Undiagnosed Hypertensives: Hiding in Plain Sight

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Learning Objectives

Upon completion of this training, you will be able to:

- Better understand the problem of undiagnosed hypertensives
- Explain why hypertension prevalence is important to explore in clinical settings and how to calculate it
- Describe what other health care systems have done to address the issue
- Discuss what state health departments can do
Hypertension Prevalence

- 29% prevalence among US adults (2011-2012)
  - 33% among adults 40-59
  - 65% among adults 60+
  - 42% among non-Hispanic blacks

- ~67M adults have hypertension


“Unaware” – A Closer Look

- 79.5% have health insurance
- 81.9% report having a usual source of care
- 59.6% have received care two or more times in the past year
  - 17.0% received care once in the last year

NQF 0018 – Controlling High Blood Pressure

- The percentage of members 18-85 years of age who had a diagnosis of hypertension (HTN) and whose blood pressure (BP) was adequately controlled (<140/90) during the measurement year.

△ Diagnosis = ICD-9-CM 401
Why is finding undiagnosed hypertensives important?

- 100 adults with ICD-9-CM 401
- 70 of those adults with BP <140/90
  → 70% BP control

What if a practice has 50 patients with multiple BP readings ≥140/90 but do not have the official 401 diagnosis?

- 100 + 50 adults with possible hypertension
- 70 with BP <140/90
  → 47% BP control
WHAT OTHERS HAVE DONE
NorthShore University HealthSystem

Undiagnosed HTN Project

- Used their EHR to eliminate undiagnosed hypertension in their primary care network
- Embedded 5 algorithms into their EHR to identify patients at risk for undiagnosed HTN
- Used an Automated Office Blood Pressure (AOBP) machine to verify HTN status
- Since January 2011 – identified, tested, and diagnosed more than 500 patients with previously undiagnosed HTN

Initial Algorithms

1. Patients whose 3 most recent encounters yielded a mean SBP $\geq 140$ mm Hg or a mean DBP $\geq 90$ mm Hg and reading at the most recent encounter was SBP $\geq 140$ or DBP $\geq 90$ mm Hg

2. Patients whose 3 most recent encounters yielded a mean SBP $\geq 140$ mm Hg or a mean DBP $\geq 90$ mm Hg and reading at the most recent encounter was not SBP $\geq 140$ or DBP $\geq 90$ mm Hg

3. Patients satisfying algorithm 1 or having a reading at the most recent encounter of SBP $\geq 180$ or DBP $\geq 100$ mm Hg

4. Patients who had 3 encounters with a SBP $\geq 140$ or DBP $\geq 90$ mm Hg within 12 months before their most recent encounter

5. Patients satisfying algorithm 4 or having an encounter with a SBP $\geq 180$ or a DBP $\geq 100$ mm Hg within 12 months before their most recent encounter
Geisinger Health

- Used data from 400K+ adult outpatients to ID patients with HTN
  1. The problem list
  2. ICD-9-CM diagnosis
  3. Antihypertensive medications prescribed
  4. Two elevated BP values based on JNC-7 criteria
- Found 106K patients with one or more criteria
- 30% based on #4 (i.e. undiagnosed)

WHAT STATES CAN DO
1. Raise Clinician Awareness

- Ask what a provider/practice/system’s hypertension prevalence is among their adults
  - \( \left( \frac{\text{# of adults with ICD-9-CM 401 diagnosis}}{\text{# of adults}} \right) \times 100 \)
  - If their value is much different than the US prevalence of 29% (e.g. +/- 5%), they are likely missing undiagnosed patients
    - Particularly true where disparate populations are served
2. Encourage Data Exploration

- Encourage clinicians to explore their data
  - Use registry functionality
  - Explore existing reports in EHR
  - Engage their EHR vendor ($$?)
  - State DOH analysis capacity and/or TA?
3. Help Develop a Plan

- Develop a process to address potential undiagnosed hypertensives
  - Develop practice-based algorithms that meet clinician needs for sensitivity
  - Consider patients with 1 or more readings of ≥160/100 as a starting point
  - Flag EHR for attention on next visit
  - Set up free drop-in BP readings with medical assistants or trained office staff
  - AOBP machines
4. Reach Out to Partners

- Regional Extension Centers (RECs)
- Health Center Coordinated Networks (HCCNs)
- EHR users groups
- QI collaboratives
  - QIOs/Cardiac LANs
5. Share Best Practices

- With CDC/Million Hearts
- With other states
Questions?

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