



# Vermont's All Payer Claims Database: Status, Potential Uses, and Cautions

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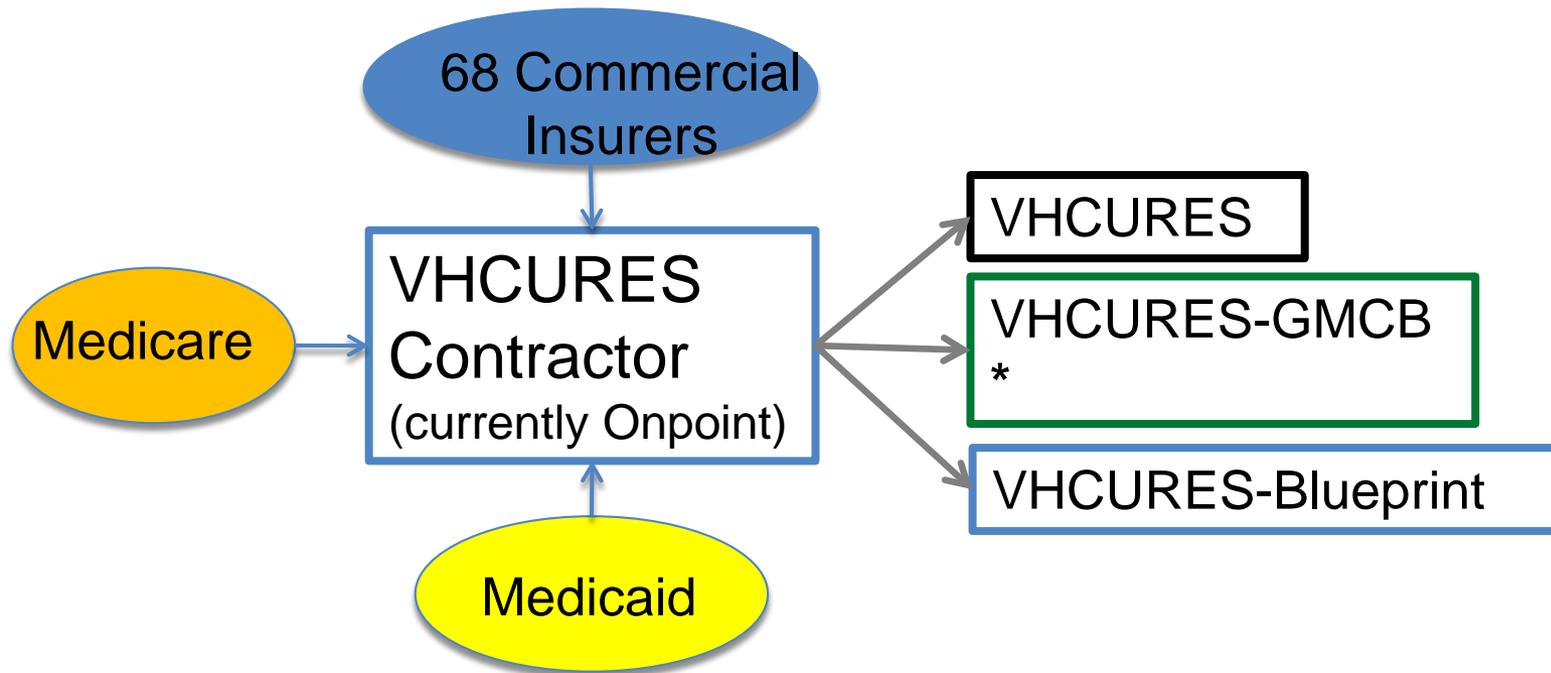


# Outline

- VHCURES - What is it ?
  - Development of VTs All Payer Claims Database
  - Description of data available in VHCURES
  
- VDH experience with VHCURES
  - Million Hearts Project
  - Exploratory Asthma Analyses
  - Other projects
  
- Cautions and best uses

# Vermont Health Care Uniform Reporting and Evaluation System (VHCURES)

2008 – VHCURES 1.0 established by VT law → 2013 – VHCURES managed by GACB → 20?? - VHCURES 2.0



Data Available: 2007+



# VHCURES

<u>Payer</u>	<u>Required Reporting</u>
>2,000 members	Monthly
500-1,999 members	Quarterly
200-499 members	Annually (April 30 <sup>th</sup> )

## Size of database

<u>VHCURES (Commercial)</u>	<u>VUHDDS</u>	<u>BRFSS</u>
475,000 Membership/m	ED 260,000/y	6,400/y
730,000 Claims/m	IP 64,000/y	
550,000 Rx Claims/m		



# VHCURES- What's in it?

## Included

- Encrypted member ID
- Member demographics (age, sex, zip code)
- Diagnosis, procedure, and national drug codes
- Service provider (rendering)
- Prescribing provider
- Service dates
- Member payments (deductible, copay)
- Health plan payments
- Type and date of bill paid
- Facility type ?

## Not Included

- Test results (lab work, imaging, etc.)
- Referrals
- Services provided to the uninsured, through Worker's compensation, or very small insurers
- Partially processed and denied claims, claim adjustments
- Contractual financial data between providers and payers (capitation amounts, incentive payments, or settlements)
- Provider affiliation with an organization, group, or practice



# VHCURES

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Medical claim  $\neq$  Episode of care

- Claims are paid invoices, not medical records
- Each record in VHCURES is one line of a claim
- Fields used for payment are considered more reliable
- A single clinical event can generate multiple claims
  - ▣ Professional and facility
  - ▣ Extended duration (long hospital stays)
  - ▣ Third party liability



# VHCURES data

	Submitted by Insurers			Accessible at VDH?		
	Commercial	Medicaid	Medicare	Commercial	Medicaid	Medicare
ED	+	+	+	+	+	-
Hospitalization	+	+	+	+	+	-
Outpatient	+	+	+	+	+	-
Office visits	+	+	+	+	+	-
Pharmacy	+	+	+	+	+	-
Dental	-	+	-	-	+	-



# VHCURES

- ~90% of Vermonters covered by commercial insurers
- 100% of Vermonters covered by Medicaid (and Medicare?)
- Does not include:
  - Uninsured Vermonters (~6.8% or 43,000 Vermonters-2012)
  - FEHBP (about 2.4% or 15,000 Vermonters)
  - Self-pay (individuals and companies)
  - Claims of Vermonters commercially insured with payers that have less than 200 Vermont members (< 2% of all commercially-insured Vermonters)
  - Denied claims or partially processed claims

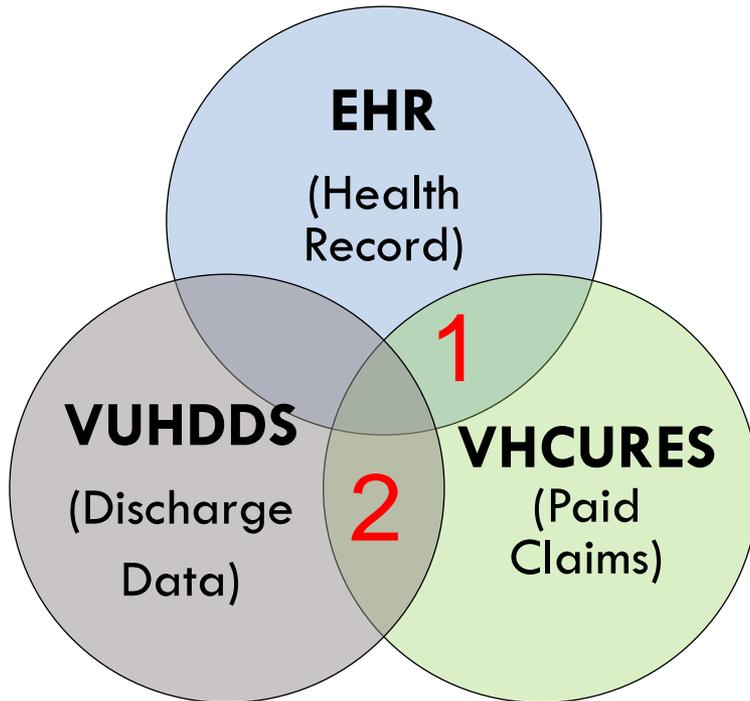


# VHCURES

- Data is available to state agencies and non-state agency users (academic institutions and health policy organizations)
- Data access privileges and VHCURES versions vary (ie. GMCB vs. Blueprint access, inclusion of Medicare data)

- ❑ Million Hearts Project
- ❑ Exploratory Asthma Analyses using VHCURES
  - Who's included?
  - Prevalence (VHCURES vs. BRFSS)
  - ED (VHCURES vs. VUHDDS)
  - Hospitalizations (VHCURES vs. VUHDDS)
  - CPT code usage (VHCURES vs. Medicaid)
- ❑ Other VDH Programs

# Million Hearts: How do these relate?



- Electronic Health Record- Snapshot of patient health according to the last visit
- VUHDDS- Inpatient, ED, and outpatient discharge data
- VHCURES- Paid claims from Insurers covering at least 200 Vermont lives (Currently no Medicare)



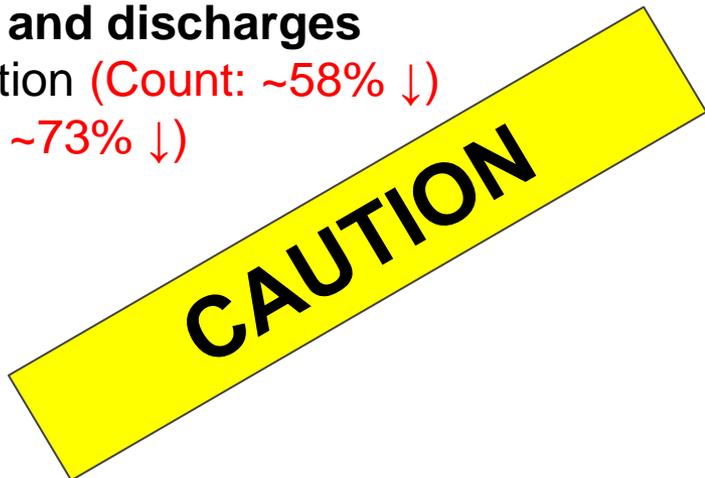
# VHCURES - Million Hearts Project

## Case Study #1: Audit of claims estimates to medical records

- Count of individuals with hypertension and prevalence (Count: 15% ↑)
- Count of individuals with diabetes and prevalence (Count: 27% ↑)
- Count of individuals with at least 1HbA1c (Count: 67% ↑ diabetics; 4% ↓ non diabetics)

## Case Study #2: Alignment of paid claims and discharges

- Heart attack events and rates per population (Count: ~58% ↓)
- Strokes and rates per population (Count: ~73% ↓)



**CAUTION**



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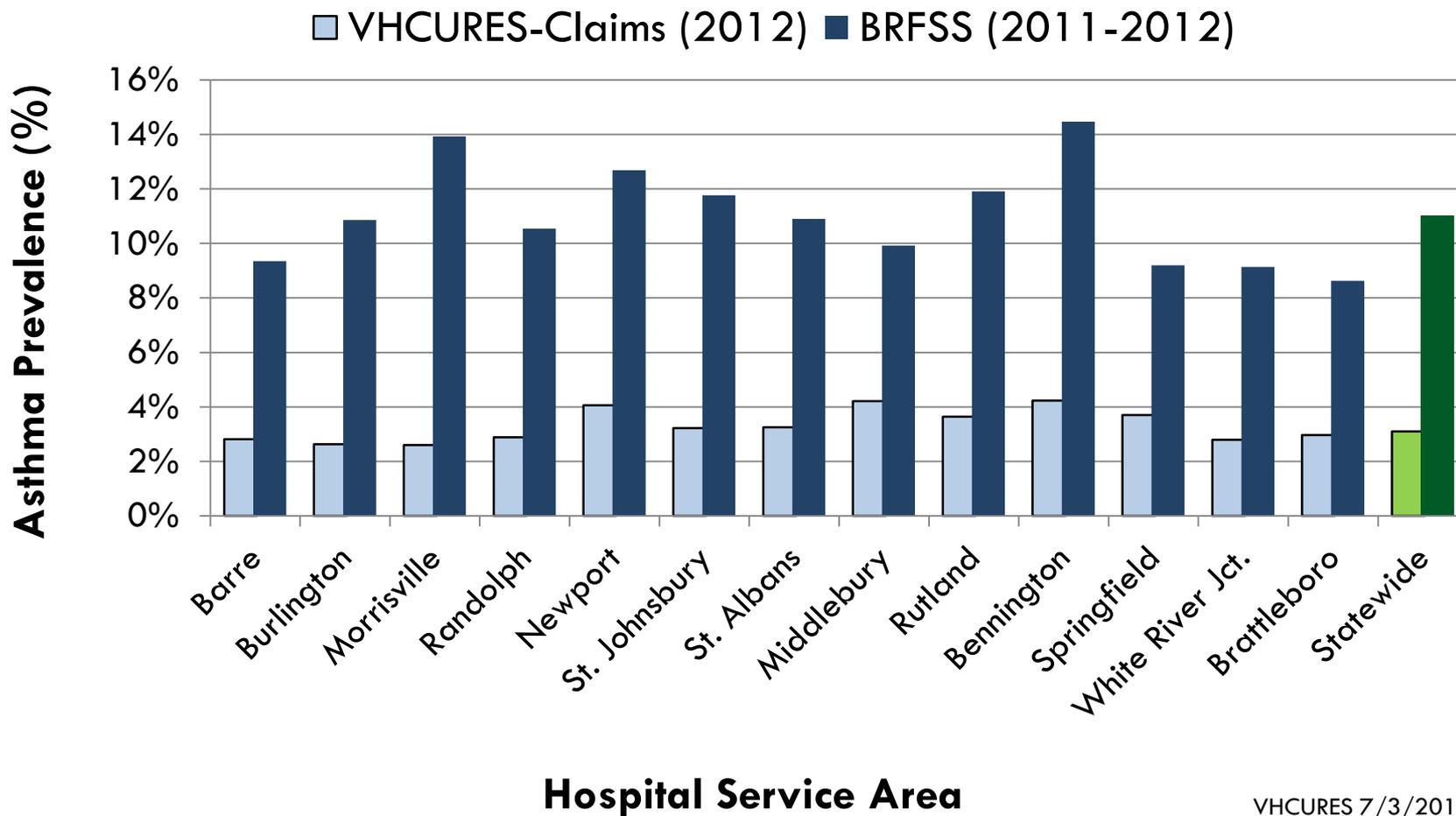


# VHCURES Enrollment (2012, <65 Years of Age)

HSA	% VT Population in VHCURES	% VCHURES Population Covered by Medicaid
Barre	90%	31%
Burlington	91%	23%
Morrisville	85%	37%
Randolph	90%	34%
Newport	85%	49%
St. Johnsbury	74%	48%
St. Albans	83%	39%
Middlebury	77%	36%
Rutland	90%	38%
Bennington	88%	42%
Springfield	88%	42%
White River Jct.	98%	27%
Brattleboro	88%	38%
<b>Total</b>	<b>88%</b>	<b>33%</b>

# Current Asthma Prevalence: VHCURES – BRFSS

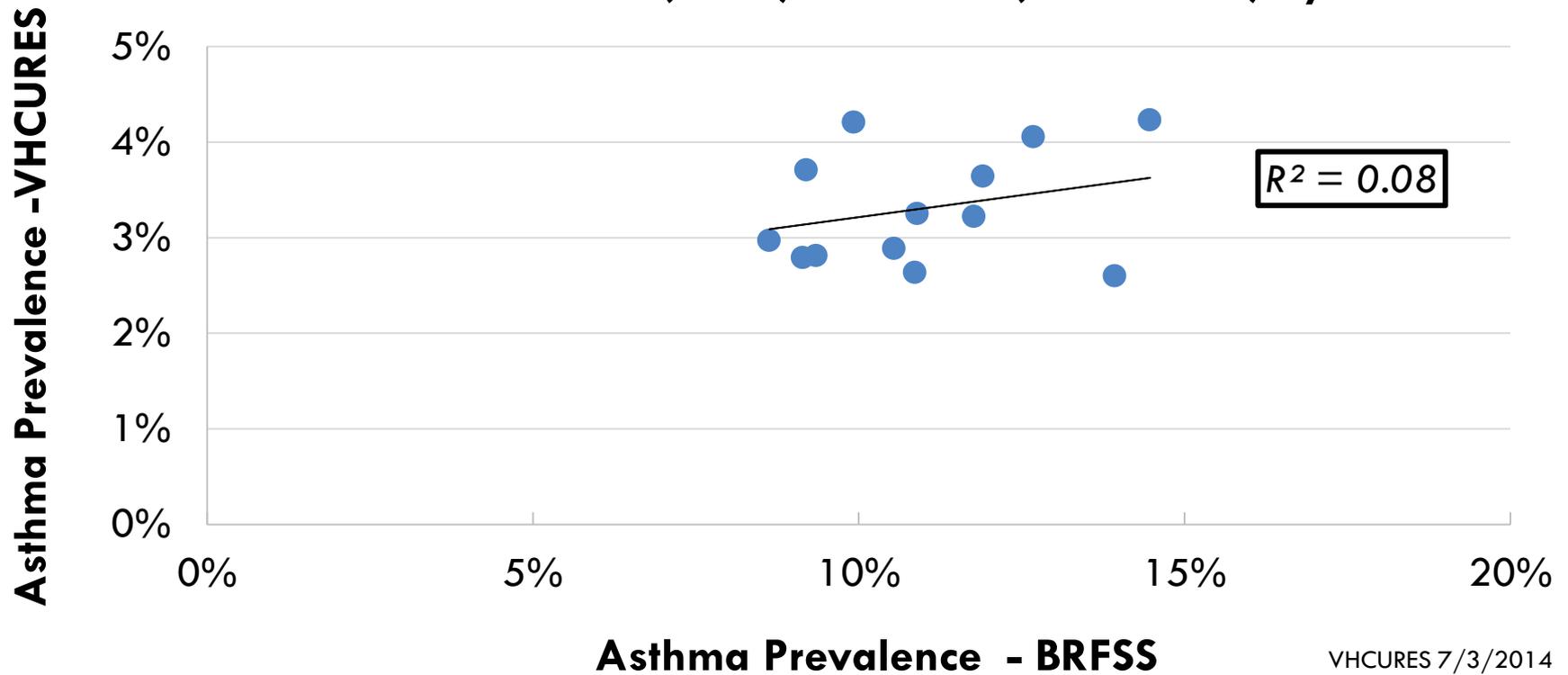
## <65 years of age



VHCURES 7/3/2014

# VHCURES – Asthma Prevalence

**Comparison of Asthma Prevalence Rates -  
VHCURES Claims (2012) vs. BRFSS (2011-2012) by HSA**



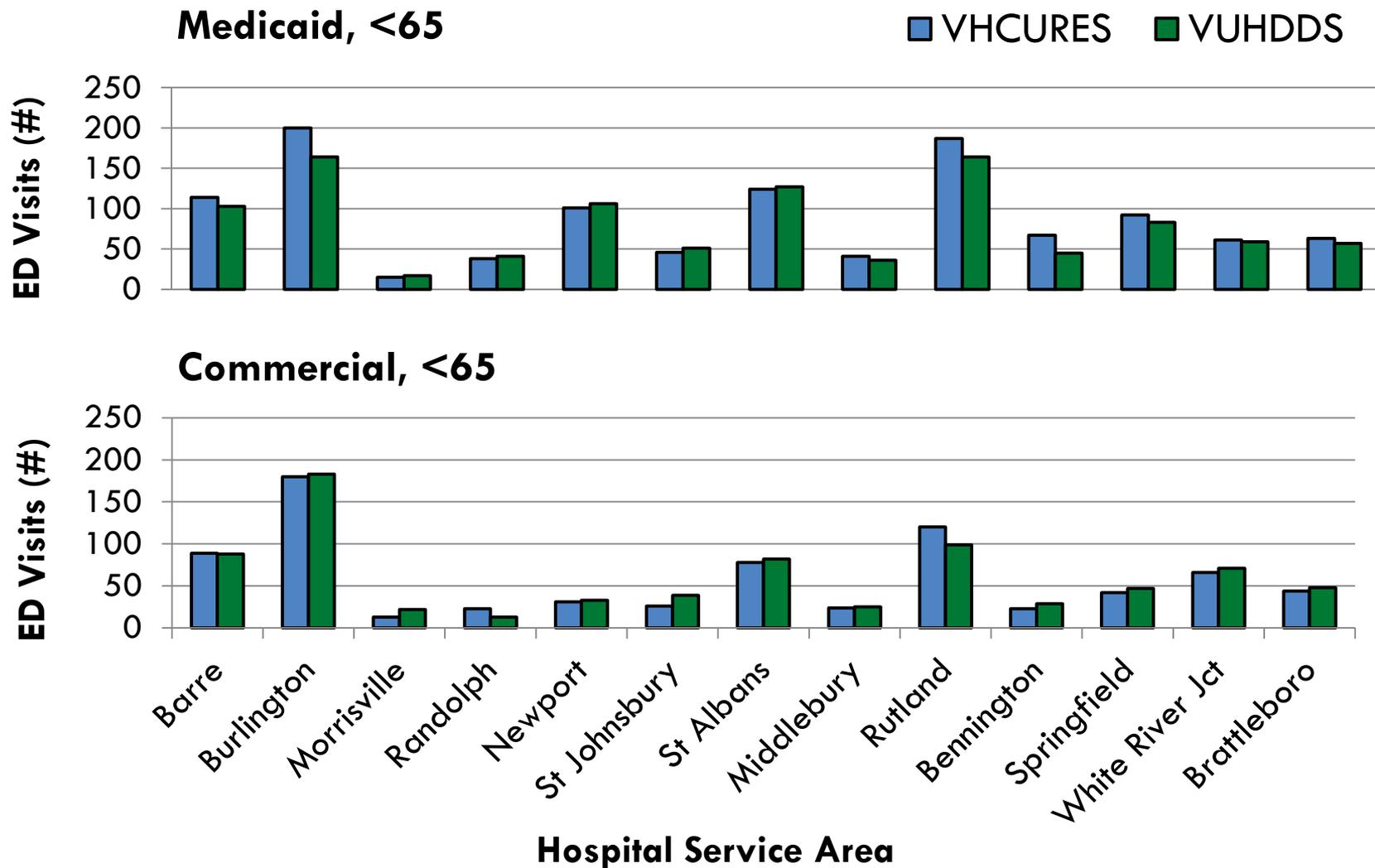
VHCURES 7/3/2014

# ED Visits for Asthma

## ED Visits, Dx1 Asthma, <65 years of age

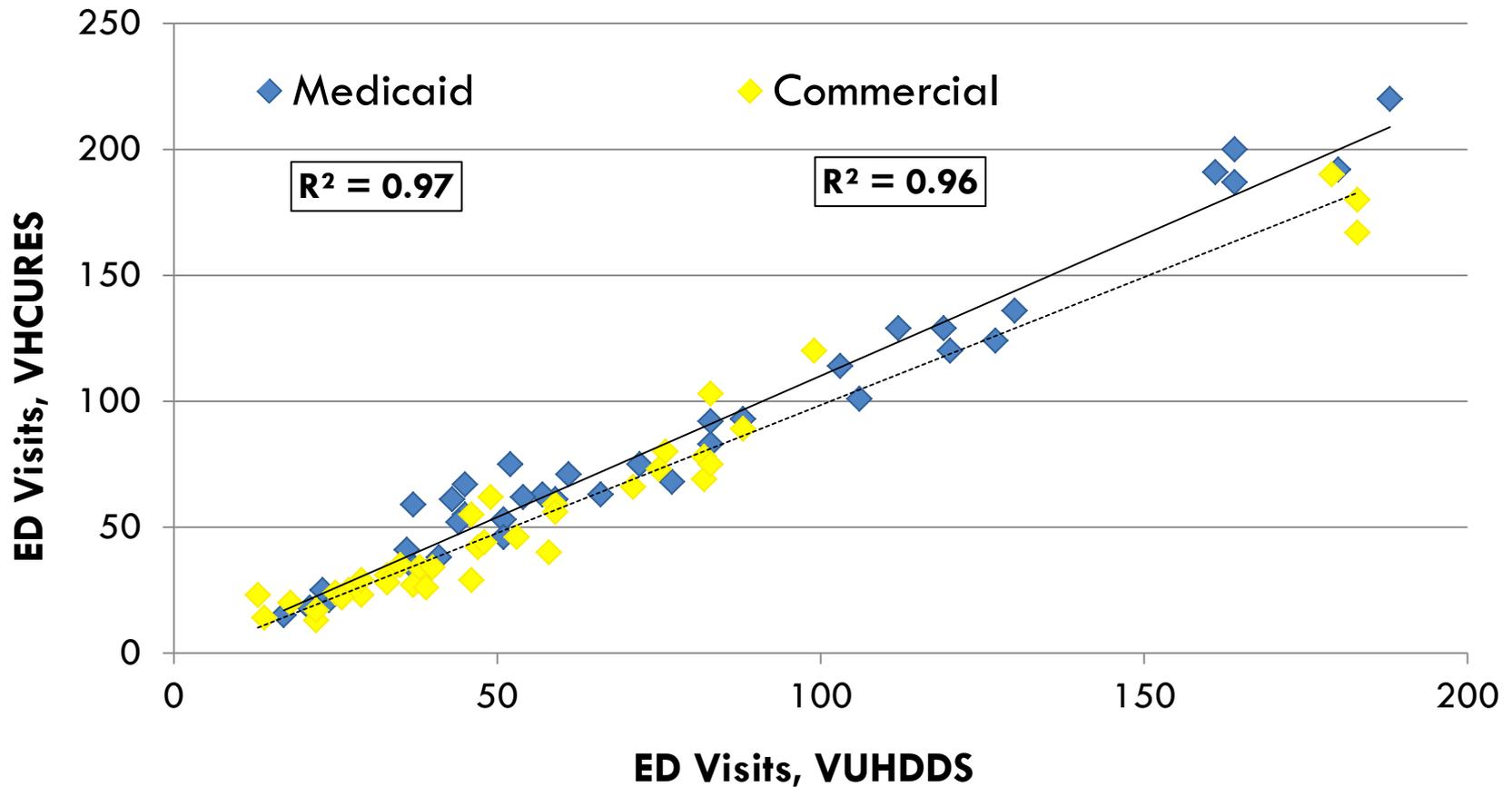
Year	Medicaid			Commercial		
	VHCURES	VUHDDS	Diff.	VHCURES	VUHDDS	Diff.
2008	1022	956	+7%	747	794	-6%
2009	1149	1053	+9%	759	779	-3%
2010	1132	1007	+12%	676	694	-3%
<b>Average</b>			<b>+9%</b>			<b>-4%</b>

# ED Visits for Asthma by HSA, 2009



# ED Visits for Asthma by HSA

Dx1=asthma, <65, 2008-2010 Combined Data

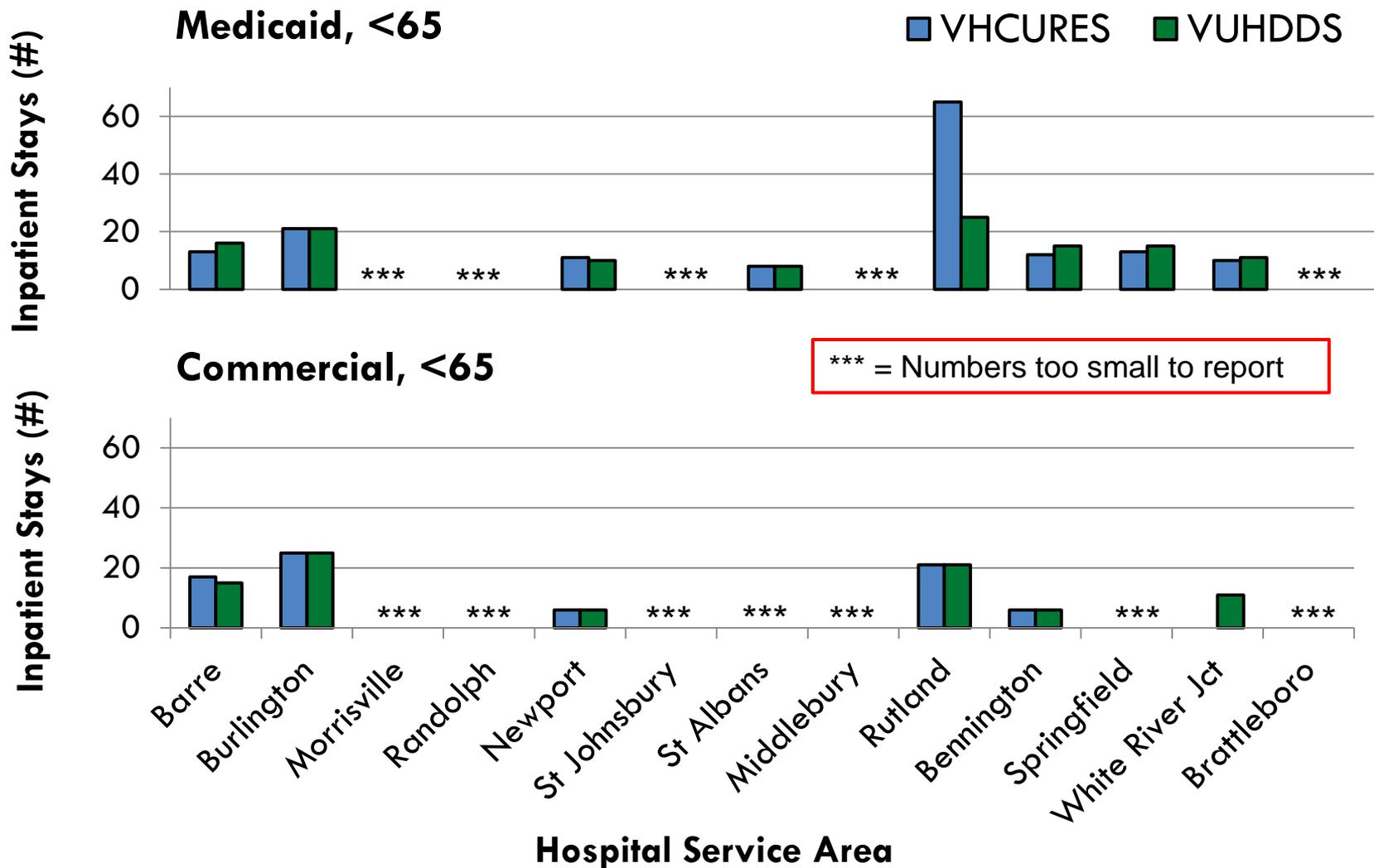


# Inpatient Hospitalizations for Asthma

## Inpatient Hospitalizations for Asthma, Dx1 Asthma, <65 years of age

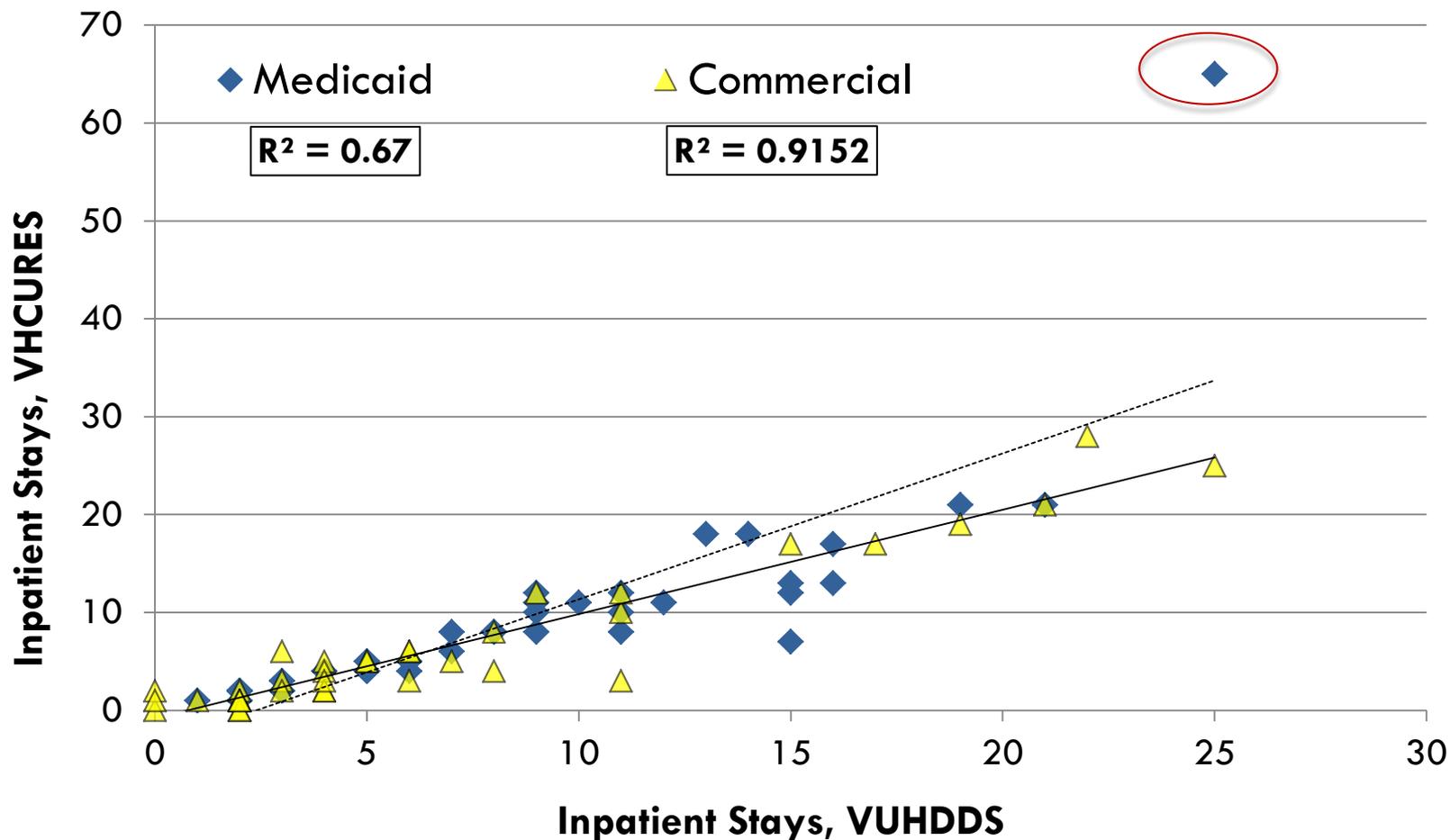
Year	Medicaid			Commercial		
	VHCURES	VUHDDS	Diff.	VHCURES	VUHDDS	Diff.
2008	100	108	-7%	91	86	+6%
2009	169	138	+22%	99	106	-7%
2010	107	100	+7%	55	68	-19%
<b>Average</b>			<b>7%</b>			<b>-7%</b>

# Inpatient Stays for Asthma by HSA, 2009



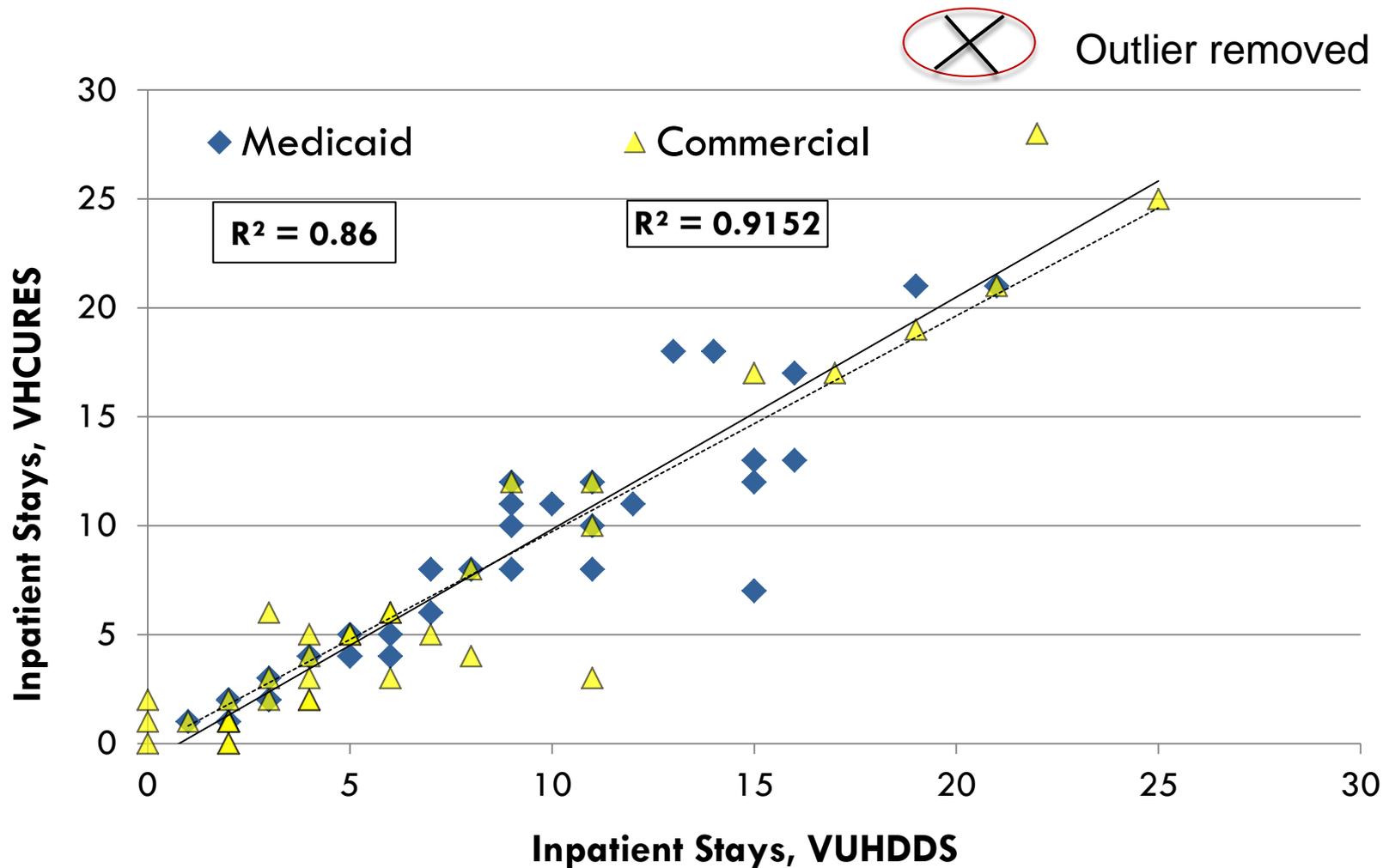
# Inpatient Stays for Asthma by HSA

Dx1=asthma, <65, 2008-2010 Combined Data



# Inpatient Stays for Asthma by HSA

Dx1=asthma, <65, 2008-2010 Combined Data



# Costs for Asthma

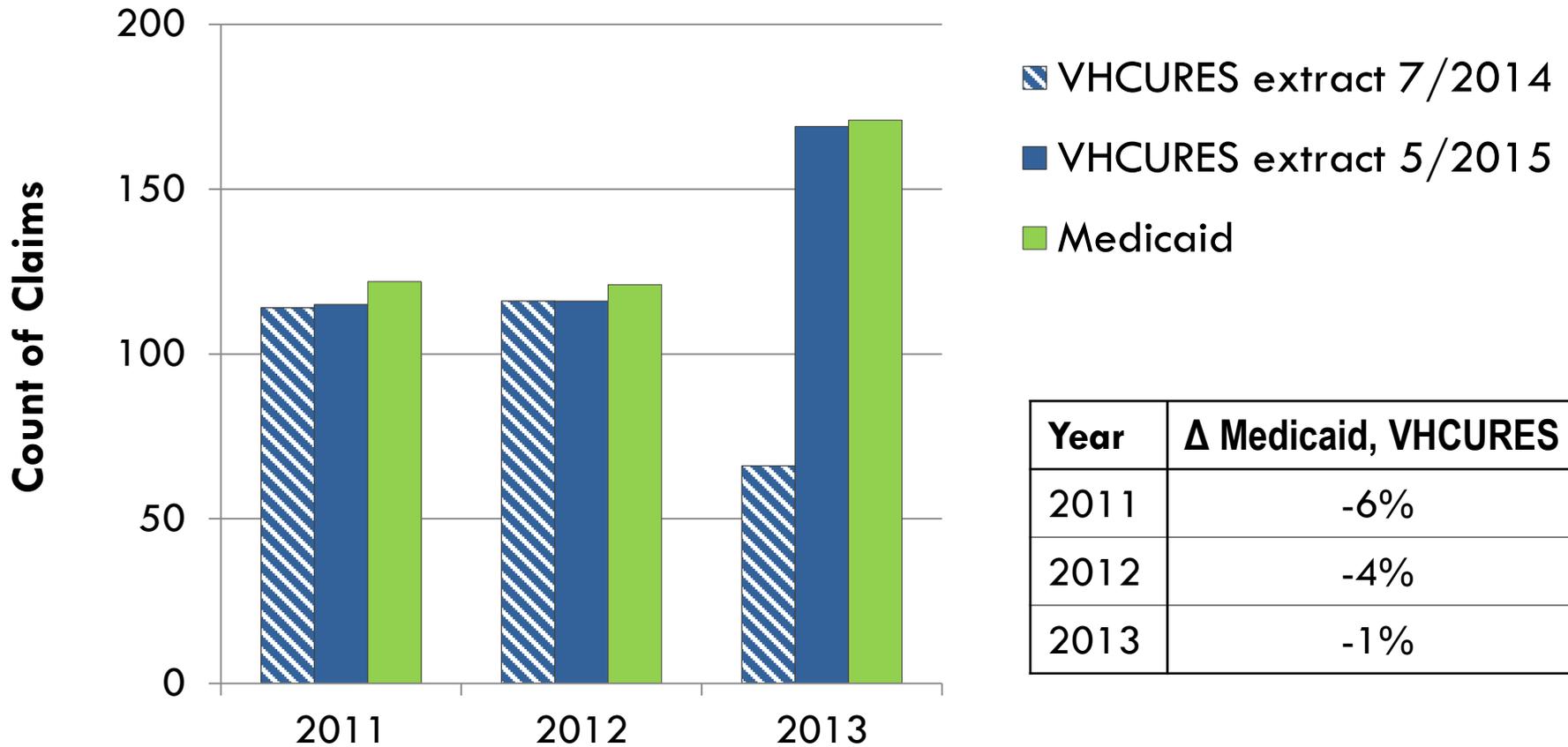
	Medicaid ED			Medicaid Inpatient		
Year	Amount Paid VHCURES	Amount Charged VUHDDS	Ratio	Amount Paid VHCURES	Amount Charged VUHDDS	Ratio
2008	\$316,910	\$723,126	0.44	\$336,493	\$868,840	0.39
2009	\$323,457	\$904,606	0.36	\$609,457	\$1,295,334	0.47
2010	\$354,422	\$928,700	0.38	\$546,909	\$1,113,011	0.49
<b>AVG</b>			<b>0.39</b>			<b>0.45</b>

	Commercial ED			Commercial Inpatient		
Year	Amount Paid VHCURES	Amount Charged VUHDDS	Ratio	Amount Paid VHCURES	Amount Charged VUHDDS	Ratio
2008	\$475,203	\$589,722	0.81	\$779,871	\$ 816,382	0.96
2009	\$542,399	\$703,802	0.77	\$1,101,607	\$1,084,209	1.02
2010	\$573,757	\$785,983	0.73	\$495,328	\$698,160	0.71
<b>AVG</b>			<b>0.77</b>			<b>0.89</b>



# CPT Code Use For Smoking Cessation Among Medicaid Insured, <65

## VHCURES vs. Medicaid Data



Year	Δ Medicaid, VHCURES
2011	-6%
2012	-4%
2013	-1%



# VUHDDS vs. VHCURES Differences

- ❑ Different methods for enrollment/inclusion/geographic info
- ❑ VUHDDS is one record per stay, VHCURES has multiple records for episode of care
- ❑ VUHDDS is occurrence based (where the care took place) while VHCURES is residence based (Vermonters treated anywhere).
- ❑ VUHDDS includes the uninsured – VHCURES never will
- ❑ VUHDDS has charges, VHCURES has payments as well as charges
- ❑ VUHDDS anticipates payer, VHCURES has confirmed payer
- ❑ Service rendered vs. service billed/paid/charged
- ❑ Age at time of service or at specified time in year

# Key Points-1

- VHCURES contains most health care claims (commercially insured, Medicaid); Medicare?
- Health care claims data are different from health care data.
- Not all APCDs are equal, differences in policy, structure, content and access.
- Potential for VHCURES to inform public health surveillance, research, and policy... but is still young in development (data quality, software, hardware, analytical expertise)



## Key Points- 2

- VHCURES may be better at assessing prevalence of acute diseases and chronic conditions are likely underreported.
  - ▣ VHCURES contains limited number of years.
  - ▣ Numerators are based on whether a person sought care for a disease with a diagnosis code X. “Better” for current prevalence than lifetime prevalence.
  - ▣ May provide supplementary/complimentary information to existing reliable sources such as BRFSS & VUHDDS, but does not replace these sources.

# Key Points-3

- Questions to consider before using VHCURES for an analysis:
  - ▣ Does VHCURES contain the relevant data to answer questions (ie. does not contain outcome data, includes limited demographic data, Medicare not available, does not contain everyone).
  - ▣ Who or what is the numerator? Denominator? All VHCURES members (though dual eligibles are in denominator more than once)
  - ▣ > 9 month lag time in data
  - ▣ How to validate results?



# Conclusions

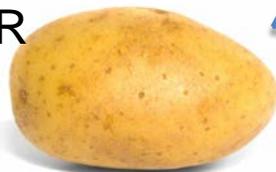
- ❑ VHCURES is rich but complex; has potential to supplement existing sources of health data
- ❑ VHCURES and established data sources slightly different #'s, but similar messages for asthma ED and Inpatient care
- ❑ CPT code usage consistent between VHCURES and Medicaid data for smoking cessation
- ❑ BRFSS - established source for chronic disease prevalence
- ❑ Seek to validate/confirm results
- ❑ Living database- be aware of time lag



Survey Data



EHR



VHCURES/  
Utilization data



# Resources

- Green Mountain Care Board- VHCURES website:

<http://gmcboard.vermont.gov/vhcures>

- The What, Who, Why, and How of All-Payer Claims Databases

<http://www.jsi.com/JSIInternet/Resources/publication/display.cfm?xtGeoArea=US&id=14763&thisSection=Resources>

- With questions please contact:

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