



# CARDI•OH

Ohio Cardiovascular Health Collaborative



*In partnership with:*



# Cardi-OH ECHO - Hypertension

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# Unrecognized Hypertension - Strategies to Improve Diagnosis



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# Disclosure Statements



The following planners, speakers, moderators, and/or panelists of the CME activity have financial relationships with commercial interests to disclose:

- Adam T. Perzynski, PhD reports being co-founder of Global Health Metrics LLC, a Cleveland-based software company and royalty agreements for forthcoming books with Springer publishing and Taylor Francis publishing.
- Siran M. Koroukian, PhD reports ownership interests in American Renal Associates, and Research Investigator subcontract support from Celgene Corporation.
- George L. Bakris, MD reports partial salary from Bayer as FIDELIO PI, partial salary from Janssen as CREDENCE Steering Committee, partial salary from Vascular Dynamics as Calm-2 Steering Committee, and receiving honorarium as a consultant to Merck, NovoNordisk.
- These financial relationships are outside the presented work.

All other planners, speakers, moderators, and/or panelists of the CME activity have no financial relationships with commercial interests to disclose.

# Scope of the problem...



- 75 million adults with hypertension.
- 48.2% of this population has uncontrolled hypertension.
- 36.2% of those with uncontrolled hypertension have no awareness of their hypertension and hence no treatment.

# A large population where hypertension continues to be unrecognized ?

- Workplace populations
- Although the aging process is known to be associated with raised BP, pressure changes can go unrecognized in the workforce populations (keeping in mind our workforce population gets older as retirement age increases!)



# Workplace population? Stress and BP?



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- In an interesting article (Capriotti et al.2000) published by the *American Association of Occupational Health Nurses* stress that high blood pressure is a major issue in the workplace. This study examined the prevalence of high normal and hypertensive levels of blood pressure in a convenience sample of 94 volunteer employees from a midsize corporation. Blood pressure and level of reported stress were assessed. Findings revealed rates of 11% and 30% high normal and hypertensive blood pressure levels, respectively.
- *Importantly, ninety-six percent of participants assumed their blood pressures were normal.*
- As in other studies, those employees with hypertensive blood pressure reported higher stress levels than normotensive employees. However, the population with high normal BP did not report significantly higher stress levels than normotensive employees.

# Workplace population? Stress and BP?



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- Important to remember is that stress causes hypertensive changes in the moment, but stress in the workplace overall leads to habits such as:
  - high alcohol intake,
  - increased tobacco use,
  - lack of exercise due to exhaustion,
  - unhealthy nutritional habits
- There is growing evidence which points to multiple psychological and social factors as contributors to the onset of and trajectory of hypertension.



# Improving workplace screening?

- Occupational health professionals are in the perfect position to test for hypertension amongst employees on a regular basis. CDC (2019) recommendations include:
- Periodic blood pressure screening and health risk assessment programs at the worksite through occupational health clinics, health fairs, and other activities can provide blood pressure information to employees.
- Lifestyle counseling, either provided at the worksite or covered through employee health insurance plans, can be provided by health care or allied health professionals (i.e., health educators) or by lay health advisors or volunteers.
- **Blood pressure monitoring devices available for employees to do their own self assessments** can also be provided at the worksite with information or training on how to use them.





# Good practice example? Faculty *WellWorks*, Ohio University



A screenshot of the Ohio University website's "Compass" news section. The page features a green header with navigation links for "Future Students", "Current Students", "Parents/Families", "Alumni/Friends", and "Faculty/Staff". Below the header, the date "Friday, Feb 15, 2019" and weather "Fair, 48 °F" are displayed. The main navigation bar includes "Campuses", "Faculty &amp; Staff", "Students", "Research", "Alumni &amp; Friends", "Athletics", "Art", and "Headlines". The featured article is titled "Faculty and staff wellness program Healthy OHIO starts Oct. 1" and is dated "Sep 15, 2017". The article text describes the "Healthy OHIO" program, which has been a cornerstone of wellness programming since 2008. It mentions that the program is a collaborative effort between the College of Health Sciences and Professions, University Human Resources, and the WellWorks initiative. The article highlights that the program has grown to over 1,600 participants annually, offering health screenings and education. It also notes that participants can earn up to \$260 per year in rewards through the "Virgin Pulse" platform. A quote from WellWorks Director Jenn Bennett states, "We wanted to offer participants ways to focus on all areas of their well-being, not just physical wellness." The article also includes a "Related Links" section with a link to "Ohio University WellWorks".

# Improving diagnosis in the clinical setting



- Among patients with unaware, untreated and uncontrolled hypertension:
  - 81.8% have health insurance.
  - 82.5% have a usual source of care.
  - 61.7% have received care 2 or more times in the past year.

# Why is this happening?

- Lessons from pediatric hypertension:
  - Failure to synthesize past results.
  - Clinical inertia.
  - Reluctance to make a definitive diagnosis.

# Literature



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Diagnosis 2017; 4(2): 67–72

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## Opinion Paper

Goutham Rao\*, Paul Epner, Victoria Bauer, Anthony Solomonides and David E. Newman-Toker

# Identifying and analyzing diagnostic paths: a new approach for studying diagnostic practices

DOI 10.1515/dx-2016-0049

Received December 27, 2016; accepted March 15, 2017; previously published online April 19, 2017

**Keywords:** diagnosis; electronic medical records; practice patterns.

# Recommendations (Wall et al, JAMA 2014)



- Estimate the prevalence of hypertension in your practice:
  - Overall adults – 29.1%
  - African Americans – 42.1%
  - Adults over age 60 – 65%
- Query EHR registry on a system-level
- Adopt a systematic approach to assess patients identified as potentially having hypertension (Rakotz et al, Chicago).

THANK YOU