Hypertension
Collaborating to Control Blood Pressure: “Knowing Your Numbers” is Just the Beginning

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Director, High Blood Pressure Collaborative
Finger Lakes Health Systems

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Site Medical Director
Culver Medical Group
University of Rochester
Agenda

1. National-Level
   - Importance and Relevance

2. Community-Level Initiative
   - FLHSA/RBA Community High Blood Pressure Collaborative

3. Practice-Level Initiative
   - Culver Medical Group
National-Level
Importance and Relevance
Hypertension

Prevalence
• 66.9 million (30.4%) U.S. adults aged ≥ 18 years have hypertension

Diagnosis
• Under Recognized Disease
• Estimated 21% of people with HTN remain undiagnosed

Treatment
• Inadequate treatment
• Estimated 53.5% of those with HTN are uncontrolled
National Control Rate

Hypertension
66.9 million (30.4%)

Controlled
31.1 million (46.5%)

Uncontrolled
35.8 million (53.5%)

Health & Economic Impact

Mortality Impact

• 348,000 deaths per year include hypertensions as a primary or contributing cause
• If all hypertensive patients were treated to goal, 46,000 deaths might be averted each year

Financial Impact

• $93.5 Billion per year in direct and indirect costs (The American Heart Association)
Effective Treatments

Generic Medications $4/month
• Ace-Inhibitors
• Thiazides
• Beta-Blockers
• Aldosterone Antagonists
• Direct vasodilators
• Alpha-1 Blockers
• Alpha-2 Agonists

Other generics
• Calcium Channel Blockers
• Angiotensin Receptor Blockers
Opportunity

<table>
<thead>
<tr>
<th>Uncontrolled Hypertensives</th>
<th>+</th>
<th>Mortality</th>
</tr>
</thead>
<tbody>
<tr>
<td>35.8 million people</td>
<td></td>
<td>46,000 Preventable deaths</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Costs</th>
<th>+</th>
<th>Effective and Inexpensive Treatments</th>
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</thead>
<tbody>
<tr>
<td>$93.5 billion / year</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Opportunity

Uncontrolled Hypertensives
35.8 million people

Costs
$93.5 billion / year

Mortality
46,000 Preventable deaths

Effective and Inexpensive Treatments

Significant Opportunity
Community-Level
Finger Lakes Health Systems Agency
Rochester Business Alliance
High Blood Pressure Collaborative
Objectives

• Articulate the value of a multifaceted project to improve chronic disease outcomes.

• Demonstrate the inter-relationship of community engagement and primary care practice involvement in the project.

• Outline the community engagement component of the project.

• Describe the creation of a Monroe County community wide HBP registry and the primary care intervention.
Improving Health Outcomes For High Blood Pressure

Community Orgs
Employers

Resources, Policies
Wellness Promotion
Consumer Outreach
And Coaching

Health Systems/ Plans
Organization of Health Care

Self-Management Support
Delivery System Design
Decision Support
Clinical Information Systems

I Informed Activated Patients/Families

Productive Interactions

Quality and Value Outcomes; ROI; Engaged Satisfied Participants

Prepared, Proactive Practice Teams

Wagner, E, Group Health
Community Interventions

• Attitude Survey
• Ambassador Network
• Health Screenings
• Pharmacy
• Faith communities/CBOs
• Kiosks
• Barbershops
  /Salons
Worksite Interventions

• Peer led self help curriculum
• Based on self-determination theory, promoting:
  – Competence
  – Autonomy
  – Relatedness
to increase internal motivation to sustain choices
• Year 1 participants: AIDS Care of Rochester, Bausch and Lomb, Paychex.
• Year 2 participants: Community Place, LiDestri Foods, Roberts Wesleyan College
• Million Hearts
Blood Pressure Advocates

• Community health worker model
• Advocates placed in primary care practices in all three health systems
• Practices geographically serve the most vulnerable
• Advocates possess deep knowledge of the neighborhoods and available community services
Clinical Interventions

• Patient Registries
• Baseline Data
• Primary Care Quality Improvement
High Blood Pressure Registry Participation by Provider Type
2010 - 2012
Participating Practices

- Unity Health System
- Rochester General Health System
- URMC Primary Care Network
- Highland Family Medicine
- UR IM Resident Practice
- RGH Twig Practice
- Lifetime Healthcare
- Jordan/Westside

- GRIPA
- Evergreen Family Medicine
- Jefferson Family Medicine
- Honeoye Valley Family Medicine
- Mahoney, Horohoe and Garneau Internal Medicine
### High Blood Pressure Registry
**Monroe County Residents 18 & Older**

<table>
<thead>
<tr>
<th>Registry Date</th>
<th>Monroe Co Population 18 &amp; Older</th>
<th>Estimate of HBP Population (30%)</th>
<th>Patients in HBP Registry with BP Info</th>
<th>Control Rate</th>
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</thead>
<tbody>
<tr>
<td>December 2010</td>
<td>578,200</td>
<td>173,460</td>
<td>59,400</td>
<td>62.7%</td>
</tr>
<tr>
<td>December 2011</td>
<td>582,000</td>
<td>174,600</td>
<td>88,900</td>
<td>64.4%</td>
</tr>
<tr>
<td>December 2012</td>
<td>585,900</td>
<td>175,770</td>
<td>104,300</td>
<td>66.7%</td>
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</table>

Control Rate is age-sex adjusted % of established patients with BP read in last 13 months with BP <140/90
% of HBP Patients with BP Controlled
December 2010, December 2011, and December 2012 Registries

Note: Practices are in order by control rate for each registry and will not necessarily line up among the three registries. Rates are age-sex adjusted to the June 2011 Registry age-sex distribution.
Components of BP Quality Improvement

• Standardizing accuracy of office BP measurement
• Understanding the important role clinical inertia plays as a barrier to higher BP control rates
• Improving practice strategies to uncover patient specific barriers to improved BP control
• Facilitating the contribution of practice staff in achieving quality improvement goals
• Accepting that the physician is NOT the solution to every practice improvement plan
Summary

• It takes a community to improve chronic disease management
• Many partners are key contributors to that effort
• Rochester is becoming a leader in community based collaborative implementation of project to improve the quality and value of care to ALL
• Linkages are being built between the practice community, employers, faith community and community based organizations to maximize improvement
Practice-Level
Culver Medical Group
University of Rochester
Practice Setting

• Culver Medical Group
  – 7 Attending Physicians
  – 28 Resident Physicians
  – 1 Social Worker

• Setting
  – Urban
  – Federally designated underserved area
  – Predominantly Medicaid and Uninsured
Project Overview

Phase 1 – Educational Phase

Phase 2 – Pharmacy Phase

Phase 3 – Nurse Managed Phase
Educational Phase

Phase 1 – Educational Phase

• Teaching
  – Guidelines
• Team Building
• Standardization of office protocols
Pharmacy Phase

Phase 2 – Pharmacy Phase

• Consultations with patients
  – Medication Adherence
  – Side-effects
  – Assistance with obtaining medications

• Outreach to non-adherent patients

• Consultations with physicians
Nurse Managed Phase

Phase 3 – Nurse Managed Phase

A. Patient-Level Management
   – Direct patient visits. Titrate medications.
   – Phone calls to follow-up with patient

B. Population-Level Management
   – Outreach to uncontrolled patients without appts

C. Provider-Level Management
   – Provider reports
   – Transparent results
   – Working with individual providers and teams
Nurse Managed Phase

Hypertension
Nurse

Direct Patient Care
- Follow-up appts
- Titrate medications
- Phone management
Nurse Managed Phase

Hypertension Nurse

Direct Patient Care
- Follow-up appts
- Titrate medications
- Phone management

200+ Patients Contacts

100-125 Actively Managed Pts
Nurse Managed Phase

Direct Patient Care
- Follow-up appts
- Titrate medications
- Phone management

Hypertension Nurse

- Attending MD 1
- Attending MD 2
- Attending MD 7
- Resident MD 1
- Resident MD 2
- Resident MD 28

200+ Patients Contacts
100-125 Actively Managed Pts
Nurse Managed Phase

Hypertension Nurse

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Resident MD 1
Resident MD 2
Resident MD 28

1,500+ Patients
Nurse Managed Phase

Hypertension Nurse

- Direct Patient Care
  - Follow-up appts
  - Titrate medications
  - Phone management

- Attending MD 1
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- Attending MD 7
- Resident MD 1
- Resident MD 2
- Resident MD 28

- 200+ Patients Contacts
- 100-125 Actively Managed Pts
- 1,500+ Patients
Nurse Managed Phase
- Managing Physicians Teams -

**Key Elements**

- Working with individual providers
  1. Credibility
  2. Sense of team
  3. Efficiency
  4. Proximity

- Transparency, Accountability
  1. Provider Reports
## Hypertension Report

**Physician:** Provider

**Culver HTN Control Rate:** 67.5%

**Physician Control Rate:** 61.9%

### Patients Not at Goal

<table>
<thead>
<tr>
<th>Patient Name</th>
<th>MRN</th>
<th>SBP</th>
<th>DBP</th>
<th>Last Appt</th>
<th>Next Appt</th>
<th>Patient Called?</th>
<th>Follow-up App</th>
<th>Nurse f/u</th>
<th>Comments</th>
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<td>☐ RN call ☐ RN Appt ☐ None</td>
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<tr>
<td>Last, First</td>
<td>*****</td>
<td>151</td>
<td>76</td>
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<td>6/1/2012</td>
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<td></td>
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<td>92</td>
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<td>5/19/2012</td>
<td>☐ Yes ☐ Not required ☐ Message left ☐ Unable Contact</td>
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<td>☐ RN call ☐ RN Appt ☐ None</td>
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Results

Hypertension Performance Improvement Project

Culver Medical Group
## Prevalence

<table>
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<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Percent</td>
<td>26.7%</td>
<td>28.1%</td>
<td>27.7%</td>
<td>27.2%</td>
<td>27.3%</td>
</tr>
<tr>
<td>Hypertensive</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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</table>
# Accurate Diagnosis

<table>
<thead>
<tr>
<th>All Hypertensive Patients</th>
<th>Baseline (N= 1388)</th>
<th>8/22/2011 (N=1249)</th>
<th>11/15/2011 (N=1204)</th>
<th>2/21/2012 (N=1229)</th>
</tr>
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<tbody>
<tr>
<td>Diagnosed HTN*</td>
<td>93.44%</td>
<td>97.0%</td>
<td>97.2%</td>
<td>97.6%</td>
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<tr>
<td>Undiagnosed HTN</td>
<td>6.56%</td>
<td>3.0%</td>
<td>2.8%</td>
<td>2.4%</td>
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Control Rates

Percent Controlled to Goal

<table>
<thead>
<tr>
<th>Month</th>
<th>Data</th>
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<tbody>
<tr>
<td>Aug-10</td>
<td>52%</td>
</tr>
<tr>
<td>Apr-11</td>
<td>51%</td>
</tr>
<tr>
<td>Aug-11</td>
<td>55%</td>
</tr>
<tr>
<td>Nov-11</td>
<td>62%</td>
</tr>
<tr>
<td>Feb-12</td>
<td>63%</td>
</tr>
<tr>
<td>Jun-12</td>
<td>67%</td>
</tr>
<tr>
<td>Jan-13</td>
<td>66%</td>
</tr>
<tr>
<td>Apr-13</td>
<td>65%</td>
</tr>
</tbody>
</table>

Education Phase
Pharmacy Phase
Nursing Phase
Maintenance Phase
Percent of Hypertensive Patients Controlled to JNC VII Goal

- Summer 2010
- Spring 2011
- Summer 2011
- Fall 2011
- Winter 2012

Percent of Patients Controlled

- Green
- Yellow
- Purple
- Red
- Blue

Teams
Key Lessons Learned
Key Elements

1. Adequate Support

2. Physician “buy-in”

3. Transparency / Feedback (HTN Reports)

Key Elements

Adequate Support is Required

- Care management
- Nursing
- Pharmacy
- Clerical
Key Elements

Physician “buy-in” is Essential

- Patient focused
- Peer implemented
- Physician input used in program development/adaptation
Key Elements

Transparency / Feedback (HTN Reports)

– Timely, clinically useful information
– Aimed at improving patient care
– Structured to be helpful, not punitive
– Peer developed, peer delivered
– Provided in context of team
Key Elements

Population, Physician, and Patient Management

– Population-Management
  • Managing lists of patients
  • Outreach to patients
Key Elements

Population, Physician, and Patient Management

– Population-Management
  • Managing lists of patients
  • Outreach to patients

– Physician/Provider-Management
  • Leveraging multiple providers
  • Promoting “Best-Practice”
Key Elements

Population, Physician, and Patient Management

– Population-Management
  • Managing lists of patients
  • Outreach to patients

– Physician/Provider-Management
  • Leveraging multiple providers
  • Promoting “Best-Practice”

– Patient-Management
  • Individual appts, counseling
Thank you