Non-physician Hypertension Pathways

Graham Scott, MD
Tiffany Chuang, PharmD
Alec Does, MD
Raymond Lane, MD

NHANES 2006: 31.3% prevalence in adults
KP So Cal: 634,705 patients with HTN
84.3% of NHANES
113,409 patients with undiagnosed HTN

KP So Cal control rate = 79%

NNT CVA = 63
NNT MI = 86
NNT CVA or MI = 36

If sustained for 5 years
Physician visits for HTN in USA in 2006
44,879 million

Direct and Indirect cost of HTN in USA in 2009
$73.4 Billion

Discussion

- Tiffany Chuang, Pharm D
  - MA BP check
- Alec Does, MD
  - Physician Collaboration with MA BP Check
- Raymond Lane, MD
  - Outreach using MA BP Check
- Graham Scott, MD
  - In-reach using MA BP Check

Hypertension
MA BP Program
West Los Angeles Model of Care

Tiffany Chuang, Pharm.D.
Jeffrey Brettler, M.D.
Sharisse Stricat, M.D.
Agenda

- Description
- Implementation
- Process
- Accountability
- Program Progression
- Outcomes
- Conclusions

Description

- **MA BP Program Definition**
  - Patient seen by a Primary Care Physician’s MA/LVN for a BP check
- **Cadence**
  - An appointment is created in Cadence for this BP check visit under the MA/LVN name
  - No Co-Pay for These Visits Since it is a “Nurse Visit”
- **Physician**
  - Patient only sees a physician if systolic BP ≥ 180 OR diastolic BP ≥ 110

Implementation

- **Staffing for Launch (2mos):**
  - 0.3 FTE Project Manager
  - 0.1 FTE Analyst
- **Support**
  - Physician Leaders
  - Nurse Managers
- **Primary Care Staff Training**
  - MA BP Competency
  - Team-Based Training with Nurse Support & Primary Care Physicians (PCP) with Leadership Present
  - Electronic Medical Record Based Roll-Out
**Process**

- Patient Identification
  - PCP refers patient for appointment
  - MA calls patient during “downtime” to book appointment from Outreach List or HTN Routing

- Appointment Scheduled
  - Appointment booked under the MA/LVN name
  - Patient given actual date & time to come in at NO CHARGE

- Actual Visit
  - Information is documented in Electronic Med Record
  - Chart routed to the PCP for Assessment

**Follow-Up**

- If systolic BP ≥180 or diastolic BP ≥110, then patient booked for a same day appointment with a provider
- Each PCP given 20min/week to address all these pressures
  - PCP may address BPs immediately OR
  - PCP may wait until their weekly 20min chart review slot & call patient regarding any adjustments
- If BP elevated, patient to be re-scheduled for follow-up visit

**Accountability**

- Primary Care Cadence Scorecards
  - Frequency: Monthly
  - Broken down by Team
    - (Manager/MD Leader)
  - Data Filters to MA/PCT Level
  - Quarterly R&R
  - Patients Seen: Average 1,400/mo
  - 2009 High: 1,800/mo
Program Progression

- Pilot Initially Referral by PCP Only
- Outreach List for MA
- Primary Care Roll-Out (70 PCPs)
- HTN Routing by Specialty Departments

- MA BP Aug’09 Referrals
  - Where were patients referred from for the MA BP Program? N = 1,811
  - KPNS Message (580)
  - MA Outreach (426)
  - PCP Referral (492)
  - Patient Walk-In (191)
  - Specialty Referral (122)

- MA BP Aug’09 Outcomes
  - What was the blood pressure at the MA BP appointment?
  - Controlled
  - Stage 1
  - Stage 2

N = 1,811

67%
8%
25%
What were the BP control rates 4-8 weeks after the MA BP Appointment?

Controlled in August

- 25%
- 8%
- 67%

September BPs

Controlled
No BP Taken Sept
Stage 1 or 2

Stage 1 or 2 in August

- 40%
- 34%
- 26%

September BPs

Controlled
No BP Taken Sept
Stage 1 or 2

Summary of blood pressure control rates 4-8 weeks after the MA BP appointment:

- 27%
- 73%

In Control
Out of Control
Repeat BP Data

- ANA
- ANW
- KERN
- SGV
- BF
- FON
- SB
- PC
- RV
- SD
- LA
- WLA
- WH
- REG

CSG Outcomes

- CSG Bi-Monthly Report Card
  - Jan '07: Launch of Repeat BP & MA BP Programs
  - WLA Improved by 10% in 1 year

POINT Outcomes

- HTN MA BP Program vs HTN Control Rates
  - HTN Control Improved 10%
  - Volume Seen in MA BP Program: 1,800
Conclusions

- SCAL: launched in most areas by 2008

Benefits
- Personalized Care
- No Charge for Patient Visit
- Timely BP
- Maintenance of Physician Access
- Improvement in Clinical Outcomes

Keys for Success
- Support of Chiefs/AMGA
- Accountability

Acknowledgements

- MA BP Program Launch Team
  - Jeffrey Brettler, Chief of Internal Medicine & AAMD
  - Sharisse Stricat, Hypertension Champion
  - George Mallouk, Assistant Chief Internal Medicine
  - Stephanie Williams, MA Internal Medicine
  - John Ghazarossian, Analyst

- Leadership Support
  - Bruce Wasserman, Chief of Family Practice & AAMD
  - Joan Crawford, Assistant Medical Group Administrator

Orange County Hypertension Program: Physician Collaboration with MA BP Check

Alec Does, MD
Overview

- Access improvement
- Physician support
- Workflow friendly
- Follow-up enhancement
- Outcomes

Physician Support

- CMI HTN treatment guidelines used to facilitate medication advancement
- Local HTN Champions in-service and mentor providers and staff
- Physician curbsides are rarely needed

CMI HTN Treatment Algorithm

ACE-Inhibitor/Thiazide Diuretic

- Lisinopril/HCTZ
- 20/12.5 mg X 1 daily
- 25/15 mg X 1 daily
- 30/17.5 mg X 1 daily

If ACEI intolerant or pregnancy potential

Calcium Channel Blocker

- Add amlodipine 5 mg X ½ daily
- 5 mg X 1 daily
- 10 mg daily

Beta-Blocker OR Spironolactone

- Add atenolol 25 mg daily
- 50 mg daily
- (Keep heart rate > 55)

OR

- If on thiazide AND eGFR ≥ 60 ml/min AND K ≤ 4.5
  Add spironolactone 12.5 mg daily
  25 mg daily

Thiazide Diuretic

- Chlorothiazide 50 mg OR HCTZ 50 mg OR 10 mg

If not in control

- Add Thiazide Diuretic + ACE-Inhibitor

If not in control

- Add Calcium Channel Blocker

- Add Beta-Blockers OR Spironolactone

ACE-Inhibitor

Pregnancy Potential: Avoid ACE-Inhibitors
Physician Support

View MABP Check encounter
↓
If BP <129/79
↓
Done
~80% require no action
↓
View MABP Check encounter
↓
If BP 130-139/80-89
↓
Review Problem List (if no CKD, DM)
↓
Done

Physician Support

View MA BP encounter
↓
If BP ≥140-179/≥90-109
↓
Review chart
↓
Open New Encounter
↓
Advance medication
↓
Document action
↓
Route to MA
↓
Follow up MA BP check 1-4 weeks
If BP ≥ 180/≥ 110 during MA BP check visit
↓
PCP or designee immediately notified and sees member same day
↓
Follow up MA BP check next day

Not common
Workflow Friendly

- 80% of MA BP check follow-ups are controlled—no action required
- Full-time clinic physicians average 2 chart reviews/day
- ~20% or 2 charts/week require action
- Offers workflow flexibility
  - May respond in real-time or within 3 days with medication advancement

Follow-up Enhancement

- Promote Scheduled MA BP follow up checks and use of After Visit Summary
- Advocate and acknowledge BP check competency with staff
- Document medication intolerance or allergy
- Protocol encourages provider to act

Outcomes

<table>
<thead>
<tr>
<th>OC HTN PERFORMANCE</th>
<th>GOAL/Benchmark</th>
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<tbody>
<tr>
<td>2006</td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td></td>
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<td>2008</td>
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<td>2013</td>
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<tr>
<td>2014</td>
<td></td>
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<tr>
<td>2015</td>
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SAN DIEGO HTN OUTREACH PILOT

Raymond Lane, MD

San Diego Pilot: Evaluation Design

- 24,000 Uncontrolled HTN
  - Prospective, Phased Randomization Design
  - Group 1 (12,000) – Intervention group
    - Call #1 sent 3/18/09
    - Call #2 sent 4/1/09
  - Group 2 (12,000) – Control group
    - No calls sent

IVR Interactive Voice Response Technology

- RingClear costs 6 cents per call
- Batch size can be more than 400,000 calls
- Unsecured calls - respects patient confidentiality when receiver of designated home or cell phone message is unknown
- Has patient response options
- Messages can be prepared and delivered within hours
Hello. This is a message from Kaiser Permanente for [MEMBER NAME].

During these tough times, it’s important to remember to take care of your health. We would like to invite you to stop by your doctor’s office for a blood pressure check. Staff will be available at your doctor's office Monday through Friday from 9 am to 12 noon and from 1:30 pm to 4 pm. You don’t need an appointment; you can just stop by. If you already have an upcoming appointment with us, you can have your blood pressure checked then. And remember not to cancel any future appointments you have with us, and keep following any plans you have with your doctor.

If you have questions for us about checking your blood pressure, you can call 619-589-3428. We look forward to seeing you soon.

To listen to this message again, please press 9.

San Diego Pilot: Message Listen Rate

- Intervention Group – 94.7% heard rate
  - 60.0% heard live on phone
  - 15% listened to entire message and/or repeated it
  - 34.8% heard on voicemail
- 5.2% duplicates / busy / wrong # / bad device

San Diego Pilot: Baseline Comparison

<table>
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<tr>
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<th>Control</th>
<th>Intervention</th>
<th>P value</th>
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<tbody>
<tr>
<td>Total</td>
<td>12,900</td>
<td>12,000</td>
<td>-</td>
</tr>
<tr>
<td>Primary Care Visit Rate</td>
<td>12,000</td>
<td>6,456</td>
<td>&lt; 0.01</td>
</tr>
<tr>
<td>(12m 3/18/08 – 3/17/09)</td>
<td>(51.4%)</td>
<td>(53.8%)</td>
<td></td>
</tr>
<tr>
<td>Mean Baseline SBP</td>
<td>146.8</td>
<td>147.6</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Mean Baseline DBP</td>
<td>83.9</td>
<td>82.9</td>
<td>&lt;0.01</td>
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</table>
San Diego Pilot: Primary Care Visit Rates (all types) Pre and Post Intervention

San Diego Pilot: % Pts with Resulted BP (Cumulative Percentage from All Departments)

San Diego Pilot: BP Outcome Comparison

<table>
<thead>
<tr>
<th></th>
<th>Control</th>
<th>Intervention</th>
<th>P-value</th>
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<tbody>
<tr>
<td>Total Pts (N)</td>
<td>12,000</td>
<td>12,000</td>
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<tr>
<td>Baseline Mean SBP</td>
<td>146.8</td>
<td>147.6</td>
<td>&lt;0.01</td>
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<tr>
<td>Baseline Mean DBP</td>
<td>81.9</td>
<td>82.9</td>
<td>&lt;0.01</td>
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<tr>
<td>Final Mean SBP</td>
<td>130.2</td>
<td>139.3</td>
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<tr>
<td>Final Mean DBP</td>
<td>80.8</td>
<td>78.6</td>
<td>&lt;0.01</td>
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Conclusions

- Ring Clear Outreach: Good Response
- **Operational Impact**
  - 4% (480 pts or about 2 per MD)/wk increase in Primary Care visit rate (MD/MA/RN/LVN) over baseline
  - 5 – 6 wk effect noted
  - 480 pts/wk x 6 wks = 2,880 pts (about 13 per MD over 6 wks) over baseline
- **Clinical Outcome**
  - Better ending BP control rates in Intervention Cohort despite worse starting point

2009 SCAL Volumes for Rollout (Aug-Sept 2009)

<table>
<thead>
<tr>
<th>Area</th>
<th>Total FTE</th>
<th>RN Ph - Last BP visit</th>
<th>RN Ph - Last BP visit</th>
<th>Total (RN + RNPh)</th>
<th>Volume per FTE (Total 7)</th>
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<tbody>
<tr>
<td>RNA-Sept</td>
<td>9,965</td>
<td>1,892</td>
<td>10,857</td>
<td>3,830</td>
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<tr>
<td>ICU-Sept</td>
<td>2,428</td>
<td>405</td>
<td>2,834</td>
<td>971</td>
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<tr>
<td>ICU-Mar</td>
<td>2,030</td>
<td>425</td>
<td>2,455</td>
<td>837</td>
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<tr>
<td>ICU-Nov</td>
<td>7,121</td>
<td>1,859</td>
<td>9,980</td>
<td>3,340</td>
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<tr>
<td>PS-Nov</td>
<td>5,474</td>
<td>1,295</td>
<td>6,769</td>
<td>2,241</td>
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<tr>
<td>ICU-Oct</td>
<td>9,430</td>
<td>2,825</td>
<td>12,255</td>
<td>4,167</td>
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<tr>
<td>PS-Oct</td>
<td>5,660</td>
<td>1,527</td>
<td>7,187</td>
<td>2,480</td>
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<tr>
<td>PS-Mar</td>
<td>5,378</td>
<td>1,150</td>
<td>6,528</td>
<td>2,188</td>
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<tr>
<td>ICU-Mar</td>
<td>6,814</td>
<td>1,385</td>
<td>8,199</td>
<td>2,733</td>
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<tr>
<td>ICU-Sep</td>
<td>17,108</td>
<td>4,305</td>
<td>21,413</td>
<td>7,181</td>
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<tr>
<td>ICU-Oct</td>
<td>7,546</td>
<td>1,875</td>
<td>9,421</td>
<td>3,140</td>
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<td>PS-Dec</td>
<td>6,490</td>
<td>1,077</td>
<td>7,567</td>
<td>2,212</td>
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<tr>
<td>PS-Jan</td>
<td>5,903</td>
<td>1,299</td>
<td>7,192</td>
<td>2,387</td>
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<td>SCAL</td>
<td>90,353</td>
<td>21,060</td>
<td>111,413</td>
<td>37,104</td>
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</tbody>
</table>

In reach for Hypertension Riverside

Graham Scott, MD
Overview

113,409 undiagnosed HTN in KP Southern California

1 Specialty clinic visit for each primary care

Screening for uncontrolled and undiagnosed HTN

Process

- Competent MA’s checking BP in every specialty
- Simple way to repatriate patients with elevated BP back to PCP
- Efficient management by PCP

Specialty clinic visit
Maintenance

- Regular meetings with specialty MA’s
  - Competency
  - NNT
- Regular meetings with specialty physicians

Monitoring blood pressure is “Part of our Culture”

Conclusion

- MA BP Check
  - Well trained MA’s
  - Primary Care
  - Specialist clinics
  - Collaboration with Primary care provider

Conclusion

- Screening for undiagnosed Hypertension
- Expedited treatment of elevated BP
- Reliable follow up
- Scalable for outreach
- Facilitates in-reach
- Minimal impact on physician access
- Maximal convenience for patients
Questions?