

# The West Virginia Experience

NATIONAL ASSOCIATION OF CHRONIC DISEASE DIRECTORS WEBINAR  
JULY 9, 2014

Adam Baus, MA, MPH | PhD Candidate, Public Health Sciences  
West Virginia University School of Public Health, Office of Health Services Research  
West Virginia Clinical and Translational Science Institute



# WEST VIRGINIA UNIVERSITY OFFICE OF HEALTH SERVICES RESEARCH

- [WVU Office of Health Services Research](#) is part of the [WVU School of Public Health, Department of Social and Behavioral Sciences](#)
- A long-standing partner with the [WV Bureau for Public Health, Division of Health Promotion and Chronic Disease](#) in chronic disease prevention and control in primary care
- Quality improvement and systems development through enhanced use of clinical data
  - Provided framework for the first-ever [WV Practice Based Research Network](#)
  - More specific examples of our partnerships and work woven into the panel questions which follow

# SHARING DATA

“From the primary care point of view, what are the biggest barriers to giving the data to public health agencies?”

# SHARING DATA

- Key barriers/concerns encountered, and overcome

<b>Barrier/Concern</b>	<b>Solution</b>
Return on investment	<ul style="list-style-type: none"><li>• Demonstrate value added</li></ul>
Redundancy	<ul style="list-style-type: none"><li>• Understand what data are already collected, and for what purpose</li><li>• Aggregate vs patient-level</li></ul>
Privacy	<ul style="list-style-type: none"><li>• Data stewardship: Establish Business Associate Agreements and Memorandums of Understanding (Data use Agreements)</li></ul>
Control	<ul style="list-style-type: none"><li>• Data stewardship: Establish Memorandums of Understanding (Data use Agreements)</li><li>• De-centralized model</li></ul>

# SHARING DATA

- A jointly developed vision, or at least one that's mutually beneficial and complementary to all partners, requires knowing what your partners need
- When considering data, and your use of data, consider what it is that your clinical partners are already responsible for (external factors), what their goals are for their patients (internal factors), and how those factors overlap with your program
  - Determine overlap in collection of data / reporting of metrics

# SHARING DATA

Clinical Performance Measures	NQF#	HEDIS	UDS	PQRS	Health Plans	NCQA Health Plan Accreditation	PCMH	MU (2014)
Controlling High Blood Pressure	0018	CBP	X	#236		X		Adult

Special thanks to [Jeffrey Talbert, PhD](#), University of Kentucky, and the [Institute for Pharmaceutical Outcomes and Policy](#)

	NQF#	HEDIS	UDS	PQRS	Health Plans	NCQA Health Plan Accreditation	PCMH*	MU [2014]
<b>CLINICAL PERFORMANCE MEASURES</b>								
Asthma: Assessment of Asthma Control-Ambulatory Care	0001			#64				Peds
Appropriate Testing for Children with Pharyngitis	0002	CWP		#66	A	X		Peds
Initiation and Engagement of Alcohol and Other Drug Dependence Treatment	0004			#305				X
Controlling High Blood Pressure	0018	CBP	X	#236		X		Adult
Annual Monitoring for Patients on Persistent Medications	0021	MPM			A			
Use of High Risk Medications in the Elderly	0022	DAE		#238		X		Adult
Weight Assessment and Counseling for Nutrition and Physical Activity for Children and Adolescents	0024	WCC		#239	C	X		Peds
Preventive Care and Screening: Tobacco Use: Screening and Cessation Intervention	0028	MSC	X	#226		X (advice only)		Adult
Physical Activity in Older Adults	0029	FOA						
Breast Cancer Screening (40-69 years of age)	0031							X
Cervical Cancer Screening	0032	CCS	X	#309	A	X		X
Chlamydia Screening in Women	0033	CHL		#310	W	X		Peds
Colorectal Cancer Screening	0034	COL	X	#113	W	X		X
Use of Appropriate Medications for Asthma	0036	ASM	X	#311	A	X		Peds
Osteoporosis Testing in Older Women	0037	OTO (S)						
Childhood Immunization Status	0038	CIS	X	#240	A, C, W	X (combo 2)		Peds
Flu Vaccinations for Adults Ages 65 and Older	0040	FVO (S)						
Influenza Immunization	0041			#110				X
Pneumonia vaccination status for older adults	0043	PNU (S)		#111		X		X
Asthma: Pharmacologic Therapy for Persistent Asthma-Ambulatory Care	0047		X	#53				
Osteoporosis: Pharmacologic Therapy for Men and Women Aged 50 Years and Older	0049			#41				
Osteoarthritis (OA): Function and Pain Assessment	0050			#109				

# WORKING WITH HEALTH SYSTEMS

“Can you give us an example of how you or other states have successfully worked with health systems? What role do you see state health departments playing and what can they uniquely offer health systems?”

# WORKING WITH HEALTH SYSTEMS

- First, define what it is that's meant by "health system" for your particular approach/design
  - World Health Organization definition: A health system is the sum total of all the organizations, institutions and resources whose primary purpose is to improve health
  - Centers for Disease Control and Prevention definition: Public health systems are commonly defined as all public, private, and voluntary entities that contribute to the delivery of essential public health services within a jurisdiction



# WORKING WITH HEALTH SYSTEMS

- Example: NACDD funded effort in diabetes prevention, led by the WV Bureau for Public Health - Health Promotion and Chronic Disease
  - Leadership, Vision, Resources
  - OHSR as a funded partner, with expertise needed for the job
- Goal: Build a system of care linking primary care centers and recognized diabetes prevention program sites for enhanced risk identification, patient care, and ultimately prevention of diabetes
- Identified systems based on:
  - Burden of diabetes
  - Local leadership
  - Readiness/Capacity to take part in the intervention
  - Availability of and willingness to share clinical data

# WORKING WITH HEALTH SYSTEMS



## Registry-based Diabetes Risk Detection Schema for the Systematic Identification of Patients at Risk for Diabetes in West Virginia Primary Care Centers

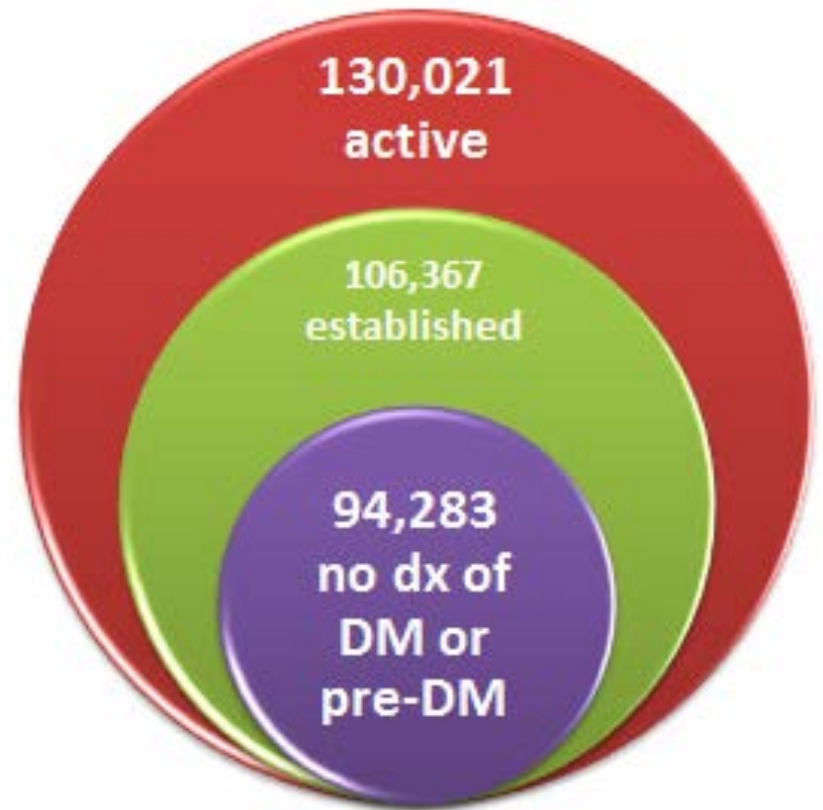
*by Adam Baus, MA, MPH; Gina Wood, RD, LD; Cecil Pollard, MA; Belinda Summerfield, RN; and Emma White, RN*

### Abstract

Approximately 466,000 West Virginians, or about 25 percent of the state population, have prediabetes and are at high risk for developing type 2 diabetes. Appropriate lifestyle intervention can prevent or delay the onset of type 2 diabetes if individuals at risk are identified and treated early. The West Virginia Diabetes Prevention and Control Program and the West Virginia University Office of Health Services Research are developing a systematic approach to diabetes prevention within primary care. This study aims to demonstrate the viability of patient registry software for the analysis of disparate electronic health record (EHR) data sets and standardized identification of at-risk patients for early detection and intervention. Preliminary analysis revealed that of 94,283 patients without a documented diagnosis of

# WORKING WITH HEALTH SYSTEMS

- Across 14 WV primary care centers, we find:
  - 130,021 active patients
  - Among those, 106,367 (81.8%) are established (receiving care for 12 months or more)
  - Among those, **94,283** (88.6%) do not have a diagnosis of diabetes or pre-diabetes



# WORKING WITH HEALTH SYSTEMS

Primary Care Center	Patients w/out Dx of DM or pre-DM	Patients age $\geq 45$ with last BMI $> 25$	Patients age $< 45$ w/ BMI $> 25$ w/ HTN, hyperlipidemia, gestational DM, family hx of DM, CVD	Patients with last FBG 100-125	# and % of patients identified as at-risk for pre-DM
A	1546	112	18	1	131 (8.5%)
B	1682	334	40	4	378 (22.5%)
C	2068	308	49	1	358 (17.3%)
D	1050	54	7	70	131 (12.5%)
E	1110	15	3	0	18 (1.6%)
F	1849	62	15	2	79 (4.3%)
G	2068	284	35	11	330 (16.0%)
H	5517	235	26	21	282 (5.1%)
I	8407	669	70	0	739 (8.8%)
J	17792	2467	288	1627	4382 (24.6%)
K	10026	557	52	504	1113 (11.1%)
L	9185	627	91	3	721 (7.8%)
M	19038	1054	90	2	1146 (6.0%)
N	12945	794	69	2	865 (6.7%)
<b>Sum</b>	94283	7572	853	2248	<b>10673 (11.3%)</b>
<b>Mean</b>	6734.5	540.8	60.9	160.6	
<b>SD</b>	6307.2	635.2	71.4	442.5	

# REPORTING

“What is the difference between annual mandatory ‘reports’ that practices create from their EHRs or registries for UDS (by the FQHCs) or for NCQA scoring, or meaningful use....and the fine-tuned queries that practices do on a more regular basis to accomplish their patient panel management?”

# REPORTING

- Required reporting and site-specific reporting are, in our experience, two sides of the same coin
  - Both require reliable, quality data
  - Both require reliable analytics tools
  - Required reporting come with definitions/rules established by an external agency -- while site-level reports are developed in-house
    - Yet both need well-defined parameters, capable of being reliably derived from the data
- Our experience shows that complicated, required reporting -- when made easy -- can be run routinely throughout the year and not just one time
  - Making in-house benchmarking possible from metrics which are otherwise run only once-yearly and not necessarily examined closely by providers, staff, administration

# REPORTING

Clinic-level reports of:

- Number of unique patients with diagnosis by ICD9 codes
- Number of unique patients with diagnosis by free text (“Other”)
- Finds duplicates across the 2 groups
  - Subtracts duplicates for a total patient count
- Finds patients with 3+ most recent BP readings  $\geq 140/90$ 
  - Benchmarks against patients with no diagnosis of HTN
- Generate intervention lists

ICD9	Count	Descriptor	
401	302		
401.1	256		
401.1	586	BENIGN ESSENTIAL HYPERTENSION	
401.1	3	HYPERTENSION	
401.9	241		
401.9	1	CHRONIC HYPERTENSION	
401.9	7	ESSENTIAL HYPERTENSION NOS	
<b>Unique patient count by ICD9 =</b>			<b>1143</b>
ICD9	Count	Descriptor	
OTHER	1	1. HYPERTENSION	
OTHER	1	401.0	
OTHER	1	BENIGN ESSENTIAL HYPERTENSION	
OTHER	1	ERRATIC HTN	
OTHER	1	ESSENTIAL HYPERTENSION	
OTHER	18	HTN	
OTHER	1	HYPERTENION	
OTHER	1	HYPERTENSIOIN	
OTHER	55	hypertension	
OTHER	1	HYPERTENSTION	
<b>Unique patient count by Other =</b>			<b>81</b>
<b>Duplicates across ICD9 and Other =</b>			<b>7</b>
<b>Total HTN patient count =</b>			<b>1217</b>
<b>Patients with 3 most recent BP readings <math>\geq 140/90</math> =</b>			<b>444</b>
<b>Not included in ICD9 or Other =</b>			<b>144</b>
<b>Patients with 2 most recent BP readings <math>\geq 140/90</math> =</b>			<b>770</b>
<b>Not included in ICD9 or Other =</b>			<b>309</b>

# REPORTING

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## Identifying Patients with Hypertension: A Case for Auditing Electronic Health Record Data

*by Adam Baus, MA, MPH; Michael Hendryx, PhD; and Cecil Pollard, MA*

### Abstract

Problems in the structure, consistency, and completeness of electronic health record data are barriers to outcomes research, quality improvement, and practice redesign. This nonexperimental retrospective study examines the utility of importing de-identified electronic health record data into an external system to identify patients with and at risk for essential hypertension.

We find a statistically significant increase in cases based on combined use of diagnostic and free-text coding (mean = 1,256.1, 95% CI 1,232.3–1,279.7) compared to diagnostic coding alone (mean = 1,174.5, 95% CI 1,150.5–1,198.3). While it is not surprising that significantly more patients are identified

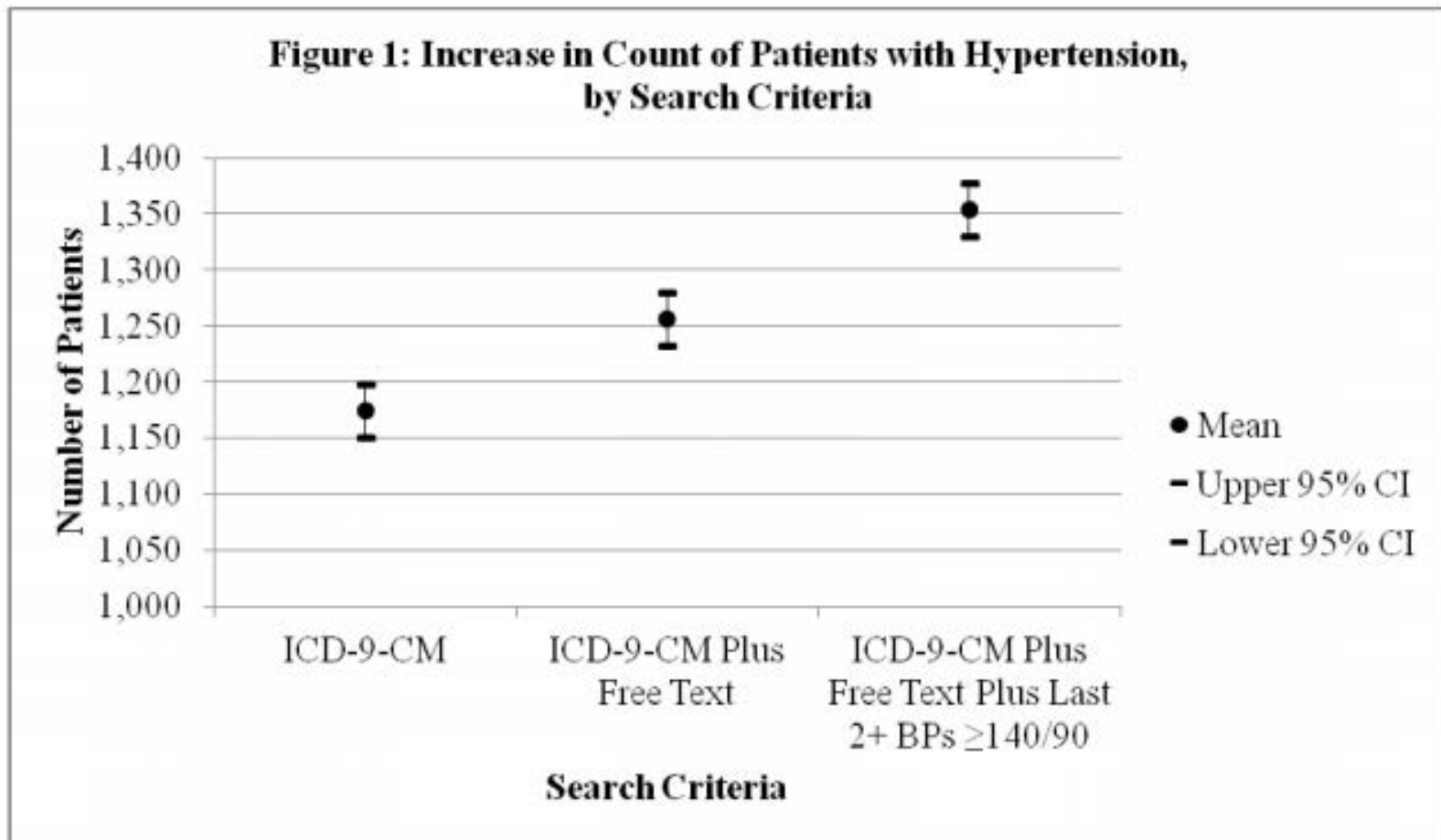


# REPORTING

Increase in Count of Patients with Essential Hypertension, by Search Criteria and Primary Care Center

Primary Care Center	A: Patients with Hypertension: ICD-9-CM Coding	B: Patients with Hypertension: ICD-9-CM Coding Plus Free Text	C: Patients with Hypertension: ICD-9-CM Coding Plus Free Text Plus Last 2+ Blood Pressure Readings $\geq 140/90$ mm Hg	Percent Missed Based on ICD-9-CM Coding Only (100% - A/C)
A	5,124	5,270	5,535	7.4%
B	1,605	1,868	1,945	17.5%
C	476	505	596	20.1%
D	658	660	724	9.1%
E	852	859	884	3.6%
F	313	313	325	3.7%
G	228	418	438	47.9%
H	396	407	446	11.2%
I	666	714	749	11.1%
J	1,143	1,217	1,526	25.1%
K	1,458	1,586	1,725	15.5%
Sum	12,919	13,817	14,893	13.3%
Mean	1,174.45	1,256.09	1,353.91	
Standard Deviation	1,386.60	1,424.08	1,492.58	
95% CI, Lower	1,150.49	1,232.26	1,329.93	
95% CI, Upper	1,198.31	1,279.74	1,377.87	

# REPORTING



*Note:* Figure shows statistically significant increases in identification of essential hypertension cases using three search criteria methods.

# REPORTING

## 5 pillars of “data maturity” ([Perla, 2012](#))

1. Data are seen as an investment and resource
  - Good reports take time and care
2. Projects have lifecycles
  - Old measures evolve or are replaced
3. All measures are operationally defined
  - Clear, understood definitions
  - Knowing from where the data come
4. Improvement metrics are linked to attempts at change
  - Acting on data -- Improvement depends on measurement
5. Data are visualized
  - Graphical representations
  - Maps

# DATA & INCENTIVES

“What data are likely to be tied to incentives? Is that something we should be concerned about?”

# DATA & INCENTIVES

- One area to consider: [Physician Quality Reporting System\(PQRS\)](#)
  - Overall goal of PQRS, according to Centers for Medicare & Medicaid Services, is to collect meaningful data that can help lead to improved patient care
    - Denominators describe eligible cases for each measure
    - Numerators describe the clinical action required by the measure for reporting and performance

# COLLABORATING

“How do we share our findings back with the health care system to make the data sharing mutually beneficial? What type of information would health care systems be interested in?”

“Once we identify a sub-population /high-risk group, how can we carefully approach the health system to let them know that a certain group is not doing well? (In other words, we want to avoid making the health system feel as though we are telling them what to do).”

# COLLABORATING

- Build a system whereby the needs and voices of primary care are at the forefront
  - Focus on measures that are contextually relevant
  - Foster a collaborative environment
  - Allow for idea sharing from primary care partners to state health agencies
  - Learn about the unmet needs, and if your program can help fill one or more of them

# COLLABORATING

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# COLLABORATING

- Building lasting relationships with primary care
  - Mutually beneficial
  - Community-based Participatory Research principles

## Primary Care/Public Health Partnership for Improved Type 2 Diabetes Outcomes at Roane County Family Health Care

By: Adam Baus, Emma White, Gina Wood, Belinda Summerfield & Cecil Pollard

### **Introduction**

Primary care and public health have overlapping goals of health promotion and disease prevention (Lasker, 1997; Rowan, Hogg, & Huston, 2007; Sloane, Bates, Donahue, Irmiter, & Gadon, 2009). However, competing demands of these two components of the health system create division as primary care attends to the individual patient and

approximately 52,000 patients with diabetes, cardiovascular health conditions, and asthma.

One of the 33 partner sites is Roane County Family Health Care (RCFHC), located in Spencer, WV. RCFHC serves as a case study for sustained, successful collaboration between primary care and public health. RCFHC is a FQHC providing care to patients that are generally underserved, of

# COLLABORATING

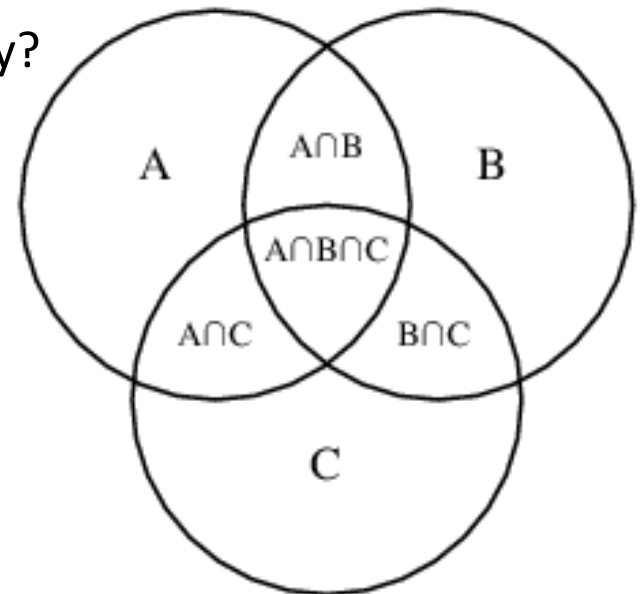
- Three critical factors we have found in effective, lasting primary care partnerships
  - Practice-driven redesign
  - Shared expertise
  - Allowance for change

# INFRASTRUCTURE

“How does a state without infrastructure to collect data, do this work? Work with a contractor? Where do they look? What skills are needed?”

# INFRASTRUCTURE

- What are your strengths?
  - Rapport? Skills? Resources? Linkage opportunities?
- What are your weaknesses, if any?
- Whatever your strengths and capacities, look for the right partnerships
  - Do you share a mission or vision with other local, state, regional, and/or national groups?
  - What do you offer that is complimentary?



## OVERALL...

“How does one identify the health systems, who does one approach in a health system to begin the conversation, what skills have proven to be helpful in working with the health systems, what can a state health department do with the data that the health system can't/won't?”

# OVERALL

- Carefully consider your goals, in light of the environment in which you work
  - Your goals will inform/define your health system
- Whoever you approach, start by listening to their vision and needs
  - Find the overlap, and find the needs capable of being addressed within your scope of work
- Consider the unique perspective that you bring to the table, and the long-view you have for data use (population health)

# THANK YOU & CONTACT INFORMATION

Adam Baus, MA, MPH, PhD Candidate

West Virginia University School of Public Health, Office of Health Services  
Research | West Virginia Clinical and Translational Sciences Institute

304-293-1083 | [abaus@hsc.wvu.edu](mailto:abaus@hsc.wvu.edu)