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**2020 NATIONAL**  
**RYAN WHITE**  
**CONFERENCE ON**  
HIV CARE & TREATMENT

# 2020 National Ryan White Conference on HIV Care and Treatment

Virginia Department of Health



# 10 Years A HRSA Patient Safety and Clinical Pharmacy Services Collaborative (PSPC) Successful Story

Impact of Clinical Pharmacy Services on under-served HIV positive populations in rural Virginia

# Presenters



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# Disclosures



- Presenters have no financial interest to disclose.
- Commercial Support was not received for this activity.

# Obtaining CME/CE Credit



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- <http://ryanwhite.cds.pesgce.com>

# Objectives



- Assess the potential economic impact of adverse drug events on outcomes as an impetus for modeling change
- Discuss utilization of a collaborative practice model to create tailored QI initiatives focused on patient safety and health improvement outcomes
- Explain the patient centered care model to engage consumers and its use in treating HIV as a chronic disease
- Describe activities from TRHD's QI process and how they can be adapted for your setting

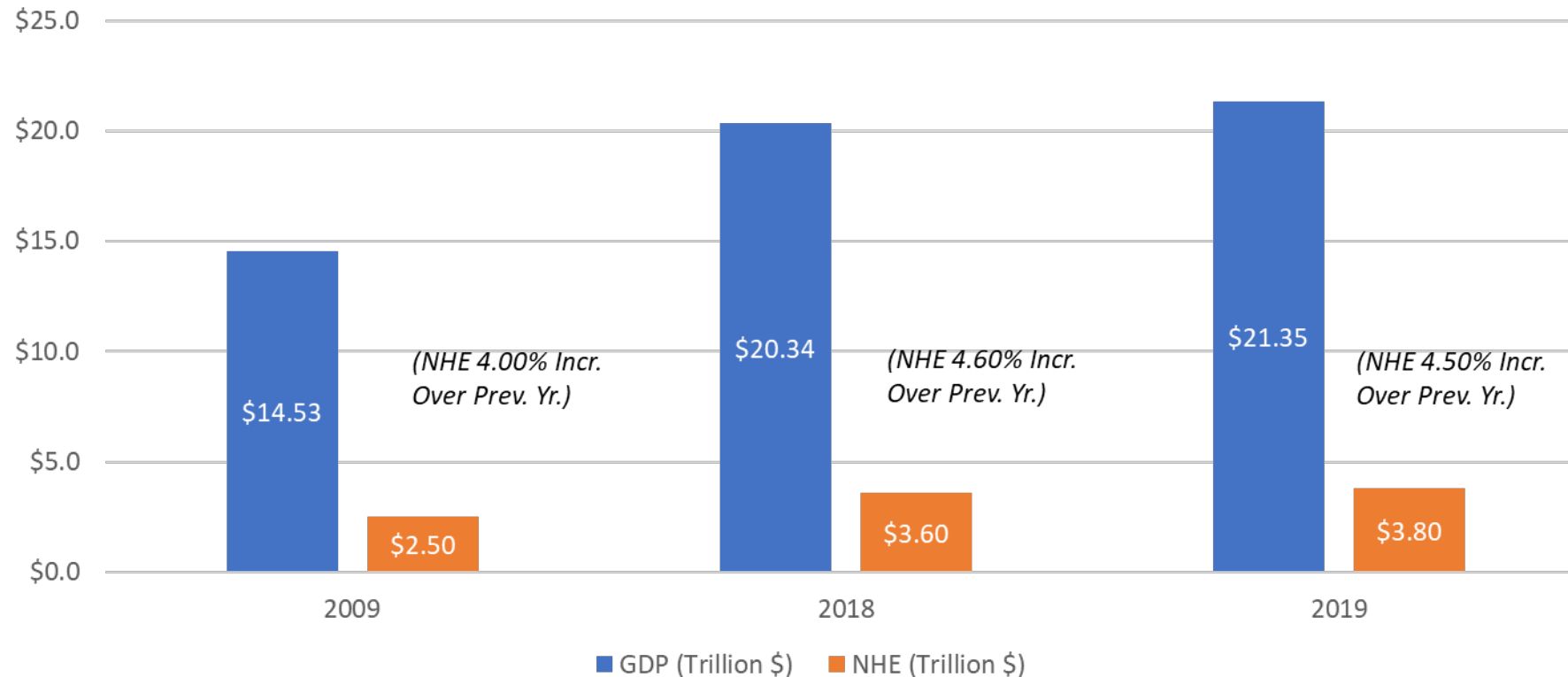
# *The Background:* Assessing the Need for Change

- Economics of Health Care
- Impacts of Adverse Drug Events
- Creation of PSPC Initiative

# Economics of Health Care



Comparison of GDP and NHE (national healthcare expenditures)





- National health spending 2018 reached \$3.6 trillion, or \$11,172 per person.
- The share of Gross Domestic Product (GDP) devoted to health care spending fell slightly to 17.7% in 2018.
- National health spending projection for 2020 are \$4 trillion (projection is pre COVID-19)

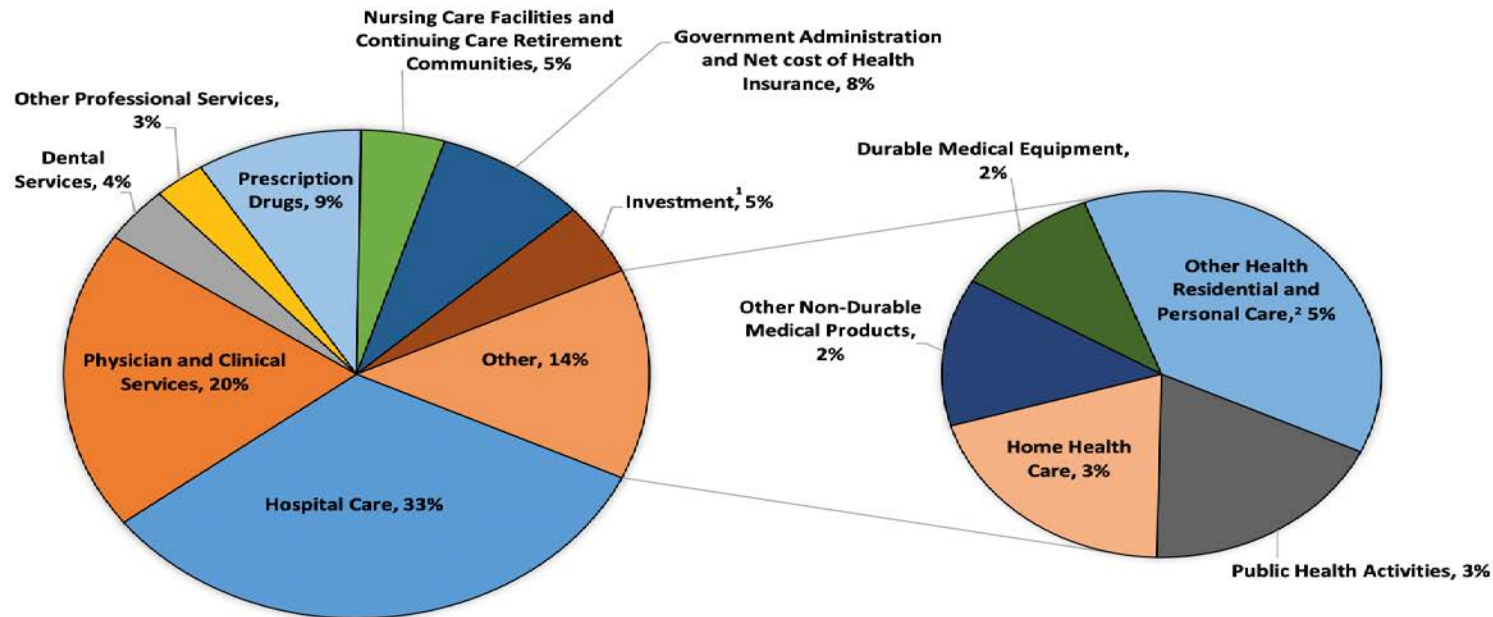
SOURCE:

Centers for Medicare & Medicaid Services, Office of the Actuary, National Health Statistics Group.<sup>3</sup>

\*Predicted National Health Expenditure Accounts Published March 2020;  
<https://doi.org/10.1377/hlthaff.2020.00094>

# Economics of Health Care: 2018

THE NATION'S HEALTH DOLLAR (\$3.6 TRILLION), CALENDAR YEAR 2018,  
 WHERE IT WENT



1. Investment includes Noncommercial Research and Structures and Equipment.
2. Other Health Residential and personal care includes expenditures for residential care facilities, ambulance providers, medical care delivered in non-traditional settings (such as community centers, senior citizens centers, schools, and military field stations), and expenditures for Home and Community Waiver programs under Medicaid.

Note: Sum of pieces may not equal 100% due to rounding.

SOURCE: Centers for Medicare & Medicaid Services, Office of the Actuary, National Health Statistics Group.

# Economic Impact Of Adverse Drug Events: Hospital Utilization



- Hospital care 33% (\$1,191.8 billion) 2018
- 30% of all adverse drug events in hospitalized patients can be attributed to preventable drug interactions\*
- 21% hospital admission rate associated with adverse drug events with HIV positive patients (36% of those involved antiretrovirals)\*\*

\*Bates,DW, et.al., The Costs Of Adverse Drug Events In Hospitalized patients. JAMA 277:307-311, 1997

\*\*M Fosalda PharmD et.al., Hospitalization Due To Adverse Drug Reactions And Drug Interactions Before And After HAART, Can J Infect Dis. 2000 Jul-Aug; 11(4): 193–201

- Prescription Drugs 9% (\$335 billion)

“...for every dollar spent on ambulatory medications, another dollar is spent to treat new health problems caused by the medication.”\*

\*Institute Of Medicine, To Err Is Human: Building A Safer Health system, Washington, DC: National Academy Press 2000

# Economic Impact Of Adverse Drug Interactions: Population Impact



- 82% of the U.S. population reported using at least one prescription medication, over-the-counter medication or dietary supplement in the previous week
- 30% reported using 5 or more of these drugs in the previous week
- Nearly 25% of ambulatory patients reported adverse drug events

HRSA PSPC Change Package; <http://www.hrsa.gov/patientsafety-...> assessed August 15, 2011

Centers For Medicare And Medicaid Services Office Of The Actuary, National Health Statistics

# Impact of Adverse Drug Interaction: HIV Antiretroviral Therapy



- Patients who are HIV positive are at high risk for adverse drug events
- Complex drug therapies requiring 3 to 4 antiretroviral agents for efficacy
- Additional therapies to treat/prevent opportunistic infection
- Systemic effects of antiretroviral therapy require management over decades of treatment
- HAART impacts major metabolic pathways used by other drugs especially the CYP450 enzyme system

Bachhuber MA, Southern WN. Hospitalization rates of people living with HIV in the United States, 2009. *Public Health Rep.* 2014;129(2):178-186. doi:10.1177/003335491412900212

# Impact of Adverse Drug Events: Confounding Factors



- Stigma
- Socio-economic Status
- Poly pharmacy
- End Organ Insufficiency
- Co-morbid Disease



*The Project:*  
Start Where You Are  
Improve What You Have  
Collaborate Where You Can

- Define initiative and participants
- Process and Methods
- Measurements



In 2009, Health Resources and Services Administration (HRSA) launched the PSPC initiative to improve patient safety and health outcomes by integrating clinical pharmacy services into the care and management of patients with chronic diseases.

# Virginia (VA) PSPC Infrastructure



Seven partners from VA participated in the PSPC:

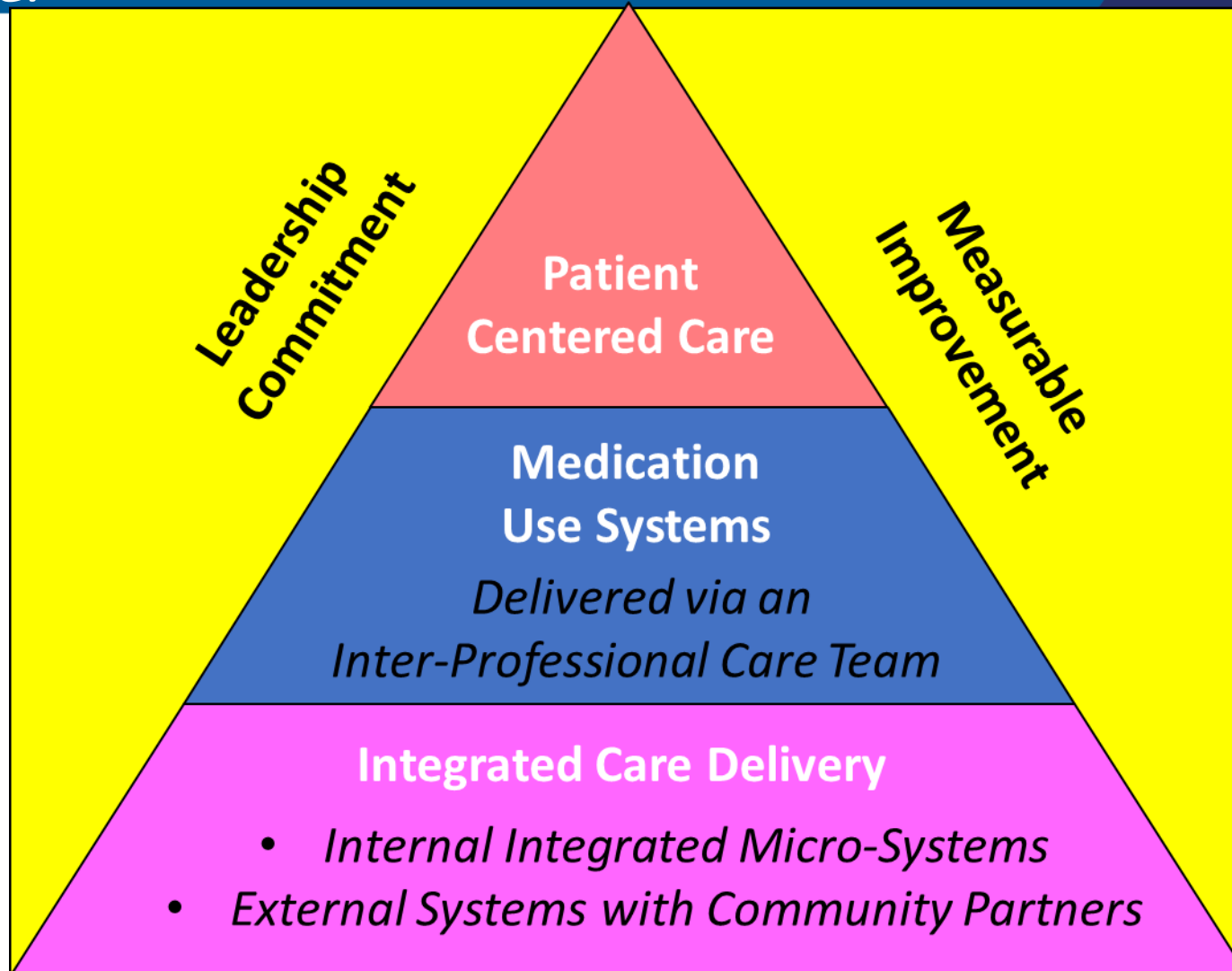
- EVMS including the Center for Comprehensive Care of Immune Deficiency (C3ID) and HIV/AIDS Resource and Consultation Center (ARCC)
- Three Rivers Health District (TRHD)
- Eastern Shore Health District (ESHD)
- Consumers
- First Light Group, LLC Clinical Pharmacy Services
- Virginia Department of Health (VDH)

- Additionally, VDH brings to the process its long-standing leadership in quality assurance as well as financial and technical support.
- VDH has been using Ryan White Part B grant money to help support the project.
- The HIV Care Services Clinical Quality Management Coordinator has been assigned to continue enhancing patient safety activities by providing direction, essential support, leadership, and encouragement to this initiative through his many organizational contributions.

# PSPC Integration Pyramid – *5 Key Strategies Being Implemented Together*



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# Quality Improvement Strategies Process and Methods



- A. The “Change Package” Model
- B. Collaborative Practice Model
- C. Plan, Do, Study and Act model
- D. Patient Center Care Model

# A. The “Change Package” Model



The “Change Package” model was selected to analyze and quantify improvements above baseline for the five core components to achieve accountability for results

## B. Collaborative Practice Model



Inter-professional Collaborative Practice definition:

“When multiple health workers from different professional backgrounds work together with patients, families, caregivers, and communities to deliver the highest quality of care”

(WHO, 2010)

Inter-professional Education Collaborative Expert Panel. (2011). Core competencies for inter-professional collaborative practice: Report of an expert panel. Washington, D.C.: Inter-professional Education Collaborative.

## B. Collaborative Practice Model Steps Cont'd



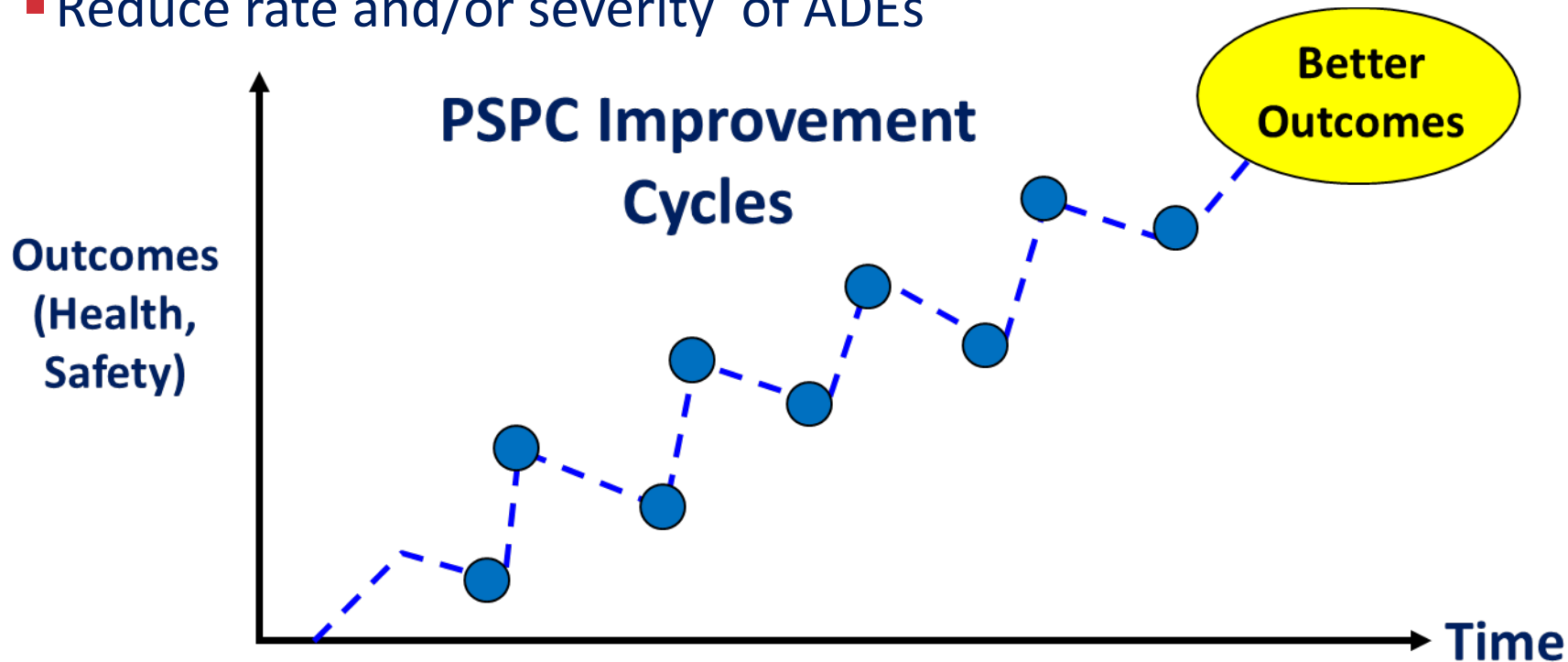
- Assembling a collaborative team
- Training : HRSA-PSPC
- Defining our Population of Focus (PoF)
- Build on the success of others
  - Change Package
  - Mentoring Teams
  - Utilized rapid improvement tool: PDSAs
- Measuring improvement
  - Health outcome measures
  - Adverse Drug Events (ADE) and potential Adverse Drug Events (pADEs)



## B. Collaborative Practice Model Cont'd

### Improving Health and Safety

- Over the course of the collaborative years, teams work to
  - Improve the health of patients in their PoF
  - Reduce rate and/or severity of ADEs

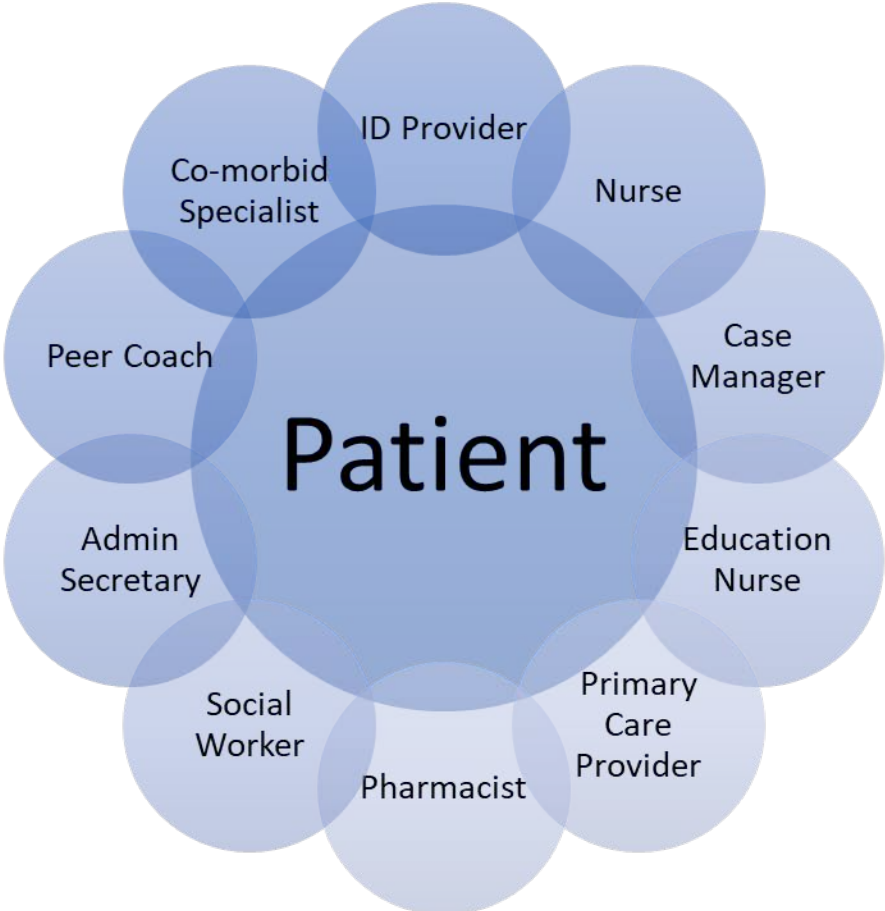


# C. Plan, Do, Study and Act (PDSA) Model Cycle – A Rapid Improvement Tool



- **Step 1** - Identify barriers and need changes to promote healthy life
- **Step 2** - Assess the importance of PDSA to the patient and to the clinician
- **Step 3** - Assess the urgency of change
- **Step 4** - Formulate action plan using PDSA format to enact change

# D. Patient Centered Care Model



## D. Patient Centered Care Model Cont'd



### Definition:

- Organizational culture change (**Silo to collaborative**)
- Requires a long-term commitment
- Alignment of different organization's values, strategies and structures
- Engaging the hearts and minds of those you work with and care for (**consumer Involvement**)

# D. Patient Centered Care Model Cont'd



## Our Initiatives

- Partnering beliefs
- Patient member of care team
- Share information gathering
- Negotiated joint patient goals

# D. Patient Centered Care Model Cont'd



## Process of Change

- Hire a pharmacist
- Measure impact of PSPC on treatment adherence
- Paid consumers as part of the Health Care Team
- Involve medical case managers
- **VACAC (sustainability)**
- **QMAC (sustainability)**



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# Data Driven Outcomes

## Definition

- Measuring the condition of a patient
  - Healthy life
- Includes the degree of wellness (**Consumer perceptions**)
- Need for continuing care, medication, support, counseling, or education



## Ending the HIV Epidemic: A Plan for America

The U.S. Department of Health and Human Services (HHS) has launched Ending the HIV Epidemic: A Plan for America. The cross-agency initiative leverages critical scientific advances in HIV prevention, diagnosis, treatment, and outbreak response by coordinating the highly successful programs, resources, and infrastructure of many HHS agencies and offices.

### GOAL:

reaching  
**75%**  
reduction  
in new HIV  
infections  
by 2025  
and at least  
**90%**  
reduction  
by 2030.



HHS will work with each community to establish local teams on the ground to tailor and implement strategies to:



**Diagnose** all people with HIV as early as possible after infection.



**Treat** the infection rapidly and effectively to achieve sustained viral suppression.



**Prevent** new HIV transmissions by using proven interventions, including pre-exposure prophylaxis (PrEP) and syringe services programs (SSPs).



**Respond** quickly to potential HIV outbreaks to get needed prevention and treatment services to people who need them.



# Measuring Health Outcomes



- Meaningful use of accountability and outcomes
  - Set quality standards (benchmarks)
- System Investment incentives
  - Implement of Electronic Health Records
  - Improved documentation of patient-specific information
  - Report clinical quality measures to all partners

# Measuring Health Outcomes Cont.



- Clinical Pharmacy Services : Target Goals
  - Efficacy:
    - CD4, VL , ART, OI prevention
  - Toxicity:
    - Track Clinical Markers
      - HIV-ART pADEs and ADEs
- Health Promotion
  - Smoking Cessation

- Clinical Pharmacy Services : Trend Analysis
  - Collect data and analysis trends in ADEs and pADEs
  - Identify high risk patients for value added services
  - Track markers for end organ function (Hepatic , Renal , Metabolic , Hematologic )

# 10 Year Review: VA PSPC Results and Benefits

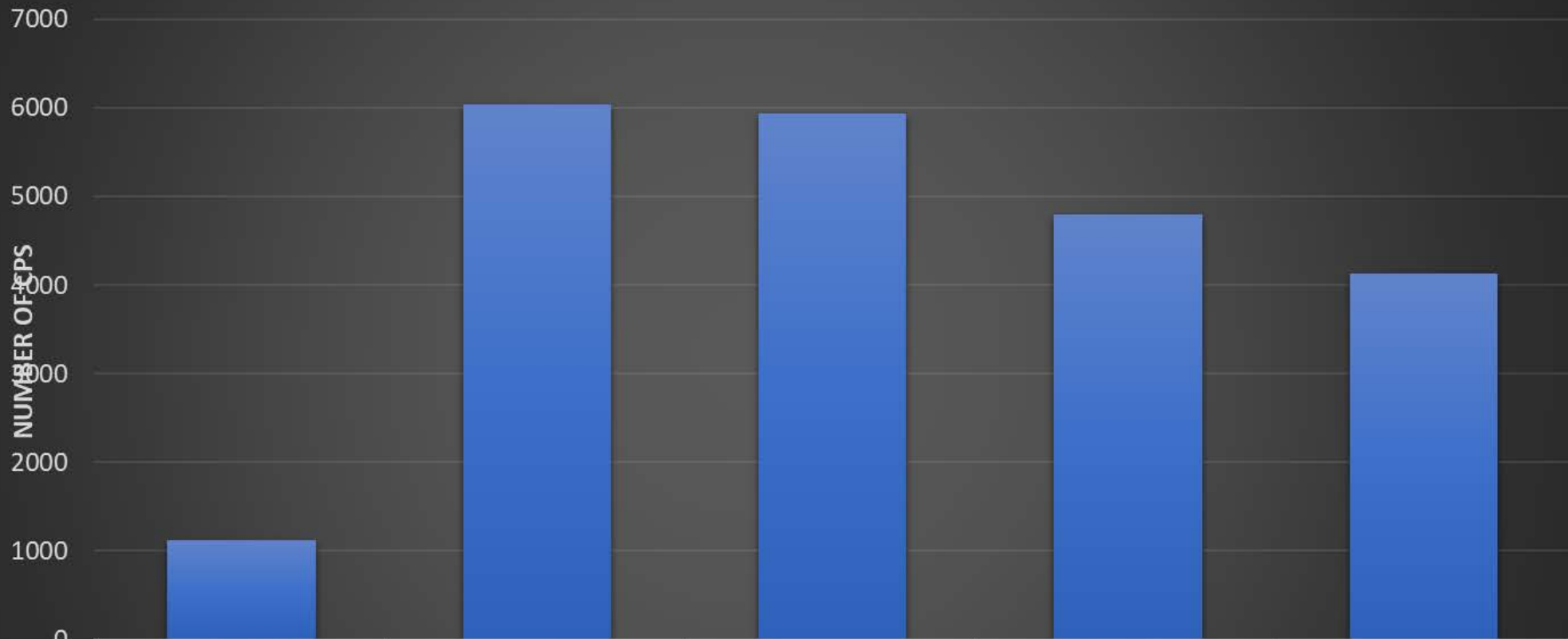
2009 - 2019

# VA PSPC Results and Benefits



PSPC Health Improvement and PSPC on provided Clinical Pharmacy Services (CPS)

### VA PSPC Health Improvement of CPS 2009 - 2019

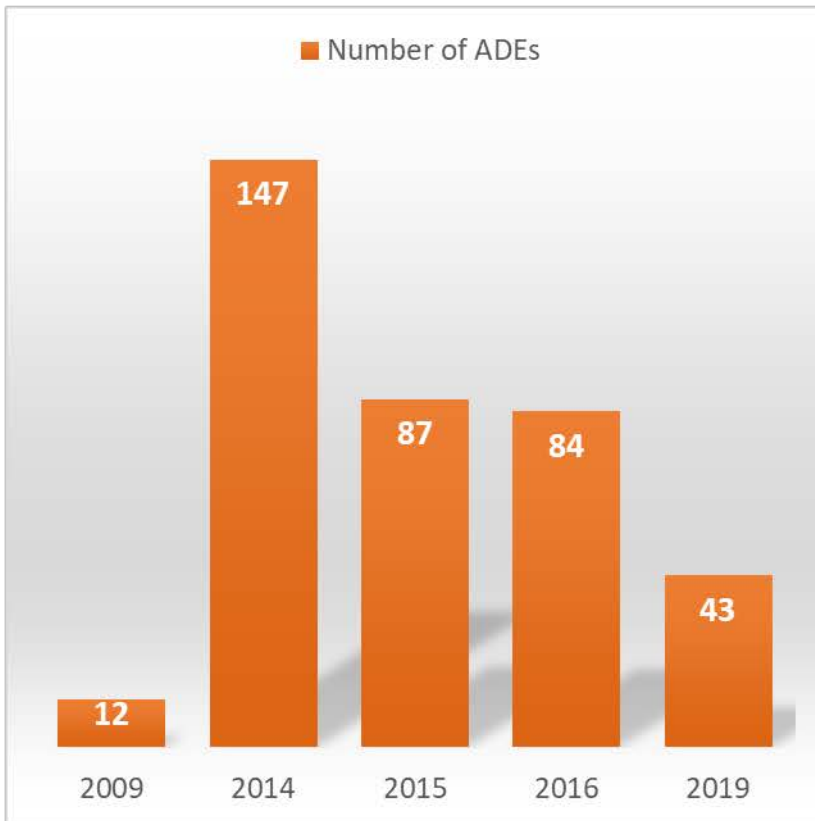


	2009	2014	2015	2016	2019
■ Number of CPS	1121	6039	5931	4789	4133

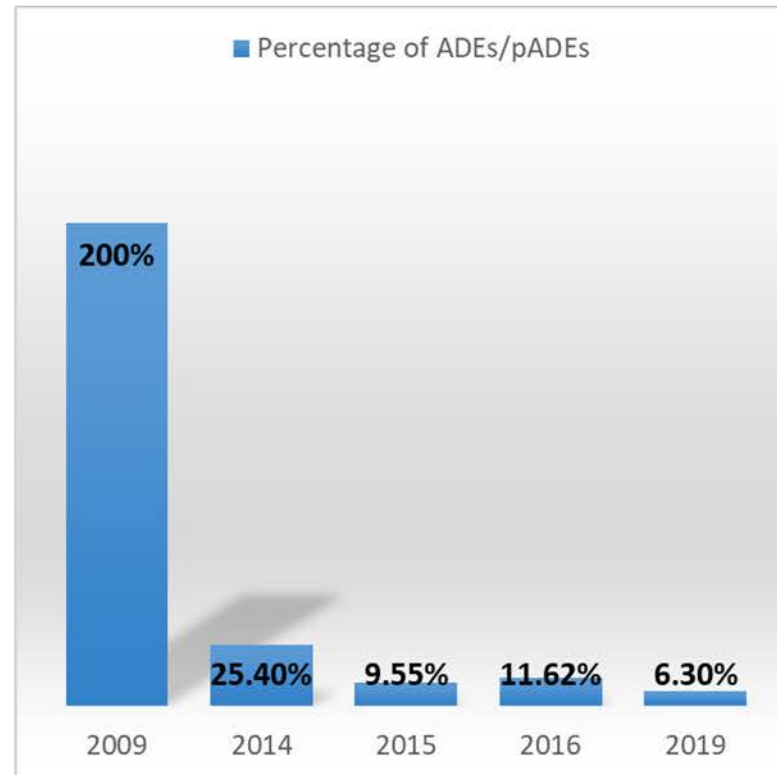
# VA PSPC Results and Benefits Cont'd

## PSPC Health Improvement and PSPC Assertion on Documented ADEs and pADEs

Number of ADEs



Percentage of ADEs/pADEs

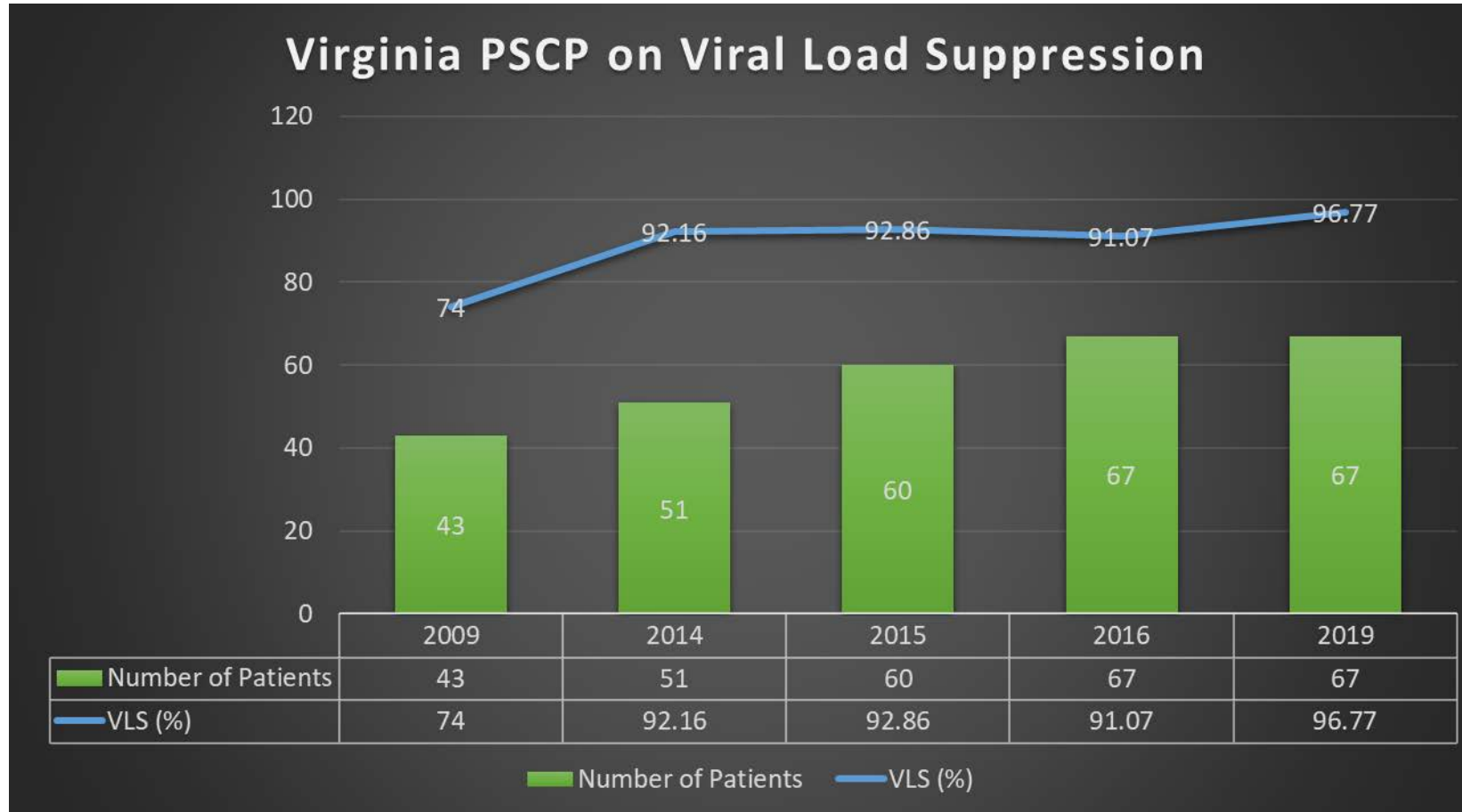


ADEs/pADEs	No. ADEs	% ADEs/pADEs
2009	12	200%
2014	147	25.4%
2015	87	9.55%
2016	84	11.62%
2019	43	6.3%

# VA PSPC Results and Benefits Cont'd



## PSPC Health Improvement and PSPC Assertion on Viral Load Suppression (VLS)





- Standardization of processes
- Process evaluation at every interface point to build safety nets
- Tracking trends to identify high risk patients in POF
- Co-morbid impact evaluation
- Information sharing “–Real Time”
- Patient negotiated goals and priorities and preferences responsibilities

# VA PSPC Qualitative Results and Benefits



- Efficacy (VL suppression) was necessary goal
- Safety must be addressed at every point of care
- Multi-discipline approach added value/clarity
- Rapid change tools quickly improved outcomes
- Patients become empowered consumers and advocates

- Use impact of outcome data on standards of care to engage other providers
- Enhance health care quality and more effective collaboration among health professionals
- Collect and report data demonstrating improvements in patient outcomes and cost-savings
- Leadership commitment and ability to integrate care processes.
- Proximity or availability of a clinical pharmacist on the care sites is important
- Continually increase buy-in and commitment
- Make available funds to sustain the Collaborative.

- The project needs to be given the time and budget support to be able to plan and implement selected strategies of change.
- Identify a physician champion from the start who would be comfortable sharing or delegating responsibility for medication management.
- Encourage team members to share individual lessons learned throughout the life cycle of the Collaborative and focus on successes, challenges and methods used to overcome challenges.
- Make the performance measurements specific to the collaborative and written so to be easily understood by all team members.
- Celebrate successes and promote sustainability.

- The inclusion of clinical pharmacy services is a culture change that supports efforts to improve patient safety and patient centered care.
- PSPC changes the role of the pharmacist from basically a dispensing role to a true critical partner with the rest of the clinical professionals.
- Much of the clinical pharmacist's expertise has been used in providing patient education and counseling in disease management, new guidelines, and regulatory requirements, as well as updates on high-alert medications.

# The Virginia PSPC Champions



These are the Champions who Provided extensive time, effort and dedication to the development of the VA PSPC

Representation from various organizations:

- Virginia Department of Health (VDH)
- Eastern Virginia Medical School (EVMS)
- Three Rivers Health Department (TRHD)
- First Light Group
- Ryan White Consumers
- Safere Diawara
- Pierre Diaz
- Allison Gray
- Janet Hall
- Richard Hall
- Rosalind Jones
- Vicki S. Johnson
- Tanya Kearney
- Pam Lane
- Cindy Lewis
- Virginia Walker Sherrod
- Judy Wessell

- HRSA Modeling change PDSAs
- HRSA PSPC-Change Package
- “Patient – Centered Care Improvement Guide”, Susan Frampton, et.al. Plaintree Project,2010
- “Lean” on Pharmacy: Practical Applications to maximize Value and Improve Efficiency, ASHP Advantage Webinar July 27, 2011

- “What meaningful use means for pharmacy”, Anderegg & K Gumpfer, S., Am J Health-Syst Pharm-Vol 69:890-893 May 15, 2012
- Contemporary Cost of HIV Health Care in the HAART Era, K Gebo, et.al; for the HIV Research Network, AIDS.24(17):2705-2715, November 13, 2010.
- “Development of National and Multiagency HIV Care Quality Measures” M Horberg MD et al. <https://academic.oup.com/cid/article/51/6/732/461172> accessed 7.24.12



# References



Medical Resources for Health Professionals	Website
DHHS Guidelines	<a href="http://www.aidsinfo.nih.gov">www.aidsinfo.nih.gov</a>
HIV Drug Interactions	<a href="http://www.hiv-druginteractions.org">www.hiv-druginteractions.org</a>
Medscape	<a href="http://www.medscape.com/hiv">www.medscape.com/hiv</a>
HIV and Hepatitis	<a href="http://www.hivandhepatitis.com">www.hivandhepatitis.com</a>
Clinical Care Options	<a href="http://www.clinicaloptions.com/HIV">www.clinicaloptions.com/HIV</a>
HIV Pharmacology	<a href="http://www.hivpharmacology.com">www.hivpharmacology.com</a>
The Body	<a href="http://www.thebodypro.com">www.thebodypro.com</a>
HIV Insite – UCSF	<a href="http://hivinsite.ucsf.edu">http://hivinsite.ucsf.edu</a>

Resources for Patients and Advocates	Website
San Francisco AIDS Foundation	<a href="http://www.sfaf.org">www.sfaf.org</a>
Project Inform	<a href="http://www.projectinform.org">www.projectinform.org</a>
The Body	<a href="http://www.thebody.com">www.thebody.com</a>
AIDS Info Net	<a href="http://www.aidsinfonet.org">www.aidsinfonet.org</a>

Tables Courtesy of Judy Wessell DNP

# Helpful Web Sites



- [www.aidsinfo.nih.gov](http://www.aidsinfo.nih.gov) for Guidelines
- <http://publications.usa.gov> for FDA publications
- <http://www.dummies.com> for LEAN introduction
- <http://www.patient-centeredcare.org> Patient – Centered Care
- [www.cdc.gov](http://www.cdc.gov) for HIV Information
- [www.pamaaetc.org](http://www.pamaaetc.org) for Resources and training opportunities
- [www.vharcc.com](http://www.vharcc.com) for resources and training opportunities
- [www.vdh.virginia.gov](http://www.vdh.virginia.gov) for resources related to RWHAP and CQM



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Thank You!

For more information visit: [Virginia Dept of Health HIV Care Services](#)