection to State PDMP

Indicates if patient has history of overdose or positive toxicology screen. Displays **green** if no, **red** if yes.

Hyperlinks to NC and SC - Prescription Drug Monitoring Program
Opioid Widget – Bypassing Alerts

**Daily Rx Morphine mg Equiv:** 30
**3 or More Rx In Last 30 Days:** No
**Total Prescribed Morphine Mg Equiv (150):**
**Coprescribed Opioid and Benzo:** No
**Previous Overdose:** No
**CHS Pain Agreement on Record:** Completed
**Previous Positive Tox Screen:** Yes

### Narcotic Administrations Last 30 Days

<table>
<thead>
<tr>
<th>Date</th>
<th>Medication</th>
<th>Dispensed</th>
<th>MME</th>
</tr>
</thead>
<tbody>
<tr>
<td>03-02-2018</td>
<td>oxyCODONE</td>
<td>7.500 mg</td>
<td>11.25</td>
</tr>
<tr>
<td>03-02-2018</td>
<td>oxyCODONE</td>
<td>7.500 mg</td>
<td>11.25</td>
</tr>
<tr>
<td>03-02-2018</td>
<td>oxyCODONE</td>
<td>7.500 mg</td>
<td>11.25</td>
</tr>
<tr>
<td>03-02-2018</td>
<td>morphine</td>
<td>2.000 mg</td>
<td>2</td>
</tr>
<tr>
<td>03-01-2018</td>
<td>oxyCODONE</td>
<td>7.500 mg</td>
<td>11.25</td>
</tr>
<tr>
<td>03-01-2018</td>
<td>morphine</td>
<td>2.000 mg</td>
<td>2</td>
</tr>
<tr>
<td>03-01-2018</td>
<td>oxyCODONE</td>
<td>7.500 mg</td>
<td>11.25</td>
</tr>
</tbody>
</table>

**Click to Mark as Reviewed**

**Bypass the alerting**
OUR CONTRIBUTION TO THE SOLUTION

In its first **THREE YEARS** of use

**PRIMUM**

- Identified risk factors in **1 in 4** patients
- This prevented nearly **43,000** high-risk prescriptions for controlled substances across Atrium Health
Provider Education Online

Pain Management

Opioid Prescribing

Continuing Medical Education
- AHEC - Breaking the Cycle: Opioid Epidemic
  - Locate these events by completing the Filter Events as follows:
    - Insert Opioid in "Search Events"
    - Insert Medicine in "Discipline"
    - Insert Online Module in "Event Type"
    - Select "Filter"
- CDC - Opioid Overdose Online Training
  - Free Continuing Education from Medscape and MMWR

Pain Management
- Pain Stewardship

CDC Chronic Pain Guidelines
- CDC Guidelines for Prescribing Opioids for Chronic Pain
Discharge Instructions

**How to Safely Use Opioids:**
- Take your drug only as ordered
- Do not share, give away, or sell your opioid. Do not use someone else's opioids
- Keep your opioid drug in a safe, locked place. Keep them away from children and others like guests, friends, loved ones
- Do not drink alcohol while using opioids
- Unless given by your doctor, do not take benzodiazepines (Xanax®, Valium®), muscle relaxants (Soma®, Flexeril®), Hypnotics (Ambien®, Lunesta®), or other opioids
- Do not drive or use heavy equipment while using opioids

**How to Get Rid of Opioids:**
- You should get rid of any pills you do not use. Your opioids were given to you for a certain problem. Once that problem is over it is against the law to use them for other reasons. Find your local drug "take-back" program or your pharmacy (drug store) mail-back program.
- Or use these steps:
  - Take drugs out of the pill bottle. Mix with cat litter or used coffee grounds
  - Put mixture into bag or a carton you can throw away. Make sure the bag can seal and the carton has a lid
  - Remove the label that has your name and date of birth. Remove the label that has the Rx number. If you can't remove the label, use a marker to cover it
  - Place sealed carton or bag and the empty pill bottle into trash
- For more info, visit: 
  https://apps.deadiversion.usdoj.gov/pubdispsearch/spring/main?execution=e2s1
Clinical Implications

- Increase the number of illegal drug narcotic users?
- Results in a higher rate of death?
- Prescribe more Narcan?
- Will the patients hate it?
Heroin Deaths


0 2 4 6 8 10 12 14 16
Naloxone Prescriptions
Patient Satisfaction

Atrium Health
Overall Rating of Care

Top Box %

- ED
- IP
- Med Practice
Benzodiazepine Prescriptions
NC Opioid Overdose Deaths Drop For First Time In 5 Years

After a surge in opioid-related deaths in recent years, North Carolina has seen a drop, Governor Roy Cooper said.

By Kimberly Johnson, Patch Staff
Aug 30, 2019 12:58 pm ET
Value Derived
Opioid Prescription Dashboard

Overview    Performance Trend    Medication MME Analysis

Total Prescriptions    Provider Duration

If you have questions regarding the data within the dashboard, please contact Michael Gabriel at Michael.Gabriel@atriumhealth.org or Steven Jarrett at Steven.Jarrett@atriumhealth.org

If you experience technical issues please contact the Atrium Helpdesk at 704-445-8161.
Dashboard
Dashboard Trends

Performance Trend

- Practice Specialty: All
- VP: All
- AVP: All
- Specialty Medical Director: All
- Assistant Medical Director: All
- Ordering Location: All

1,417,594 Total Orders
57,689 Incomplete Orders
41,805 MME > 60 Orders
220,821 MME > 50 Orders
187,912 Benzodiazepine Orders

- View Opioid Orders
- View Incomplete Orders
- View MME > 90 Orders
- View MME > 50 Orders
- View Benzodiazepine Orders

% of Benzodiazepine Orders - Monthly

% of Benzodiazepine Orders - Rolling 12 Months

September

Atrium Health
Integration of Clinical Need with Research and Quality

2014
- Original PRIMUM Study Funded by the CDC

2015
- PRIMUM Alert Launched in the EMR

2016
- CDC Guideline for Prescribing Opioids for Chronic Pain Released
- 23,000 High-Risk Prescriptions Cancelled

2017
- Awarded CDC Grant for Operationalization of CDC Guideline
- Controlled Substance Review Component Launched

2018
- Opioid Dashboard Launched
- Awarded CDC R01: IMPROVE
- Cerner made PRIMUM available
- Over 43,000 High-Risk Prescriptions Cancelled and Counting
National Outcome

- Direct connection to the NC PDMP
- Understanding administrative data delivery
- Determining best visual for ongoing alerting
  - Discern Alert
  - Smart Zone
- Partnership with our national vendors
Today in CEO Brent Shafer’s 2018 Cerner Health Conference (CHC) keynote, he had a special announcement: In the coming weeks, Cerner will introduce a new suite of advancements intended to help our clients win the battle against the opioid epidemic. The Opioid Toolkit, which includes a number of resources, will be available to all clients.
Cerner to release 'opioid toolkit'

Jessica Kim Cohen - Wednesday, October 10th, 2018 Print | Email

Cerner CEO and Chairman Brent Shafer revealed details of the EHR vendor's newest suite of solutions, dubbed the "opioid toolkit," during a keynote address Oct. 9 at the annual Cerner Health Conference in Kansas City, Mo.

The toolkit, which will be available to all Cerner clients in late 2018, aims to help providers identify patients at risk for substance use disorder. The toolkit will offer various tools within Cerner's clinical workflow, including analytics to assess prescribing patterns, clinical decision support to help with opioid management and a substance use disorder risk algorithm.

"The opioid epidemic is one of the few things that Washington seems to be in agreement in acting on," Mr. Shafer said during his speech, which marked his first keynote address as CEO and chairman of Cerner. "This is one big impact we can have this year. For about a decade now, we've been investing in work to curb the opioid issue that is impacting so many communities across the country and the world."
Value Questions

• What meaningful metrics to focus
• We had to pull the Rx data out to a data mart
  • Necessary details needed
  • Apply Morphine Milligram Equivalent (MME) calculation
• For us volume is an issue – 50,000 Rxs a month
• Connections to the medications needed
• Attaching to all providers (NNPs and PAs)
Technical Challenges

• Adherence to the standard Mpage code
• No MME calculations standard
  • Working through all the meds
• Multum update now has MME
Challenges

- Medication duration problematic
- Determining acute vs. chronic
- Connection to PDMP
- Standardizing pain agreement
Key Learnings

- Big build and lots of time required
- Power BI was important for information display
- Needed to connect and include: Geography, Specialty, Administrative line
Lessons Learned

• It is important that CDS alerts are tested and tuned sufficiently to minimize alert fatigue.

• The engagement of key stakeholders supported by an appropriate governance structure is key to the success.

• Data evaluation and alert development will require adequate resources

• Collaboration is paramount in tackling the opioid epidemic
Local problem: Atrium Health created a taskforce in 2017 to focus on the development of standard tools and resources to support the appropriate use of opioids. **Global Collaboration**

Design and Implementation: Atrium Health built an alerting system to address prescribing patterns of opioids by providing critical, objective information at the point of care. The CDS alerts were built and ran silently in the background in order to appreciate the impact prior to exposing the alert. The development of the opioid alert was dependent upon the alert requirements being consistently and accurately documented in the EHR in a specific location that could be searched in an automated way. The ultimate goal of this intervention was not to achieve a cancellation for all at-risk patients; rather, we aimed to provide information to prescribers for them to use to inform their clinical decision-making. **Iterative**

Healthcare IT: EHR, CDS, CPOE, Dashboards, analytics, development of PRIMUM platform – **Solution**

Backbone

Value derived: Improved information at the POC for appropriate opioid prescribing. **Without Negative Consequences**
Questions??