



O Sistema Único de Saúde para o Século 21

Maureen Lewis, CEO
Seminário APS: Estratégia Chave
para a Sustentabilidade do SUS

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Scope of Presentation

- Introducing ideas to strengthen SUS drawing on Brazilian and global experience
 - Survey of the OECD experience
 - Collection of data and information on Brazilian innovation
 - Options for new delivery and payment arrangements
- Promoting and measuring quality, performance and outcomes
- Drawing on global evidence in developing
- Building accountability into the delivery and financing of health care

Rethinking SUS for the 21st Century

SUS = **major accomplishment**
the right to health in Brazil

Current SUS **insufficient to meet healthcare challenges**
of 21st century.

New disease burden pattern requires new approaches

- Chronic diseases that need constant surveillance
- Aging will accelerate the burden of non-communicable diseases
- Costs are rising due to inefficiency and low quality

Challenges of the SUS Model

Strengths of Current SUS Model

- Served Brazil well for over 30 years
- Based on the concepts of ***universalidade, igualdade e integralidade***
- Acknowledged health as important for social inclusion
- Propelled investments in historically underserved municipalities, states and regions
- Reduced health inequities through *Estratégia Saúde da Família* (PSF) and other initiatives
- Successful programs: OS Hospitals, PSF, National Transplant Program, tobacco control, HIV/AIDS, malaria and infectious disease control

Weaknesses of Current SUS Model - Processes

- No limitations or priority setting of what services should be provided → “everything for all”
- Coordination of care is theoretical
 - Referral and counter-referral rare
- Over use of hospitalization
- Rigidity in rules, payment and procedures → stifles innovation
- Low productivity in the health system → high cost
 - Inadequate use of nurses
 - Lack of trained SUS managers
 - Inflexibilities in HR management

Weaknesses of Current SUS Model - Gaps

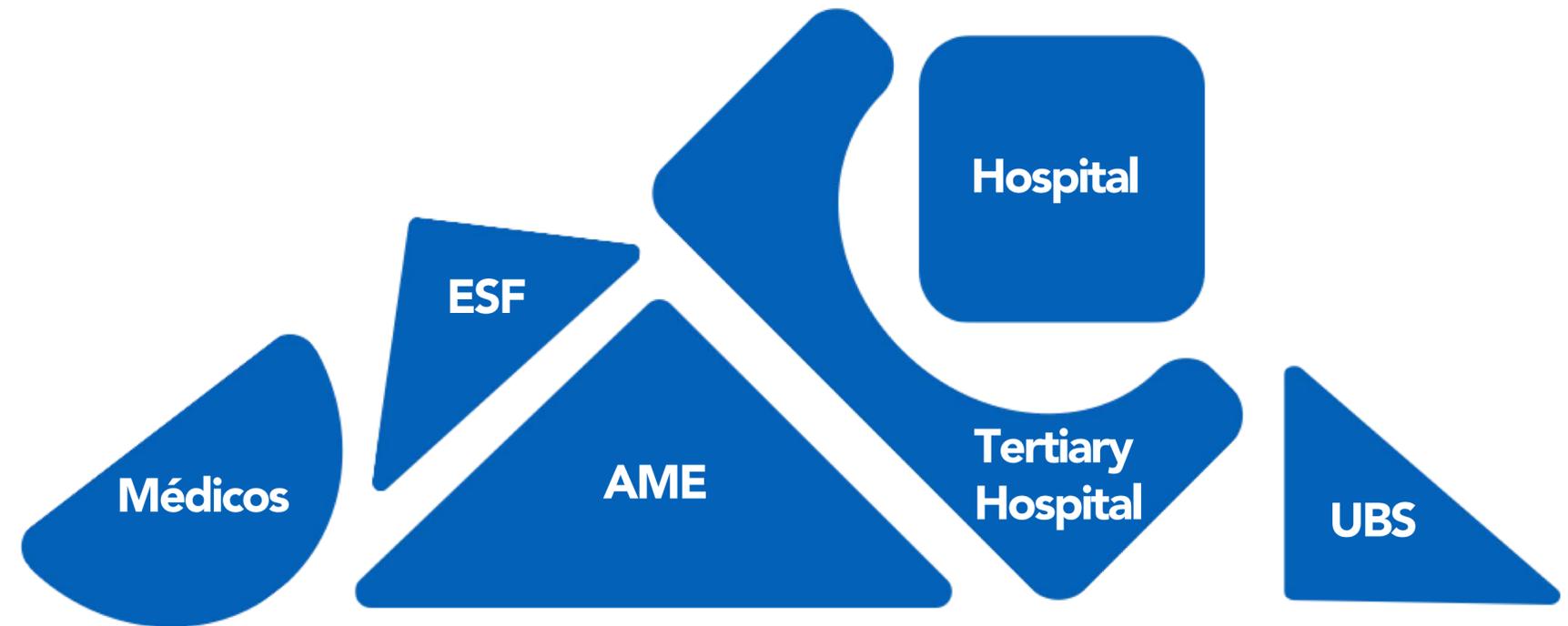
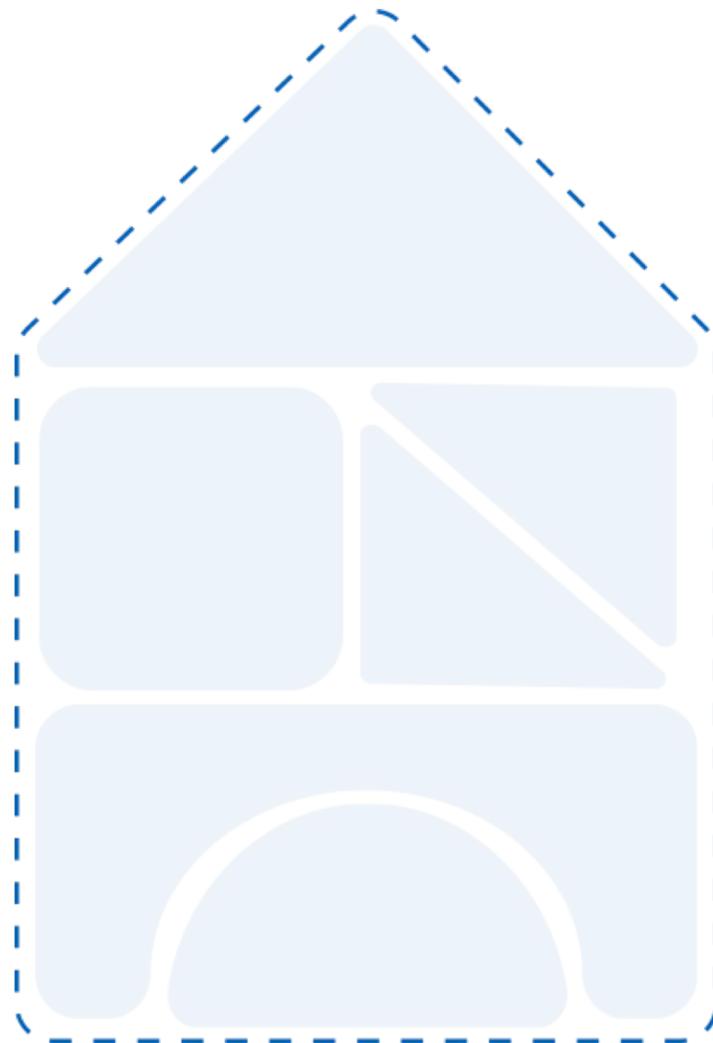
- Quality culture and quality priority missing elements
- Complexity and rigidity of financing arrangements
- Spending level less important than how funding is used

Data systems separate and vertical

- Prevents tool for effective oversight of performance
- No electronic health records
- Efficiency measures absent
- Lack of monitoring and evaluation

Organization of SUS Today:

without networks, coordination of care or accepted standards of quality



Fragmentation of care within and across public and private sectors

Low efficiency in primary, secondary and tertiary care



Undermines quality

Causes unnecessarily high costs due hospital-centric model

Leads to shortage of resources for needed services because the model is expensive

Perpetuates inequality

Quality of Care

Adverse Events in Brazilian Hospitals

- In Brazil, between 104,187 and 434,112 deaths/year are associated with adverse events in hospital care
- Controlling adverse events will raise quality

Adverse events are expensive:

- They costs private hospitals between R\$ 10.9 and R\$15.6 billion annually
- No comparable data for SUS hospitals are available

Source: Couto 2017; IESS 2016

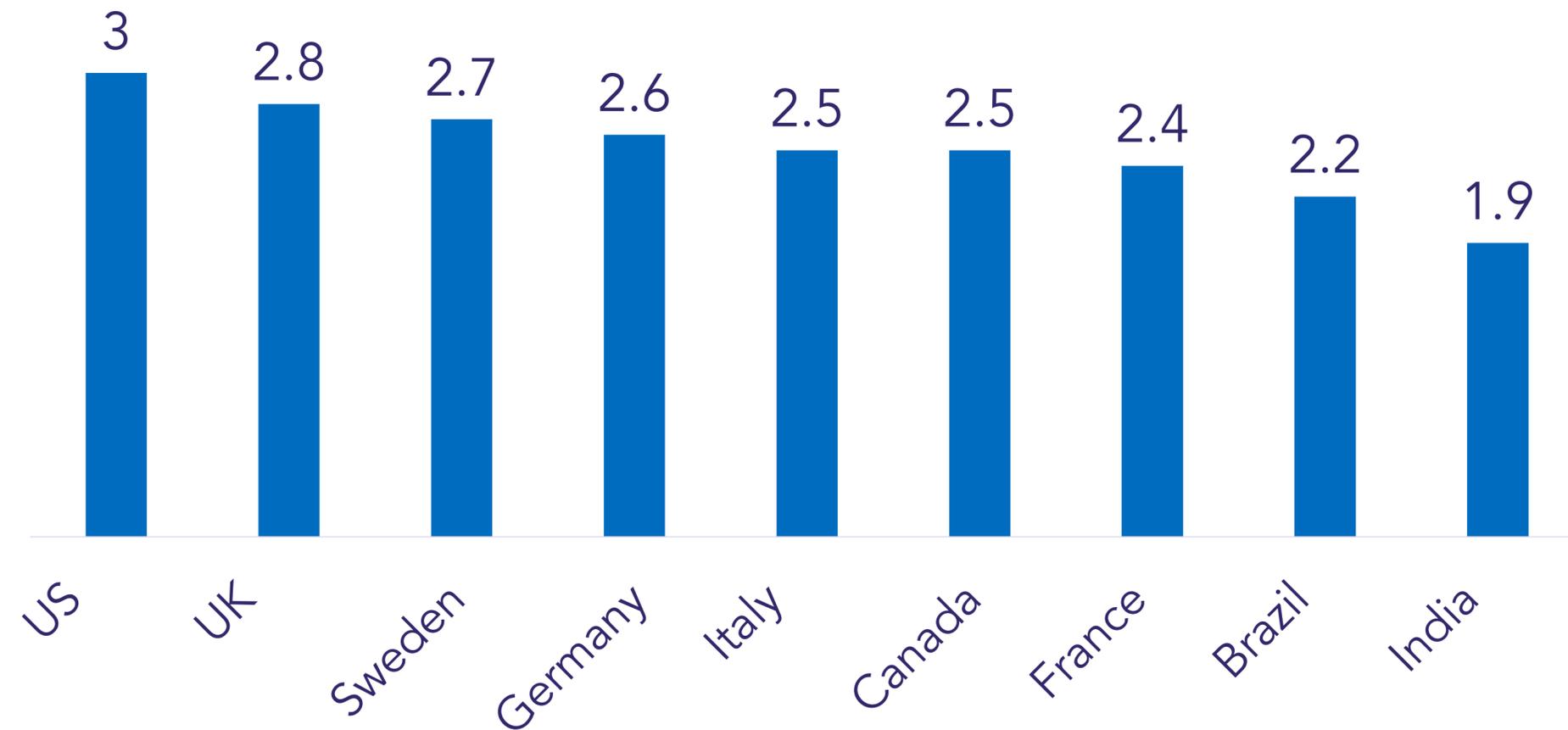
Public Hospitals in Brazil

- Similar findings in seminal hospital study in Brazil
- Hospitals absorb 70% of total health spending
- The typical Brazilian hospital is:
 - small (<50 beds)
 - low complexity
 - inefficient both absolutely and relatively
- Average hospital occupancy rate in SUS is only 37%
- 30% of hospitalized patients could be treated at lower level of care
- Low average hospital occupancy rate
 - availability of beds in the public system would increase if average productivity of hospital beds improved

Source: La Forgia e Couttolenc 2009

World Management Survey: Quality and Efficiency in Delivery

Hospital Management Scores across Countries



Bars represent the average management scores by country on a scale 1-5.

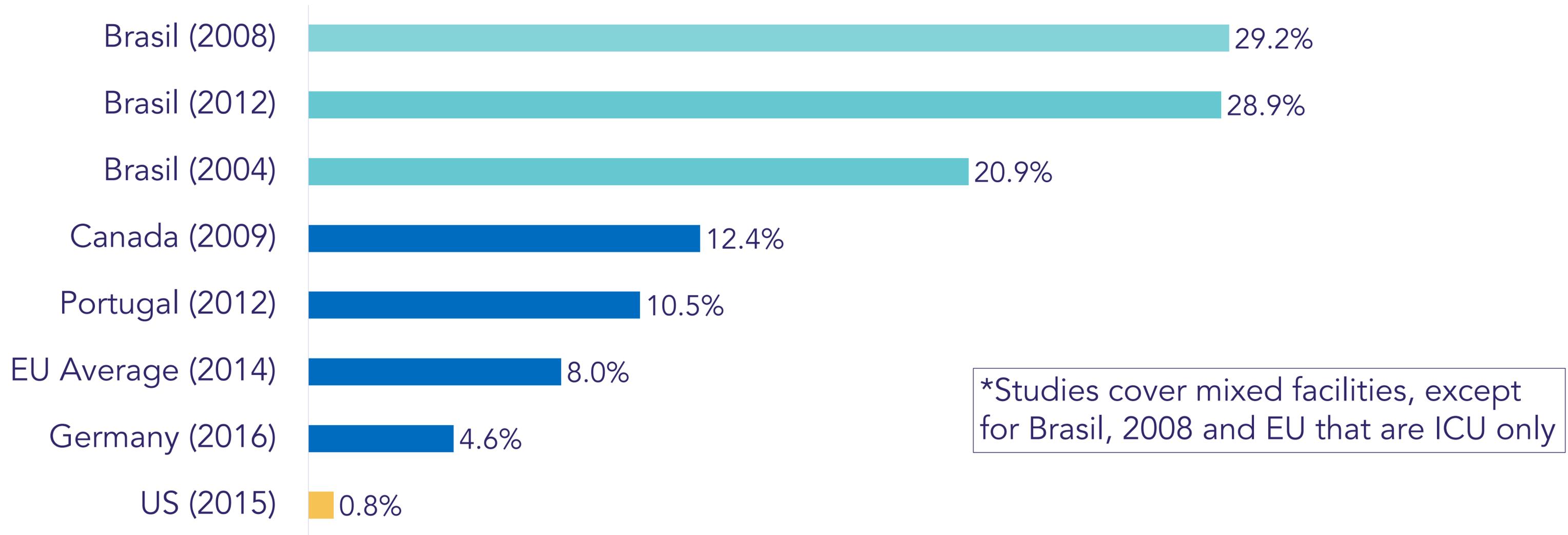
Hospital survey assesses the following kinds characteristics:

- Hospital layout and patient flow
- Patient pathway management
- Standardization and use of clinical protocols
- Personnel decisions and independence of medical and administrative staff
- Accountability of managers
- Effective deployment and use of staff
- Continuous improvement culture

Source: Bloom et al 2013

Quality of Care

Nosocomial Infection Rates – Global Comparison



Sources: Dereli et al. 2012; Borges et al. 2012; Duque et al. 2007; Taylor et al. 2016; Sousa and Paiva 2017; ECDC 2017; Behnke et al. 2017; HAI 2015

SUS Weaknesses Define Priorities and Offer Directions for Change

- **A focus on patients** and chronic disease management in healthcare delivery
- **Use the financing system** to incentivize improved healthcare delivery performance
- **Responsive** to citizens and patients
- **Improved use of technology** through a single Health Management Information System (HMIS)
- **Ensure accountability** of SUS
- **Upgraded quality**

Global Trends in Healthcare Delivery

OECD health systems promoting quality and patient-centered integrated care

- Evidence on high incidence of adverse events, inadequate outcomes, and gaps leading OECD countries to **restructured healthcare systems**
- Aging and the increase in chronic disease and multi-morbidities – require a **focus on integrated care** across providers to ensure continuity of care
- Renewed **focus on quality of care** – measurement, monitoring, incentives → higher quality
- Ensuring **accountability**

Sources: OECD 2017; WHO 2013; IOM 2001; IOM 2002

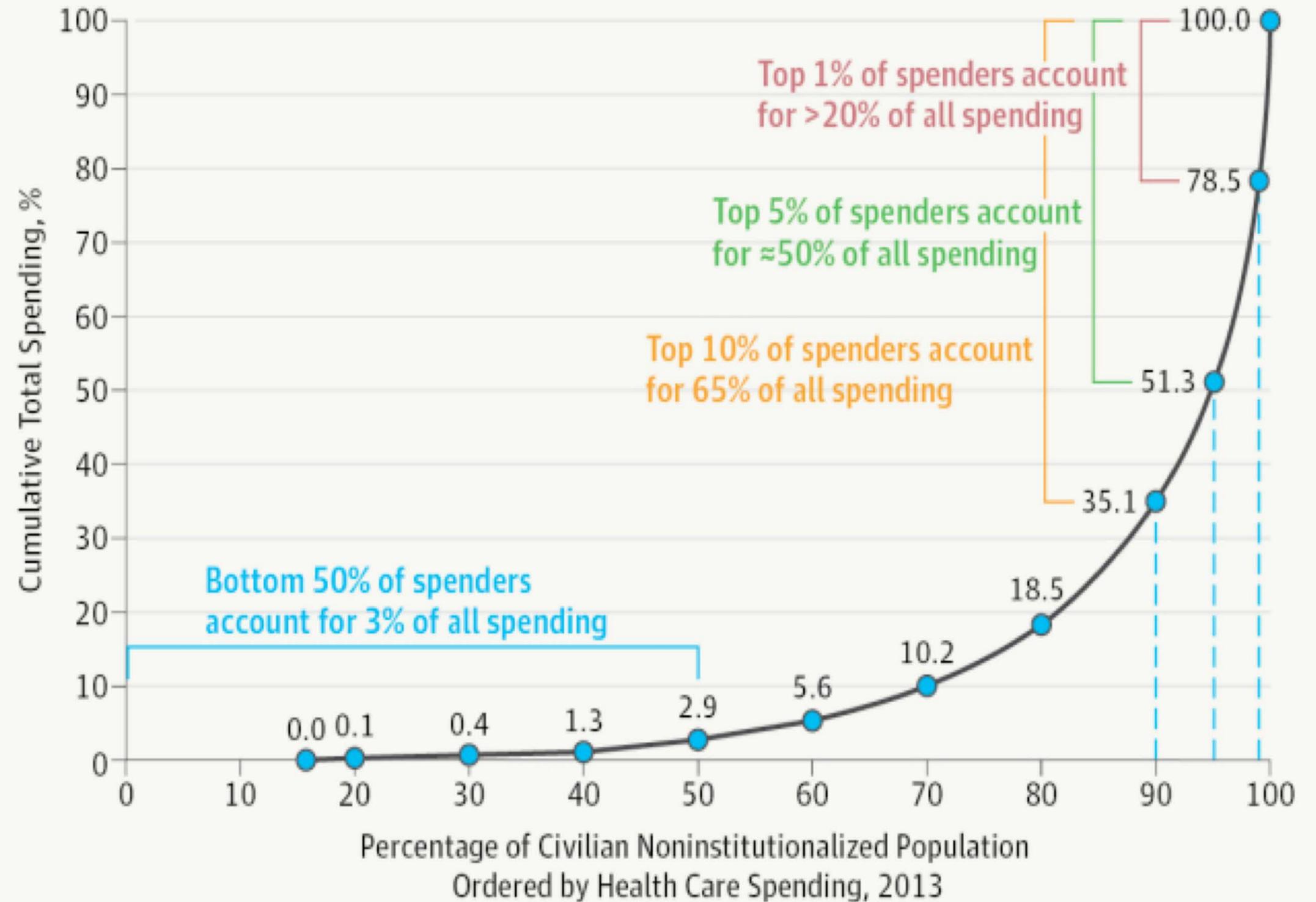


Accountability

- “Accountability” é um termo Anglo-Saxon e da lingua inglesa
- Pode ser traduzido para o português como responsabilidade com ética e remete à obrigação, à transparência, de membros de um órgão administrativo ou representativo de prestar contas a instâncias controladoras ou a seus representados
- Otro termo usado em português é responsabilização

Distribution of US Healthcare Costs across Patients – mirrors evidence for the OECD

Concentration of Health Spending Among Highest Spenders



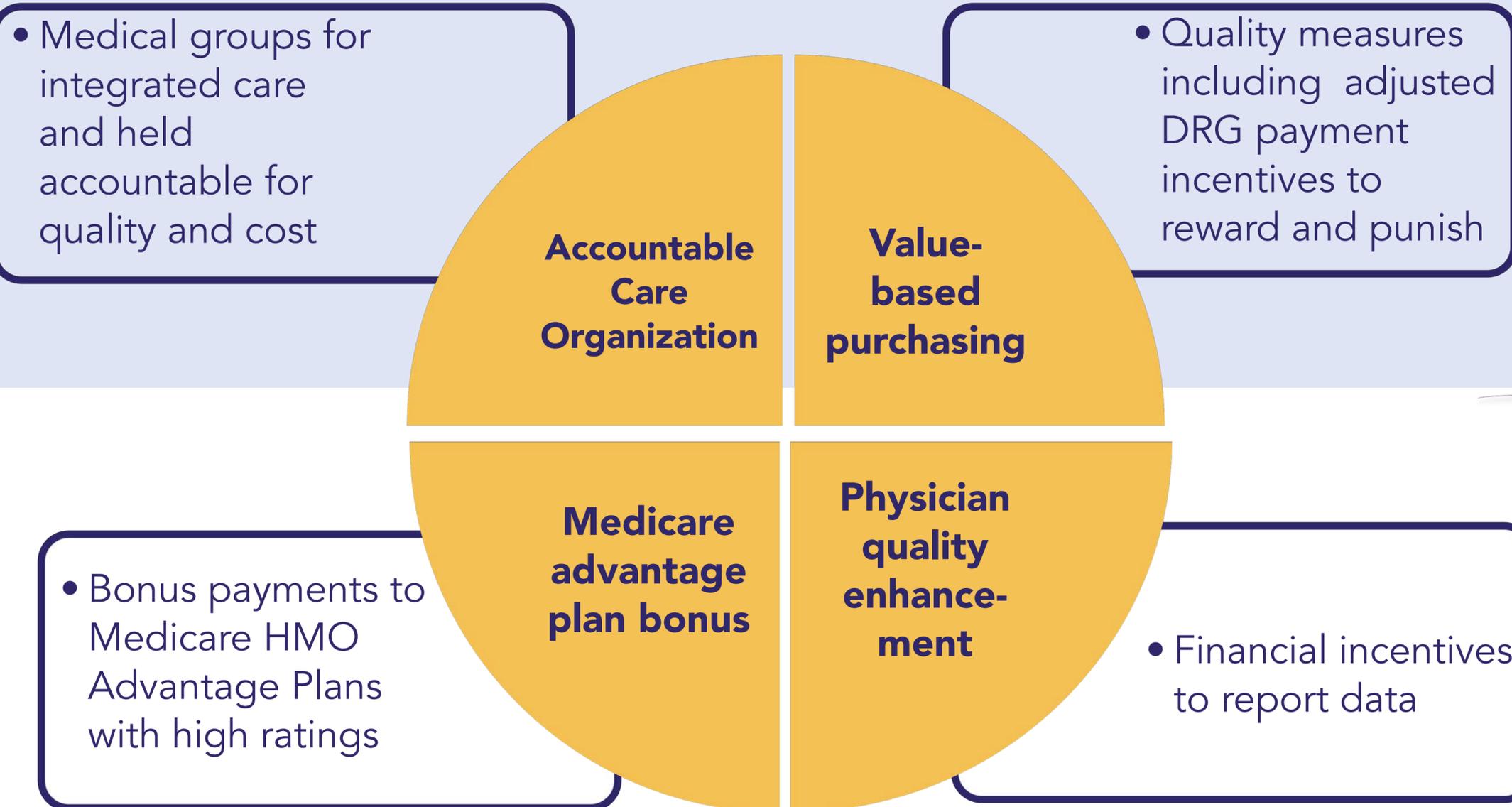
Source: National Institute for Health Care Management Foundation analysis of data from the 2013 Medical Expenditure Panel Survey

Summary of Evidence on Integrated Care Characteristics Across OECD Countries

Country/Area (Source)	Geographic Scope of Evidence	➤ Summary Description of Evaluated Initiatives
US -- Accountable Care Organizations (ACOs) (Muhlestein 2014)	Nationwide	Strong emphasis on integrate, coordinated care for defined population, good data, quality, accountability
Portugal (Almeida Simões 2017)	Nationwide	Overhauled the healthcare delivery system to focus on quality, the structure to support it and accountability
Spain, Catalonia (Lewis and Kouri 2004)	Regional	Integrated, coordinated care model, with data and cultural reset, good data, accountability
Spain, Basque Country (Contel 2015)	Regional	Another Spanish model designed around an innovative payment system, data and coordinated, integrated care
Australia, Gold Coast (Connor 2016)	Part of one city	Innovative approach to integrated care, good data, testing alternatives
Germany, Kinzigtal (Hildebrandt 2010)	Region of a state	Small pilot with impact on coordinated primary care focused on specific, high frequency chronic conditions

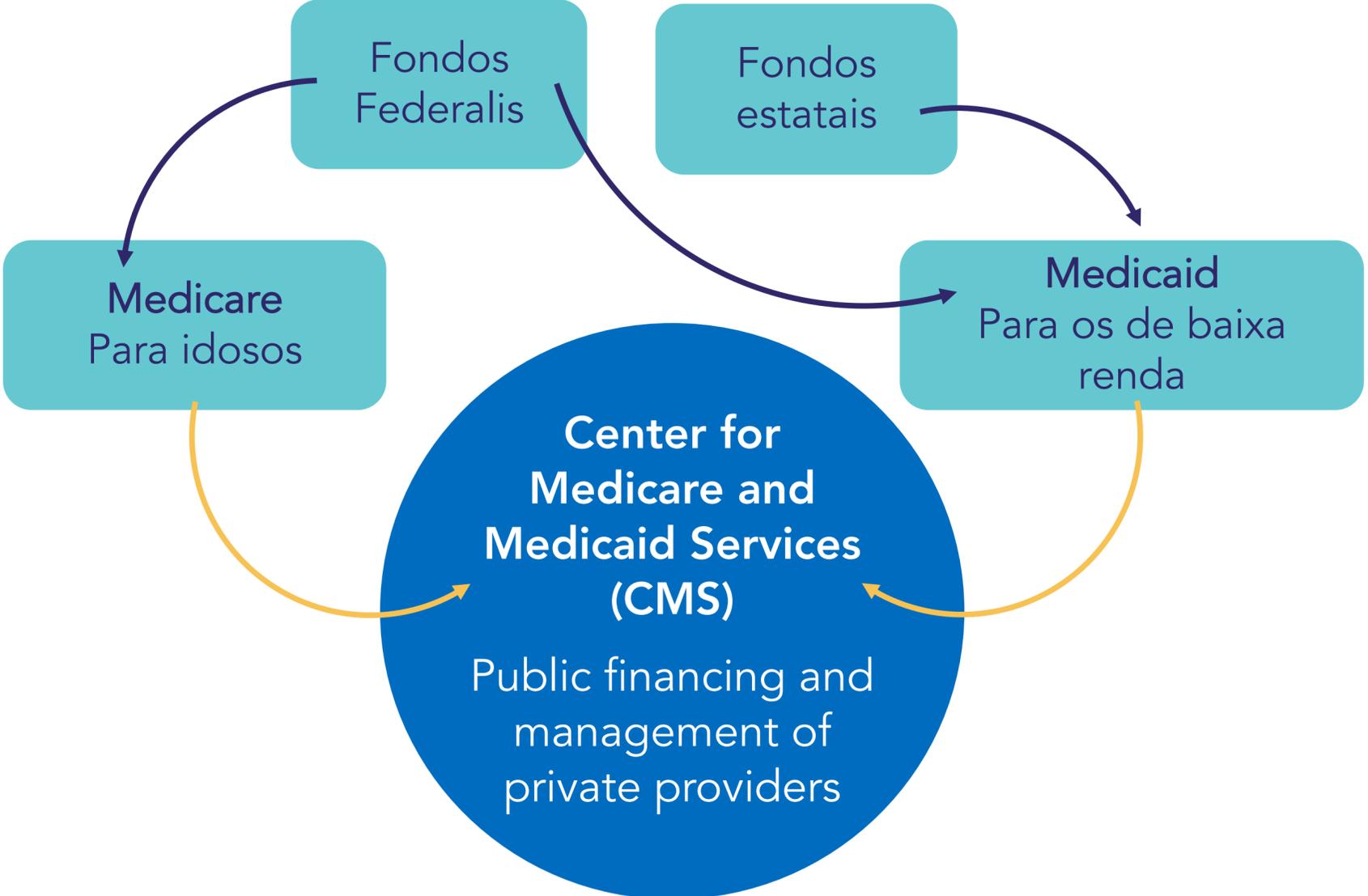
United States – Major Reform Components

Affordable Care Act (Obamacare)



United States

US Public Financing of Health Care



43% of health financed by the public sector – identical to Brazil's percentage

Source: US CMS 2017

United States – Reform Components

Public Incentives for quality and value under ACA

Alternative Payment Models

- Accountable Care Organizations
 - Shared savings/ blended payments for primary care
 - Capitated integrated primary care with accountability
 - Bundled Payments to include hospitalization, physicians and post-hospital care
-

Payment for Quality and Value

- Hospital Value Based Purchasing for quality and value
- Readmissions/Hospital Acquired Infections penalties
- Physician payment based on quality and value
- Physician Value Based Modifier for quality and value

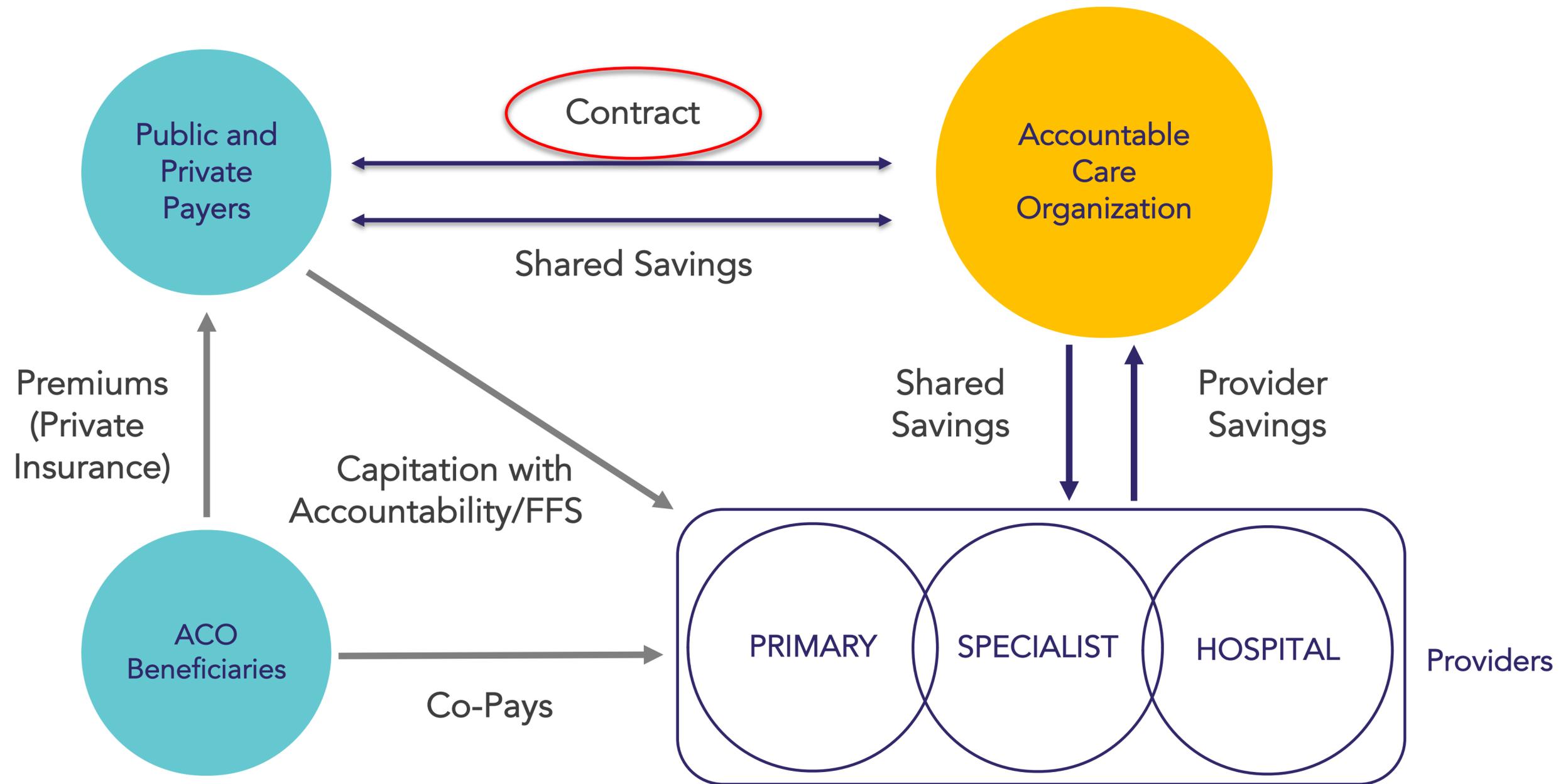
United States – Reform Components

Public Innovation in Obamacare 2007

- Major achievement - 20 million people added to public insurance coverage
- Quality foundation of reforms
- Incentives for hospitals, physicians and physician practices with full autonomy -- but holding them accountable
- New payment methods to incentivize performance
- Requirements to install and use electronic health records (EHRs)
- Accountability of providers to raise performance and improve quality of care → bonuses and penalties based on defined targets
- Technical assistance provided by CMS

United States – Reform Components

Accountable Care Organizations (ACOs)



Source: Authors based on Goodman 2014

United States – ACO Results

Improvements from Pioneer ACOs



Quality

- Outperformed fee-for-service providers on majority of quality measures
- On average 6% increase in quality score in just one year (2014-2015)
- Improved performance on 82% of the individual quality measures



Costs

- Nearly \$1 billion in program savings over three years
- Annual spending reduction increased from \$234 million saved in first year to \$429 million saved by the third year

Source: US Department of Health and Human Services 2017

United States – Value-based Payment Component

Paying for Quality and Outcomes Not Volume of Care

$$\text{Value} = \frac{\text{patient health outcomes}}{\text{costs of delivering outcomes}}$$

1. Payment reform: align payment with performance – move away from fee for service to episode-based payment

1. Information systems for data on performance and outcomes - for providers, and payers

3. Standardized performance and outcome measures: physician hospital and health plan performance

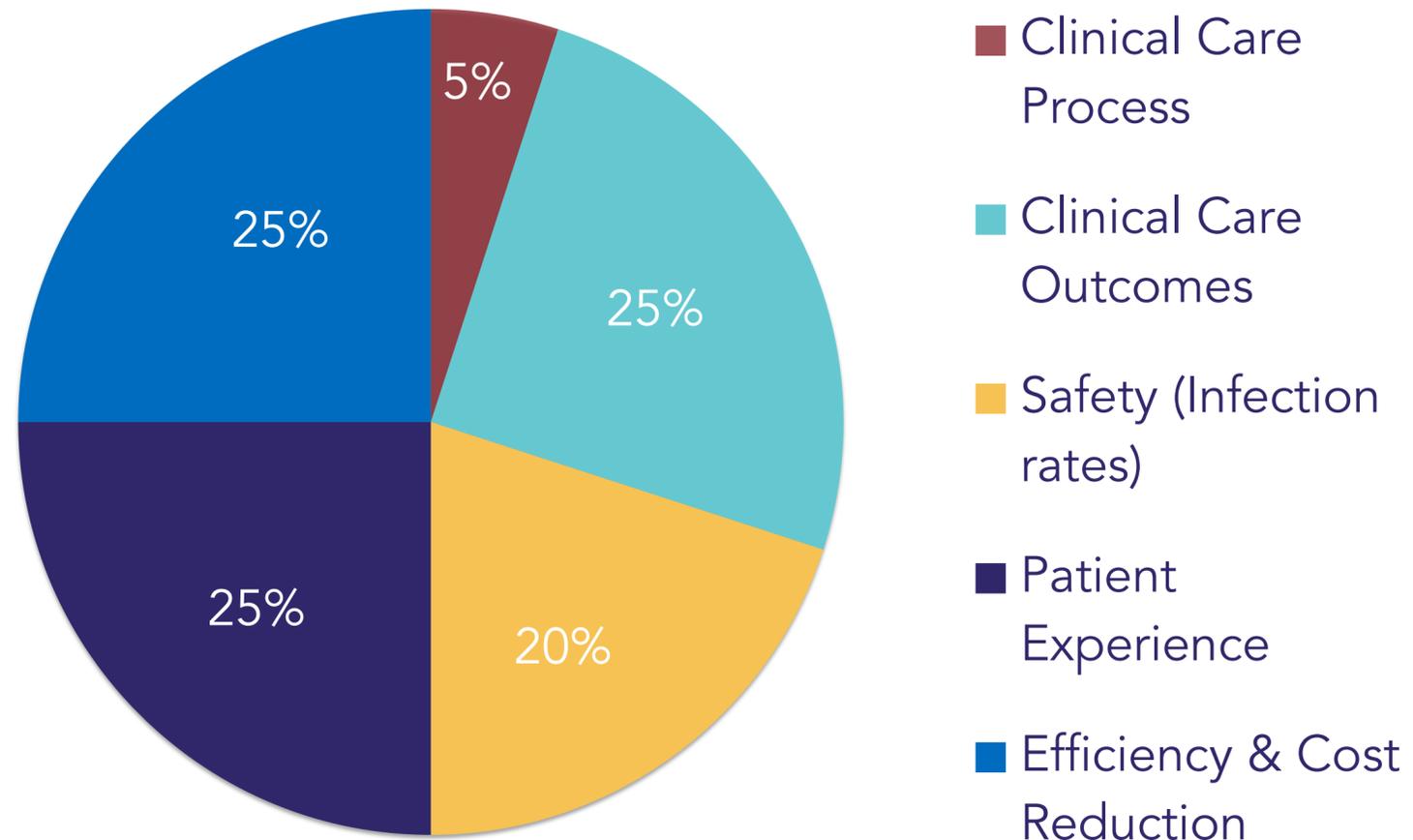
3. Accountability for performance: rewards and penalties for performance and outcome assessed based on data

Source: Porter 2009

United States – Value-Based Purchasing Results

Hospital Performance

CMS scoring for FY17



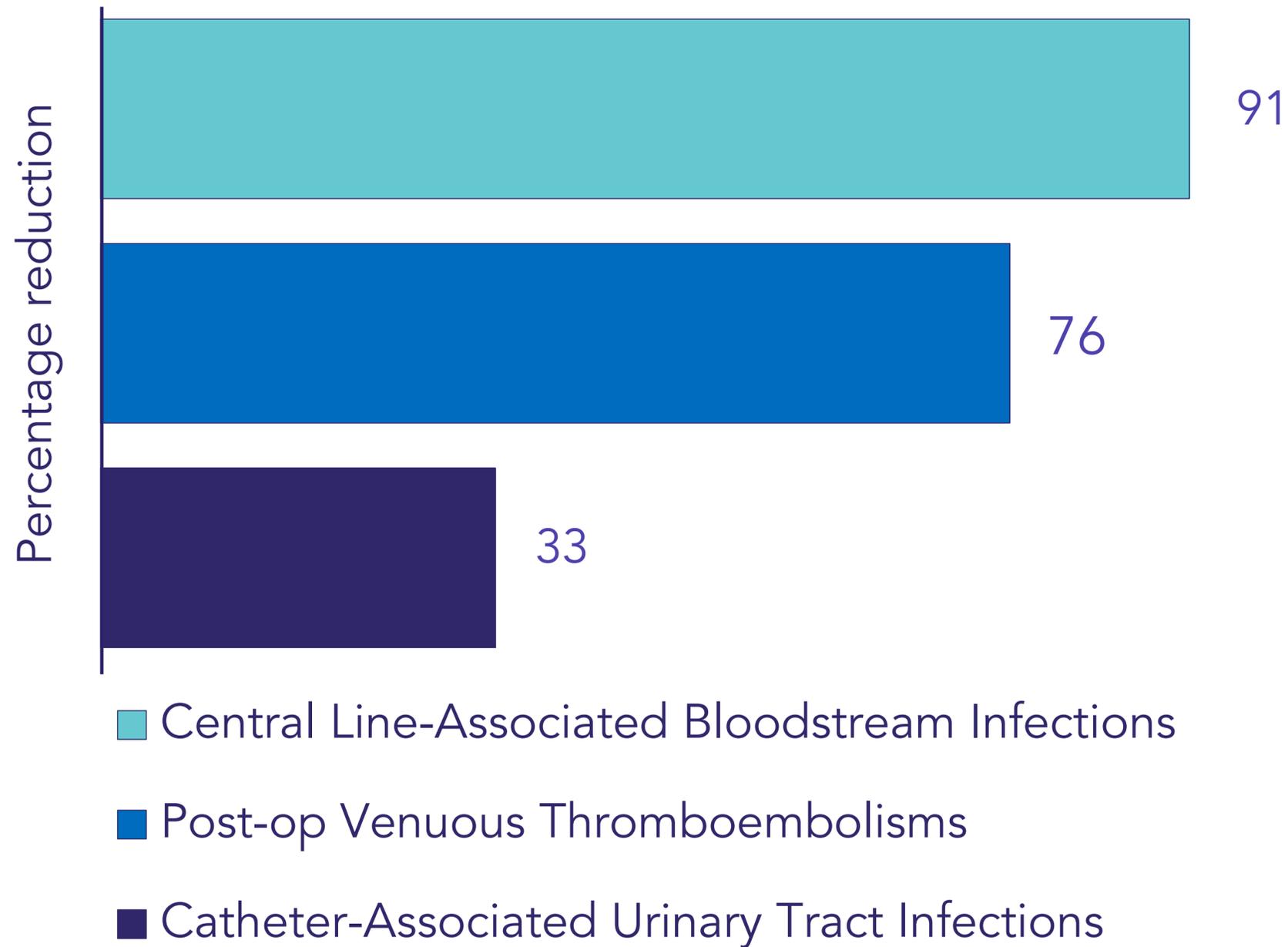
Sample Indicators

- Flu immunization of patients and health workers
- Heart failure 30-Day mortality rate
- Catheter-associated urinary tract infection
- Communication with doctors
- Medicare spending/beneficiary

Source: US CMS 2009

United States – Value-Based Purchasing Results

Hospital Acquired Infection % Reduction 2010-2015



21% fall in hospital acquired infections

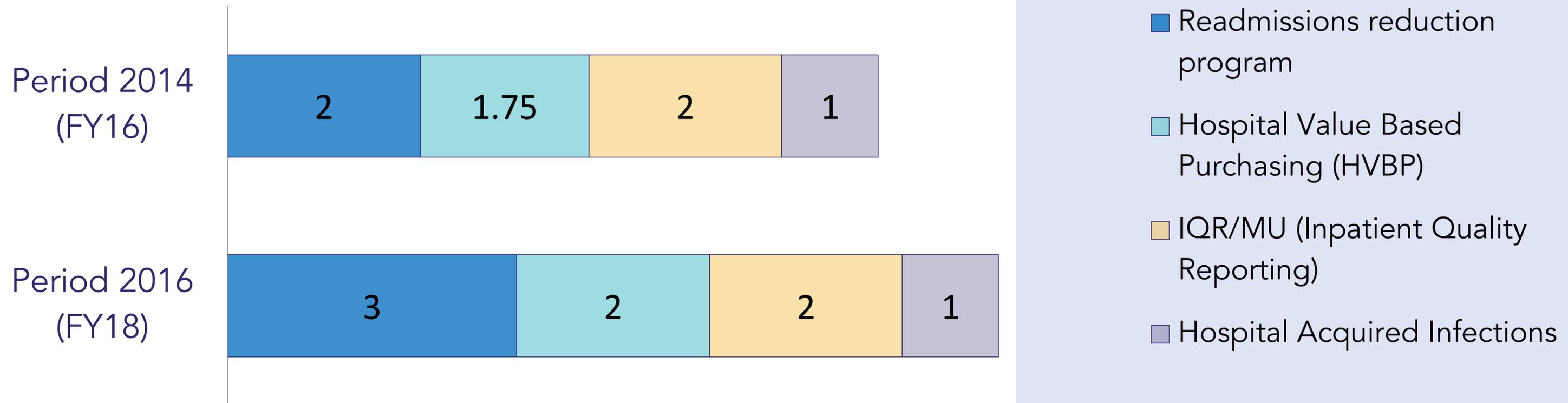
>124,000 lives saved

US\$ 28 billion in savings

Source: AHRQ 2016

United States – Value-Based Purchasing Results

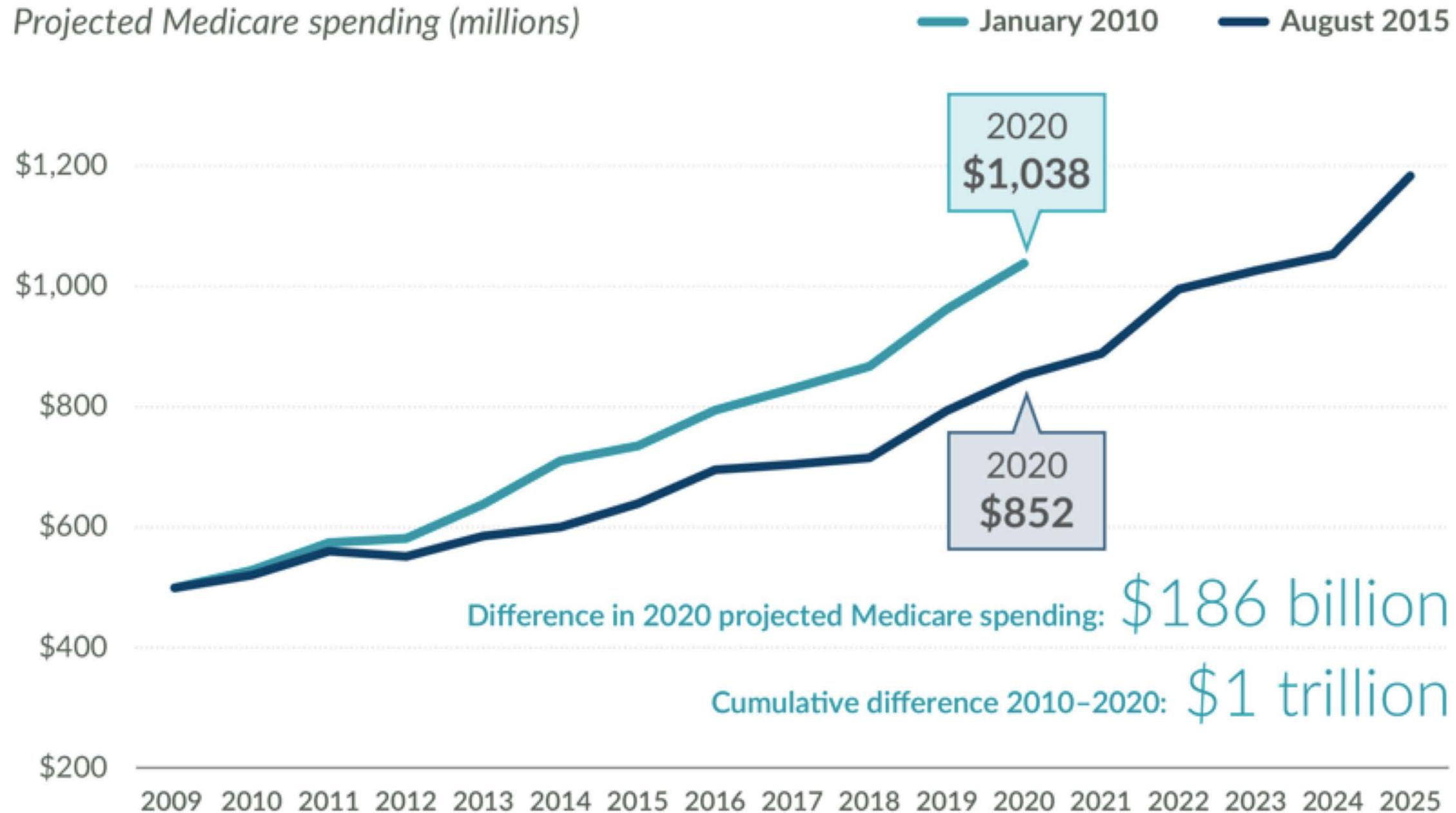
CMS Hospital DRG Penalties for Noncompliance (%)



Source: CMS 2009

United States – Cost Containment Results

Dramatic Reduction in Projected Public Spending



Source: Schoen 2016

Portugal – Reform Components

Integrated Care & Quality Improvement Program

Dedicated *Departamento da Qualidade na Saúde, DQS*

Comprehensive, system-wide IT architecture –data for use in contracting/monitoring

Primary Care

- Set up Family Health Units (FHUs)
 - 3-8 GPs + multidisciplinary team
 - Negotiate targets and indicators
 - Autonomy
 - Payment linked to performance and quality

Rede Nacional de Cuidados Continuados Integrados

Integrated Care Pathways/ Protocols

Quality and safety standards

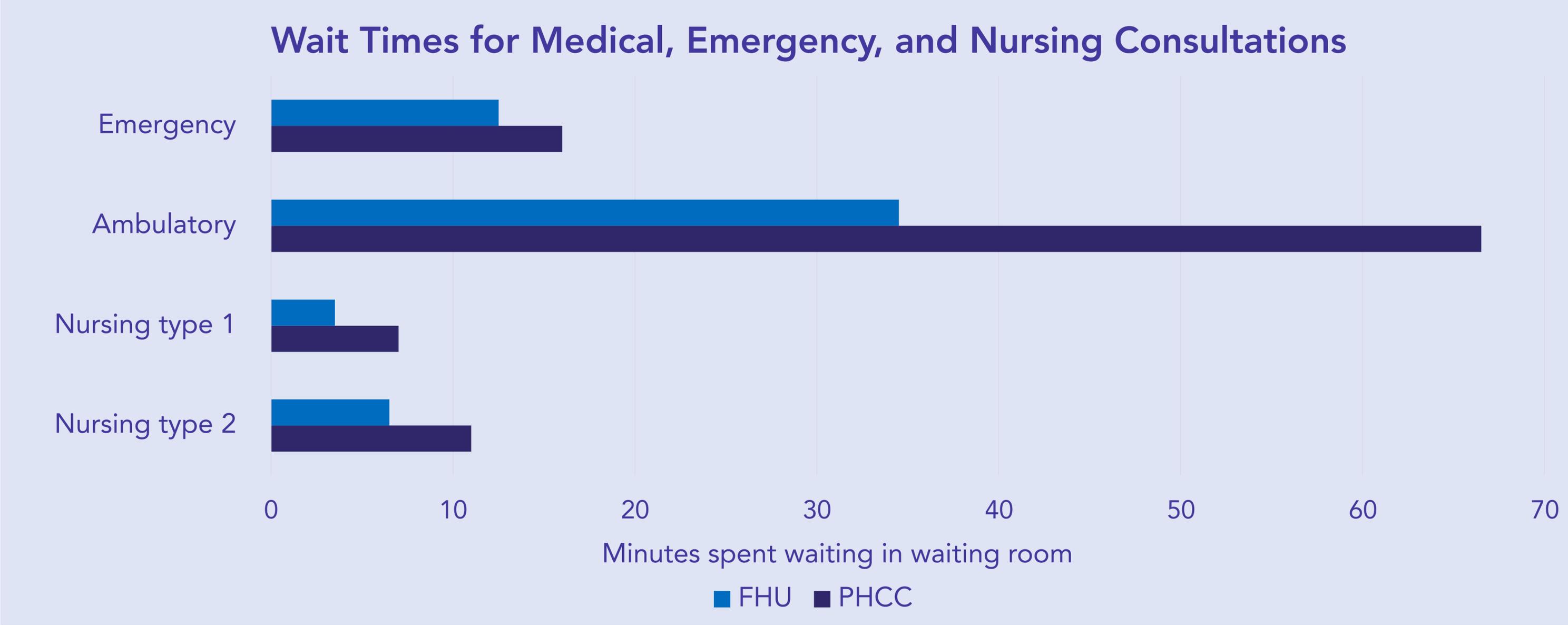
Hospitals

- Rationalization of hospital sector
- New management models
- Greater managerial autonomy
- Negotiated contracts
- New payment models for performance and quality

Source: Simões et al. 2017, OECD 2015

Portugal – Performance Results

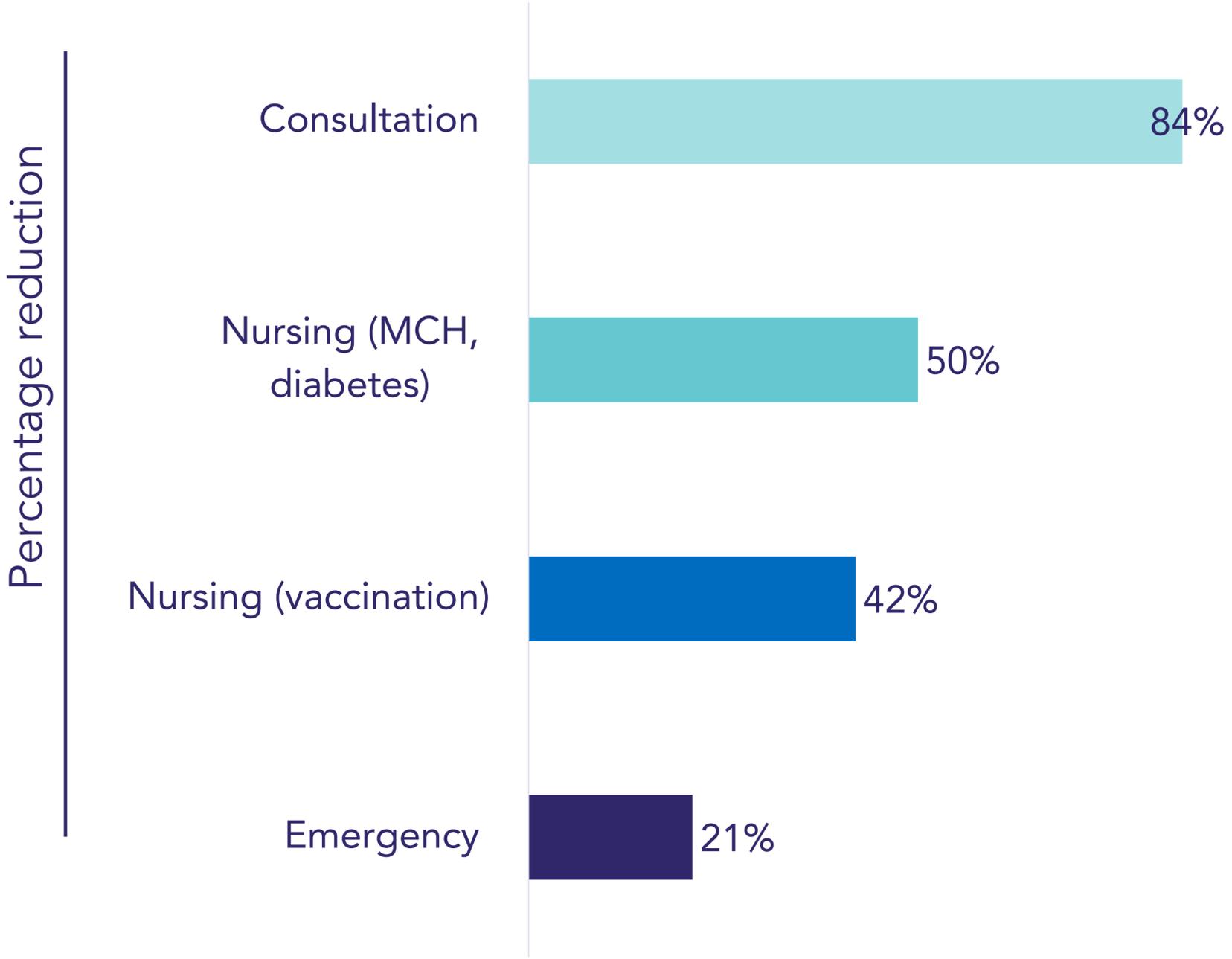
Consultation Wait Time Reduction Under FHU model



Source: Fialho 2011

Portugal- Performance Results

Consultation Wait Time - % Reduction for Primary Care



9% increase in number of nursing consultations per nurse

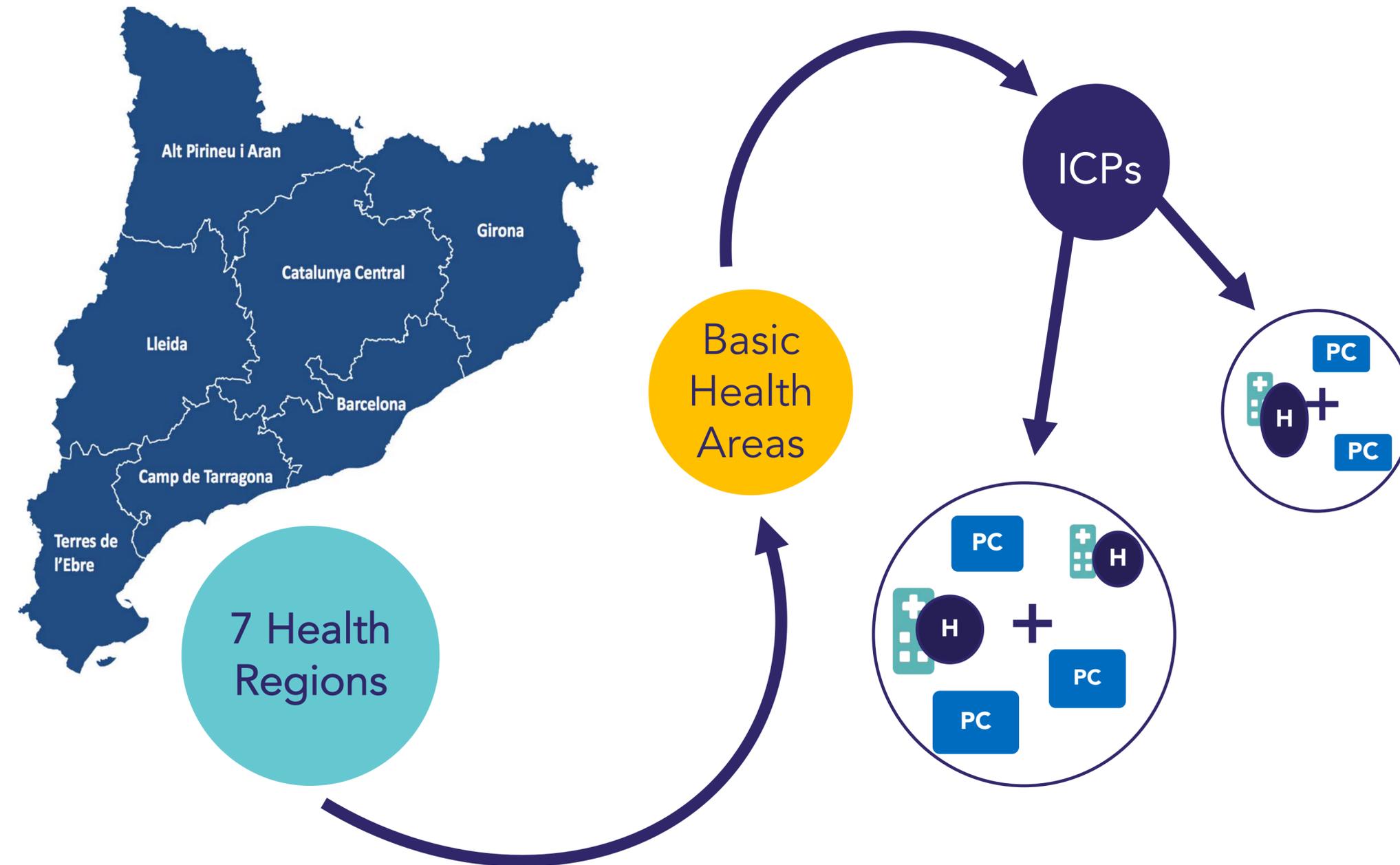
7% increase in number of medical consultations per physician

3,000,000€ savings from total annual cost reduction

Source: Fialho 2011

Spain

Catalonia Integrated Care Pathways for 10 Chronic Illnesses



Catalonia Health Service divided into Health Regions and Basic Health Areas (BHAs)

- BHAs create Integrated Care Pathways (ICPs) for 10 chronic illnesses
- Match hospitals with primary care organizations

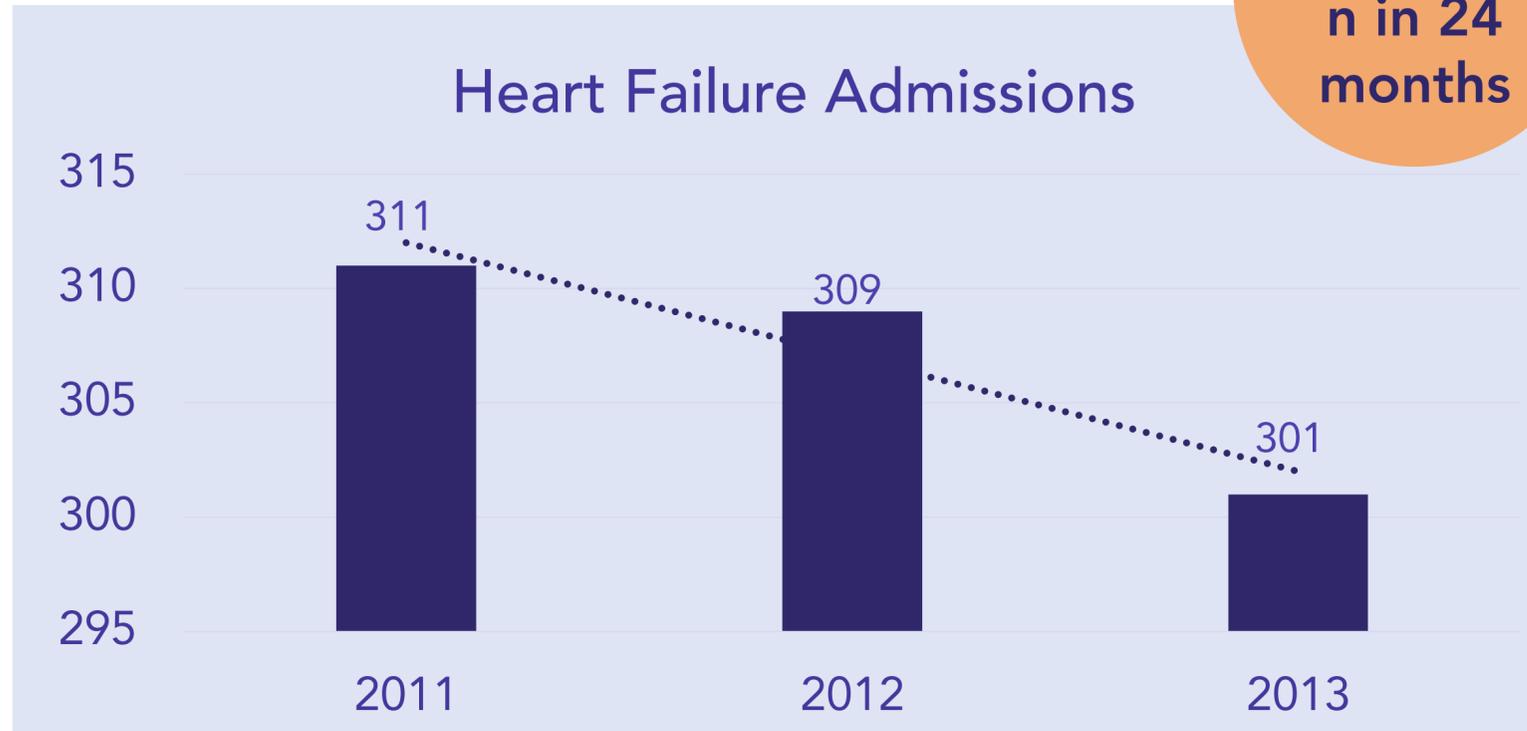
MOH regional contracts for regional providers

- Financial incentives for achieving objectives at BHA and individual provider level
- Health Information System across all levels

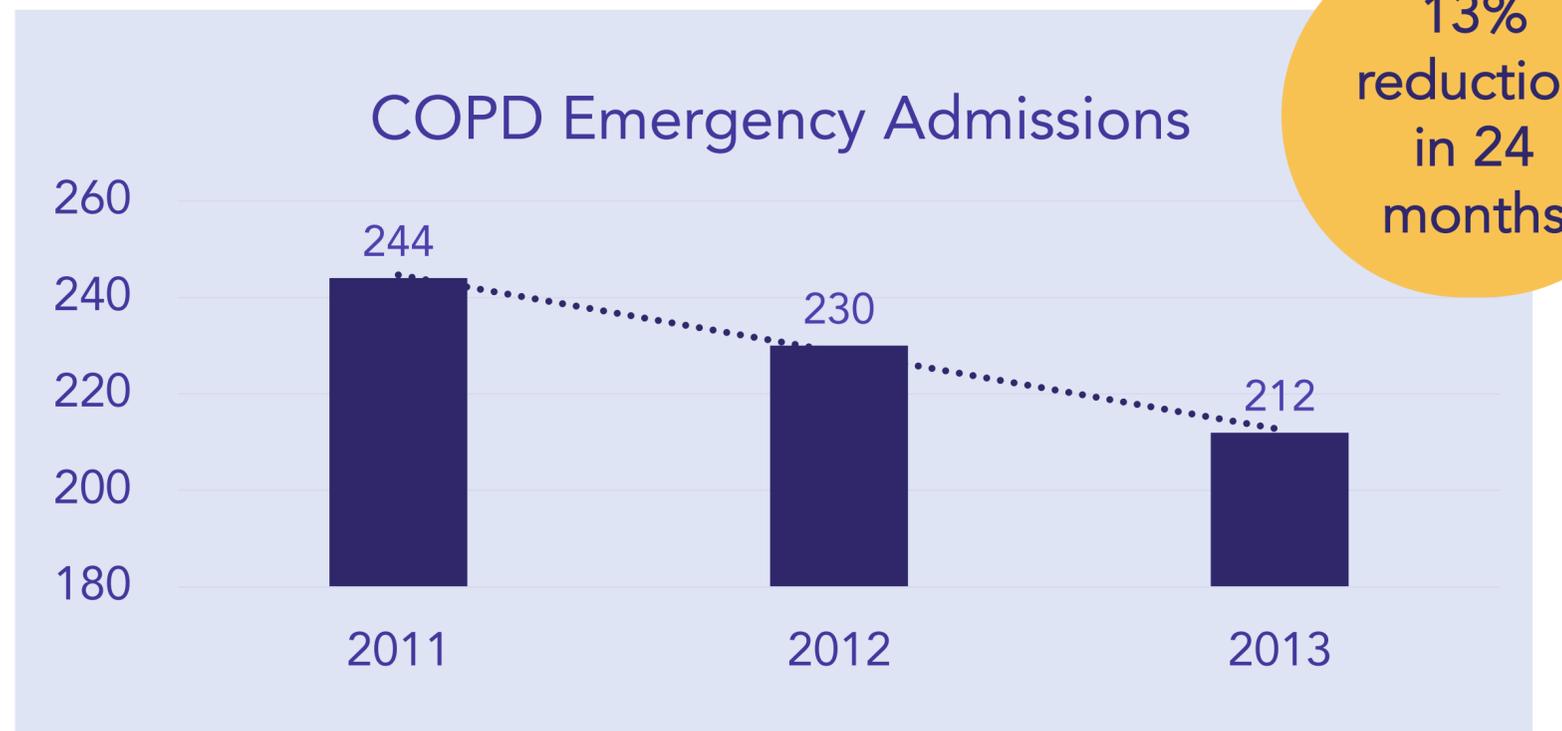
Source: CatSalut 2015, Contel 2015

Catalonia, Spain- Results

Catalonia Integrated Care Pathways for 10 Chronic Illnesses



*Includes: COPD, HF, DM complications, asthma, coronary diseases, HTA

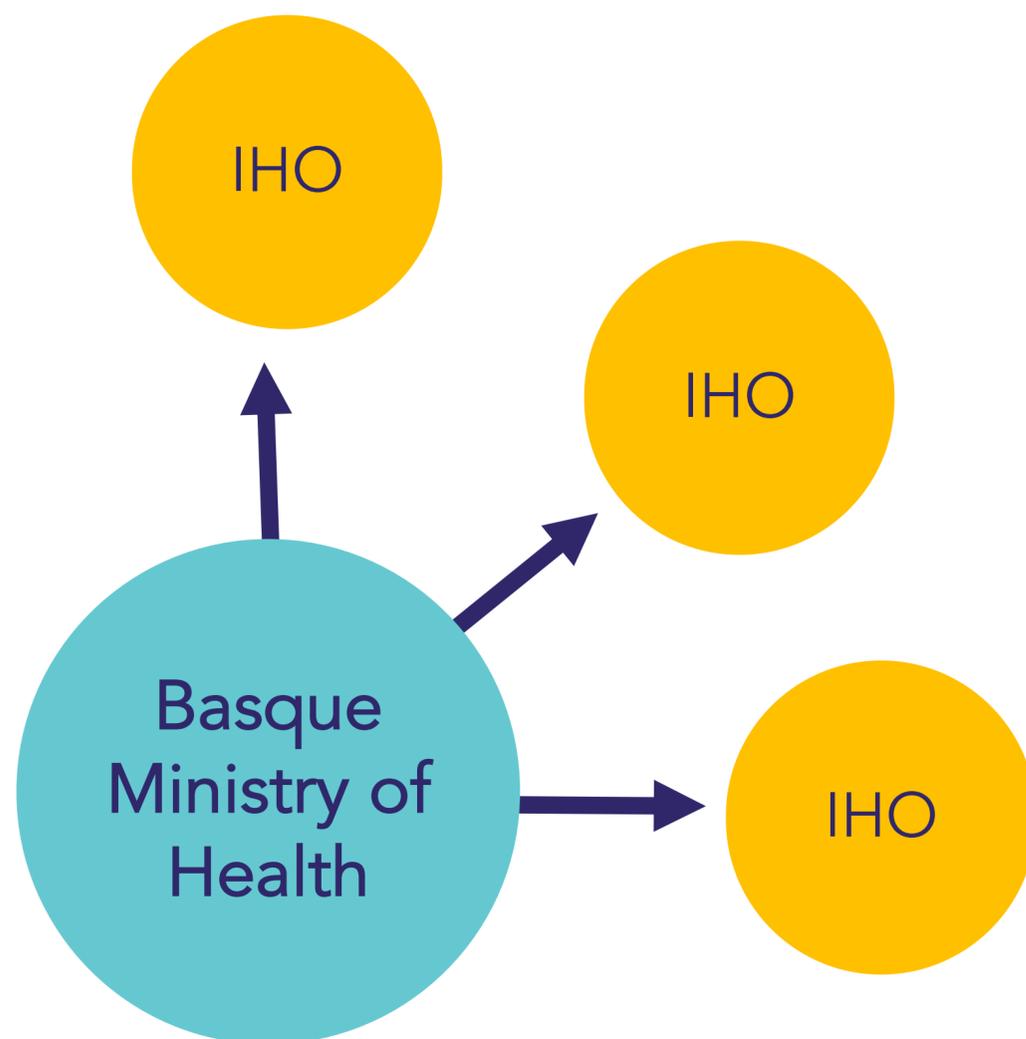


Note: Measures are "admissions per region"

Source: Contel 2014

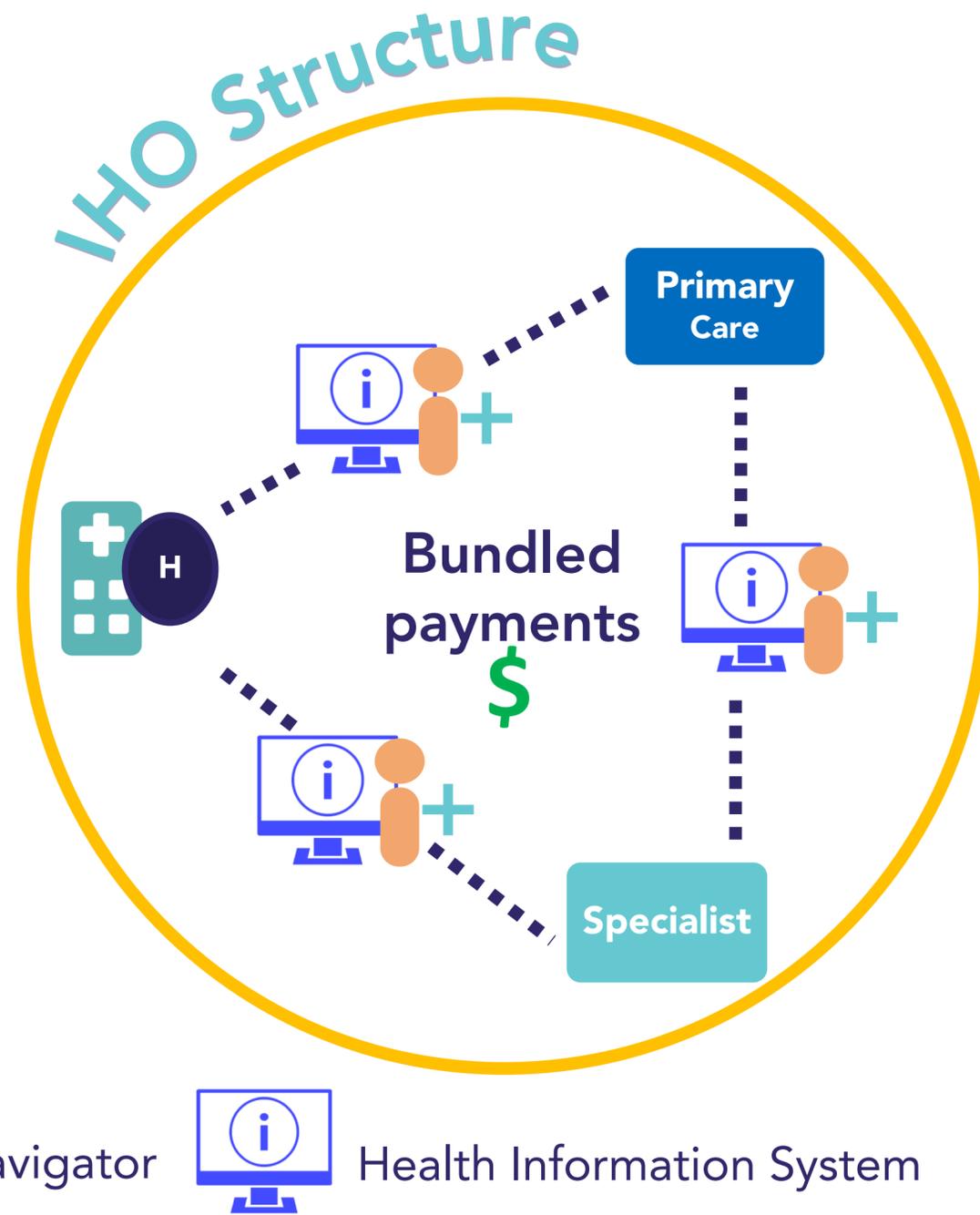
Spain

Basque Country Integrated Health Organizations (IHOs)



Basque Country divided into 13 IHOs

- IHOs unify hospitals with primary care and specialists within an area
- MoH provides bundled payments to IHOs for chronic illnesses to promote integration
- Nurse case managers and a strong information system facilitate inter-level communication
- Integration assessment tools identify areas in need of strengthening



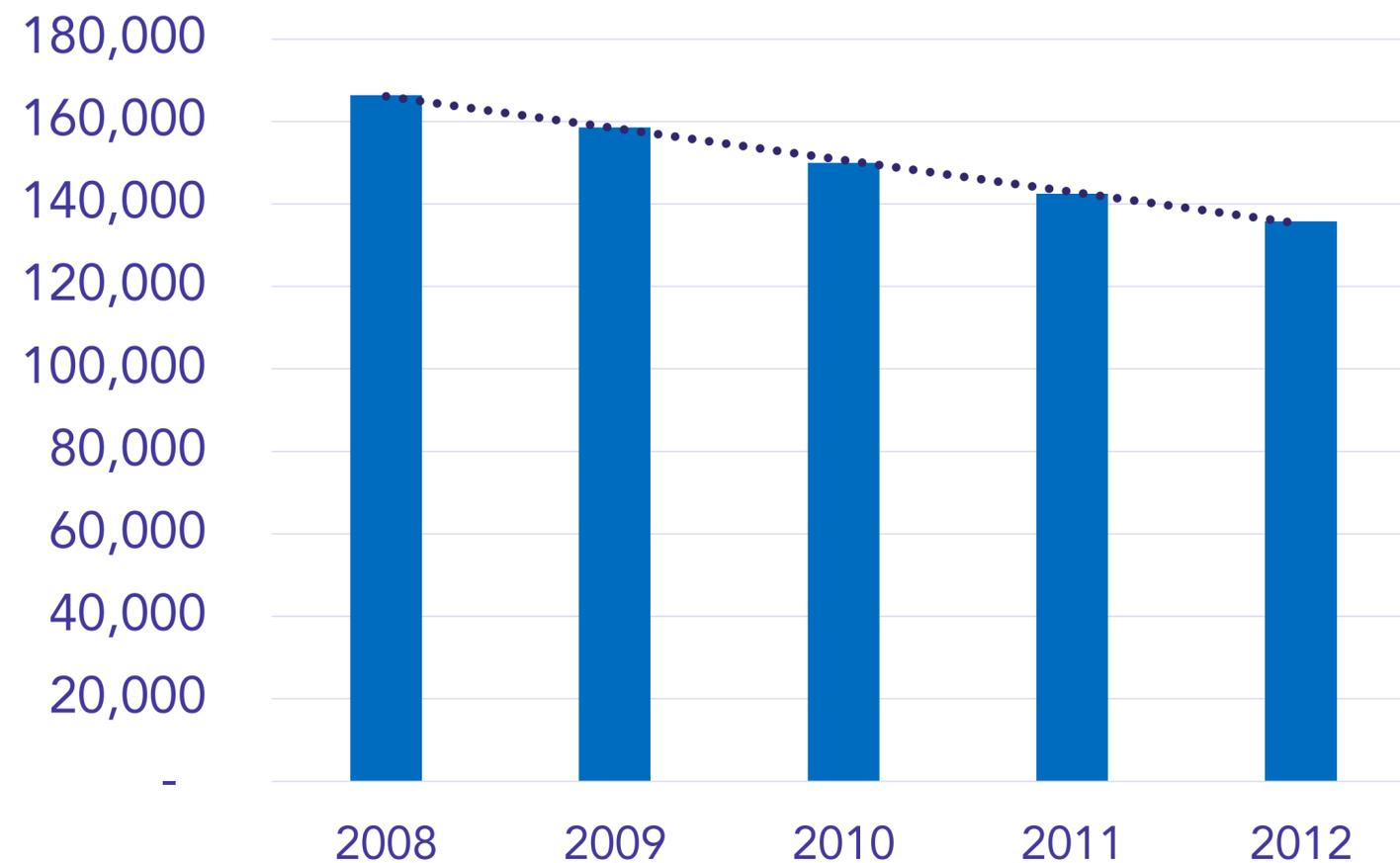
 Nurse navigator  Health Information System

Source: Polanco 2015; Jauregui 2016

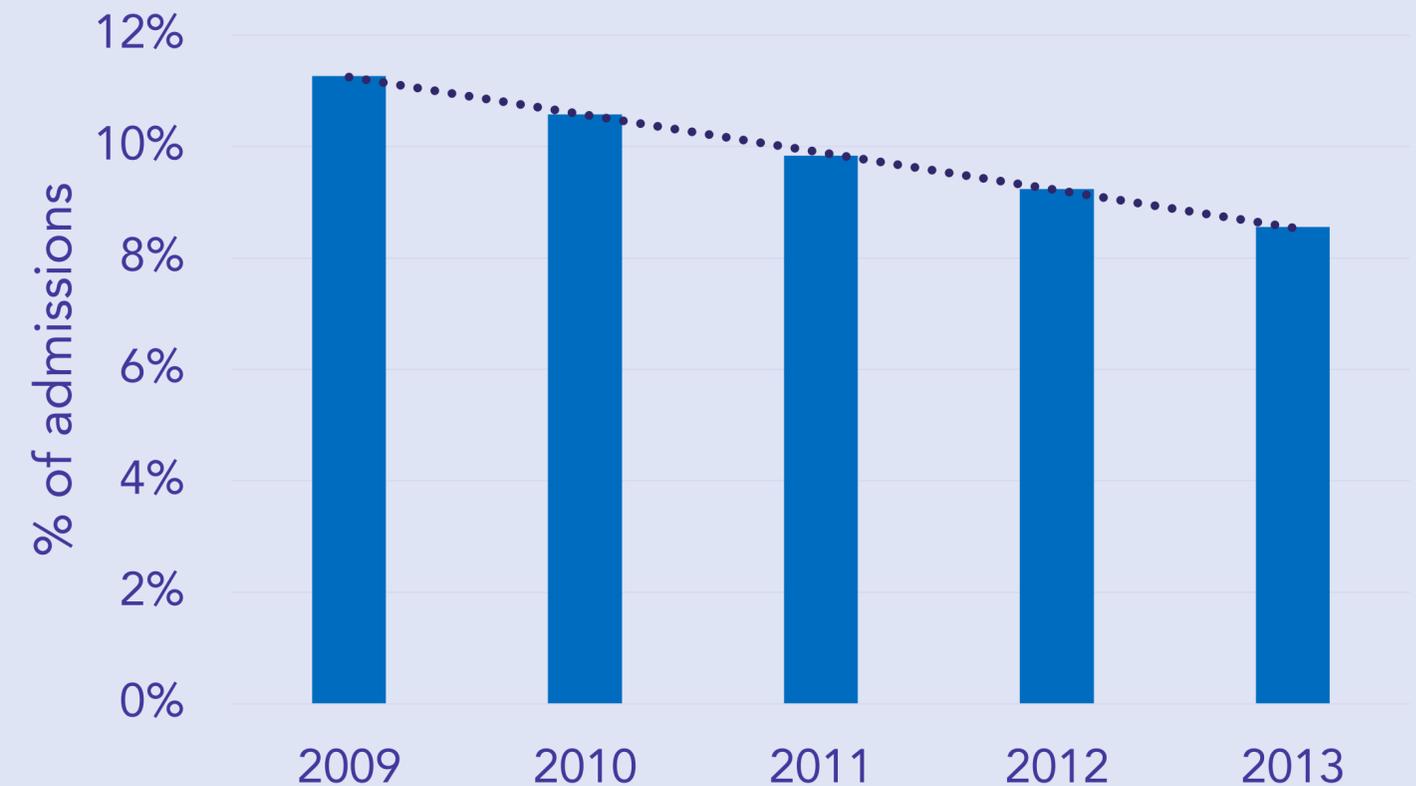
Spain – Results

Reduction in Hospital Visits and 30-day Readmissions

Barcelona Esquerra BHA: Number of Hospital Visits for 3 Hospitals



Bidasoa ICO: Hospital Readmissions <30 days for 1 Hospital (% of admissions)



Source: Font et al. 2016 and Polanco et al. 2015

Thailand

Clustering and Contracting for Primary Care

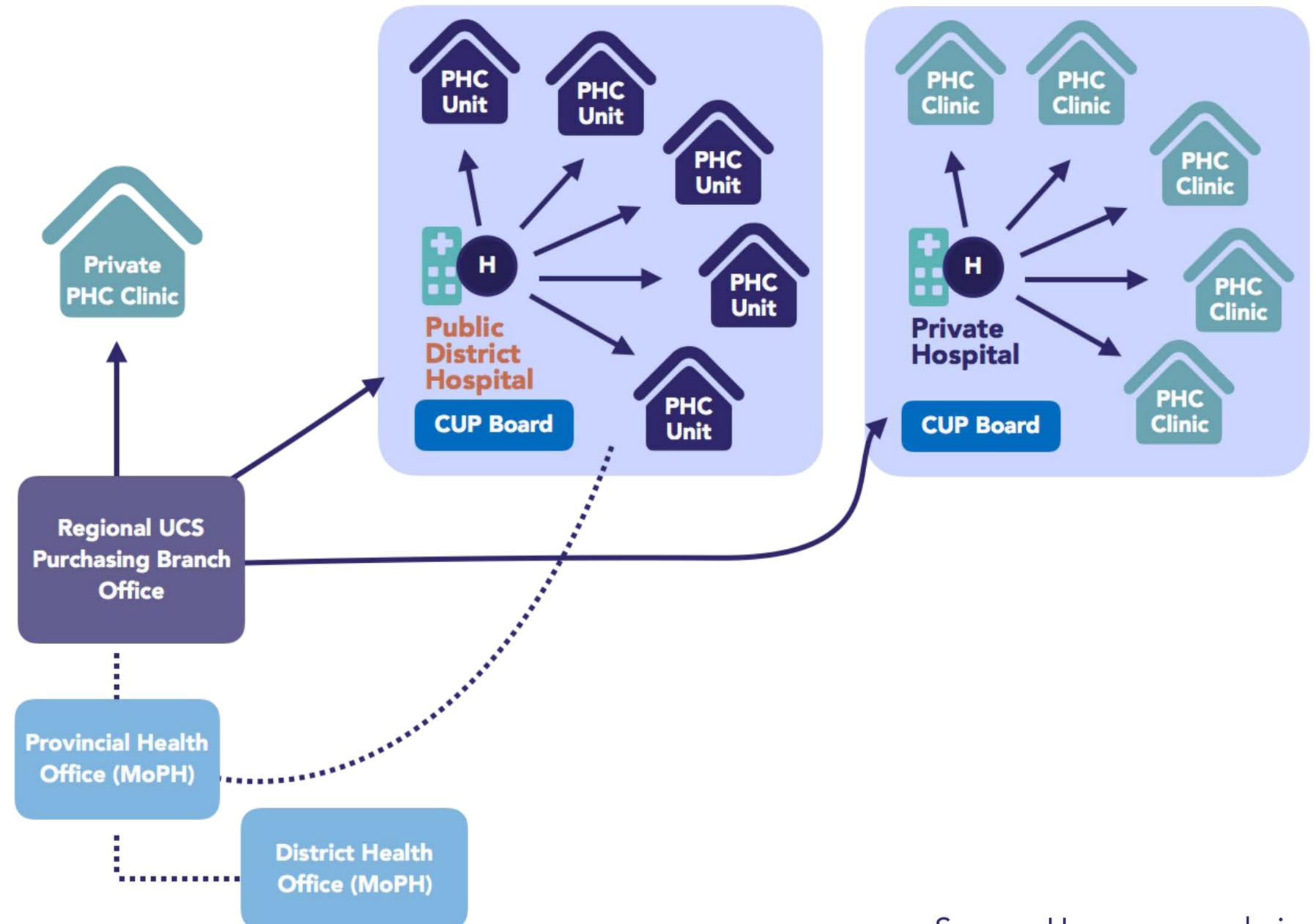
Defined package purchased from Contracted Units for Primary Care (CUPs)

- 2 primary care network models
- Public hospital-PHC networks
- Capitation payment

CUP managed by a board with representatives of network providers – Board functions:

- Population registration
- Resource allocation among providers
- Fund holders

Continued focus on hospital quality and efficiency

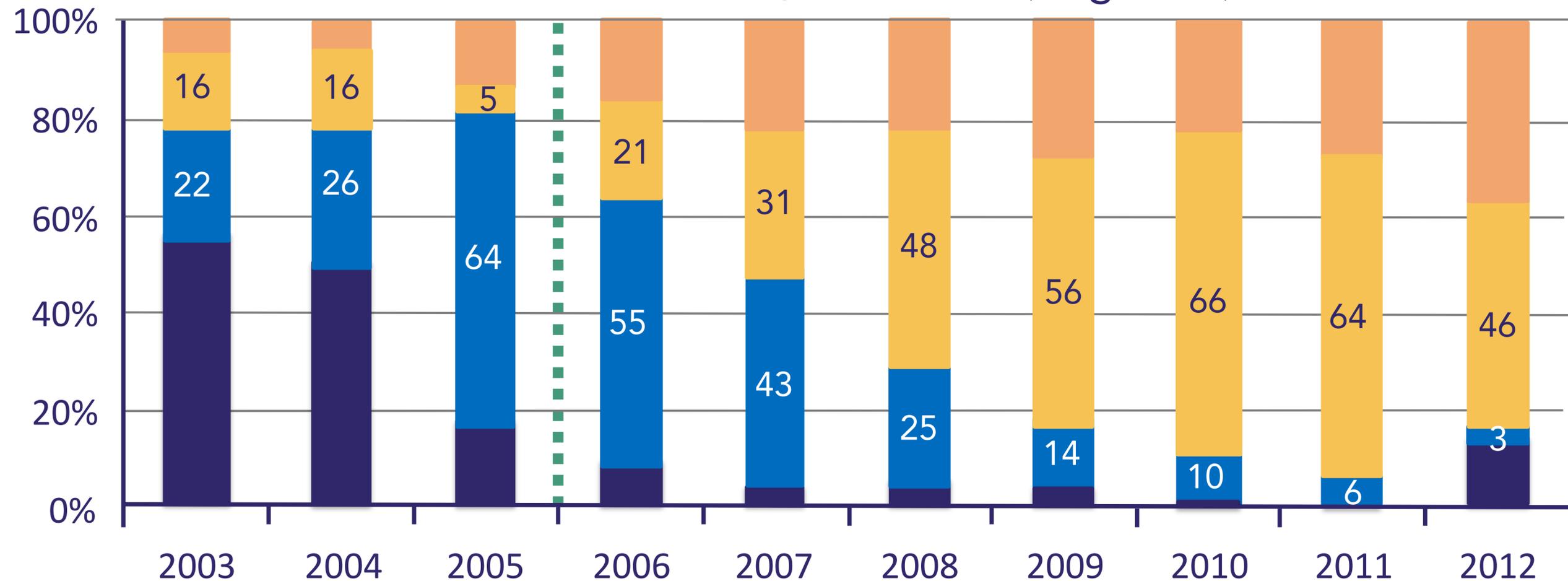


Source: Hanvoravongchai

Thailand – Results

Movement Towards Quality

Accreditation Status, 2003-2012 (Aug 2012)

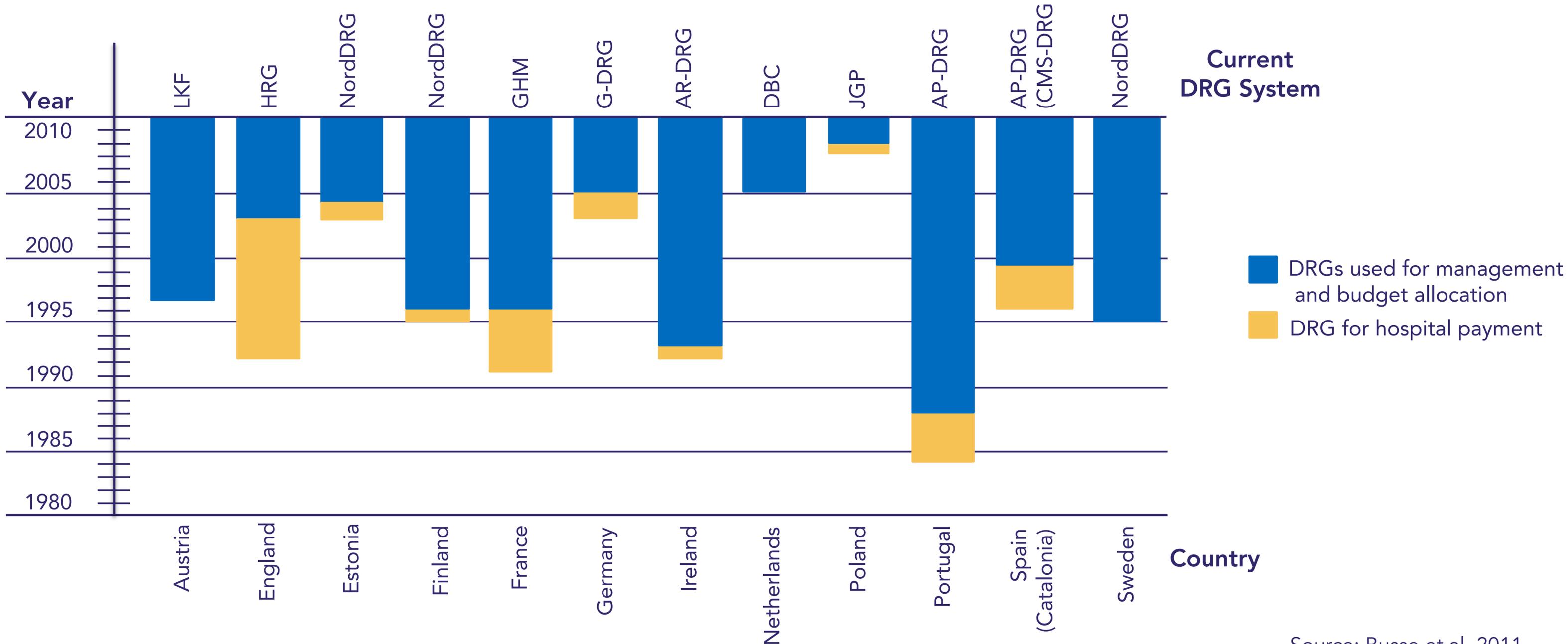


Step 0: Beginning accreditation
 Step 2: Quality Assurance & Improvement
 Behavior change incentives offered

Step 1: Risk Prevention
 Step 3: Accredited, quality culture

Source: Tangcharoensathien 2015

OECD Trend: DRG Introduction and Evolution in Europe → DRG-based Budget Allocation, Management and Payment



Source: Busse et al. 2011

Brazilian Innovations

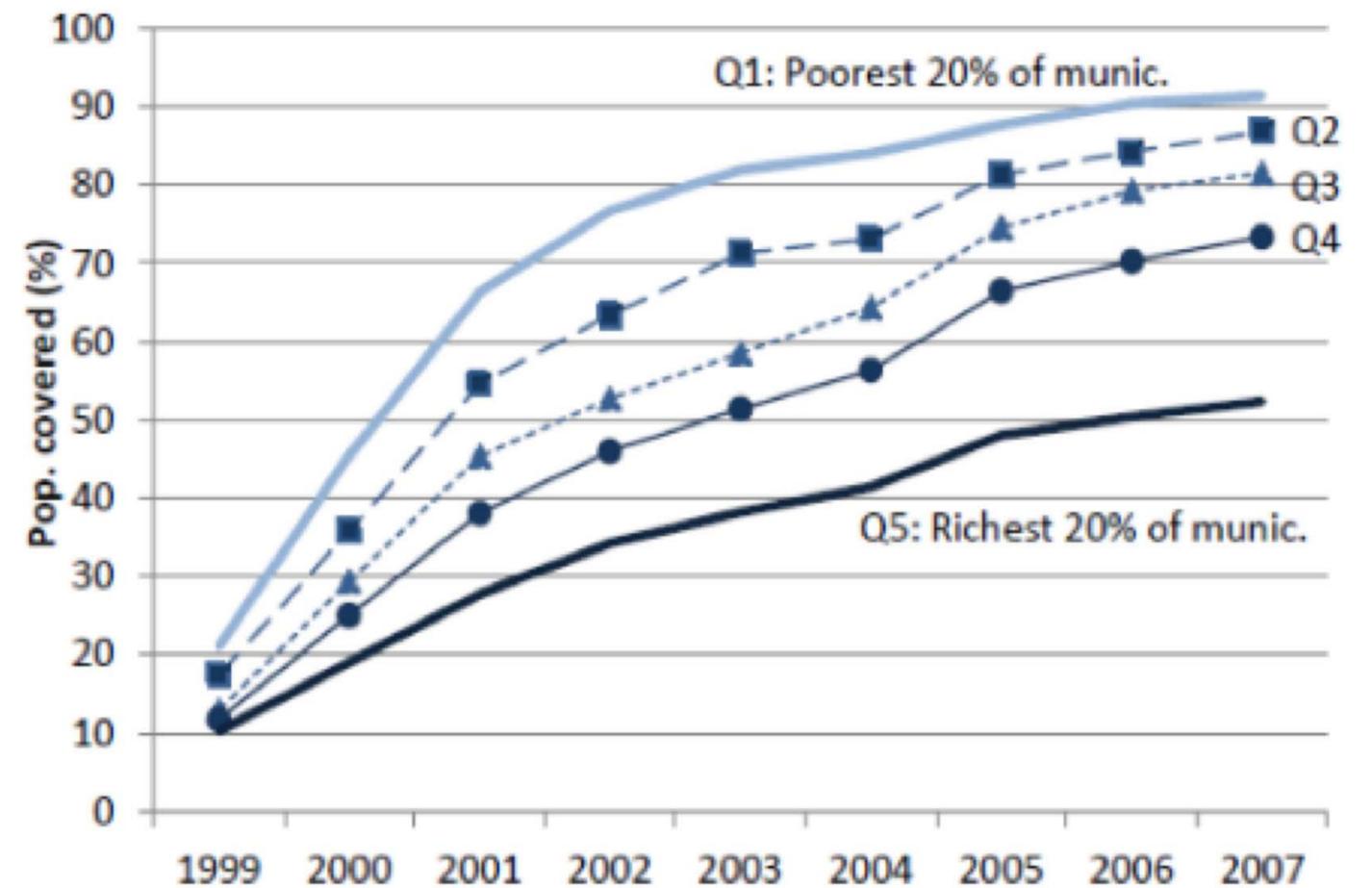
Public and Private Innovations in Healthcare in Brazil

Program	Quality of Care measured	Financing Incentives for Performance	Integrated Care	Outreach Care	Integrated Data System	Accountability for Performance
São Paulo OS Hospitals (LaForgia & Couttolenc 2008)						
Programa Saúde de Família						
Cardiac Telemedicine (Alkmim et al. 2012)						
Prevent Senior (2018; HBS 2016)						
IAG Saúde (Couto 2018)						
UNIMED MG (2018)						

Nationwide Family Health Strategy (FHS)

- Established in 1994, the FHS uses community health workers to provide basic primary care to families at home
- More complex problems are referred to nurses or physicians
- Focus on low income population and predominantly serving small municipalities (92% coverage of municipalities <5,000)
- Program credited with improving clinical outcomes nationally – while reducing hospitalizations
- Improved access and equity

Expansion of FHS by Income Quintiles



Sources: Wadge et al. 2016; Couttolenc et al. 2013

São Paulo

OSS Hospitals

- OS Hospital System an accountability model for other countries
- Contract payments linked to volume and quality targets

- Data reporting requirements
- Internal and external audits
- Accountability for performance and outcomes – penalties for low quality

OSS Hospital Selected Performance Indicators

Management

- ALOS for specific services remain within pre-defined ceilings
- Readmission rates
- Social and financial audits

Quality

- Mortality, medical record and infection commissions are fully operational
- % of deaths analyzed by mortality commission
- % reduction in infection hospital rate

Patient Satisfaction

- % percent of patient complaints addressed
- Realization of patient satisfaction survey

Source: LaForgia and Couttolenc 2008

Performance Measures -- OSS and DA Hospitals

OSS Hospitals n=12

DA Hospitals n=12

Mean

Range

Mean

Range

Selected Performance Measures

Bed turnover rate***

5.2

[3.7-7.6]

3.3

[1.9-4.8]

Bed substitution rate***

1.2

[0.1-3.8]

3.9

[1.7-9.7]

Bed occupancy rate**

81

[52-99]

63

[38-76]

ALOS**

4.2

[3.8-5.6]

5.4

[4.1-8.1]

ALOS Surgery*

4.8

[3.0-5.7]

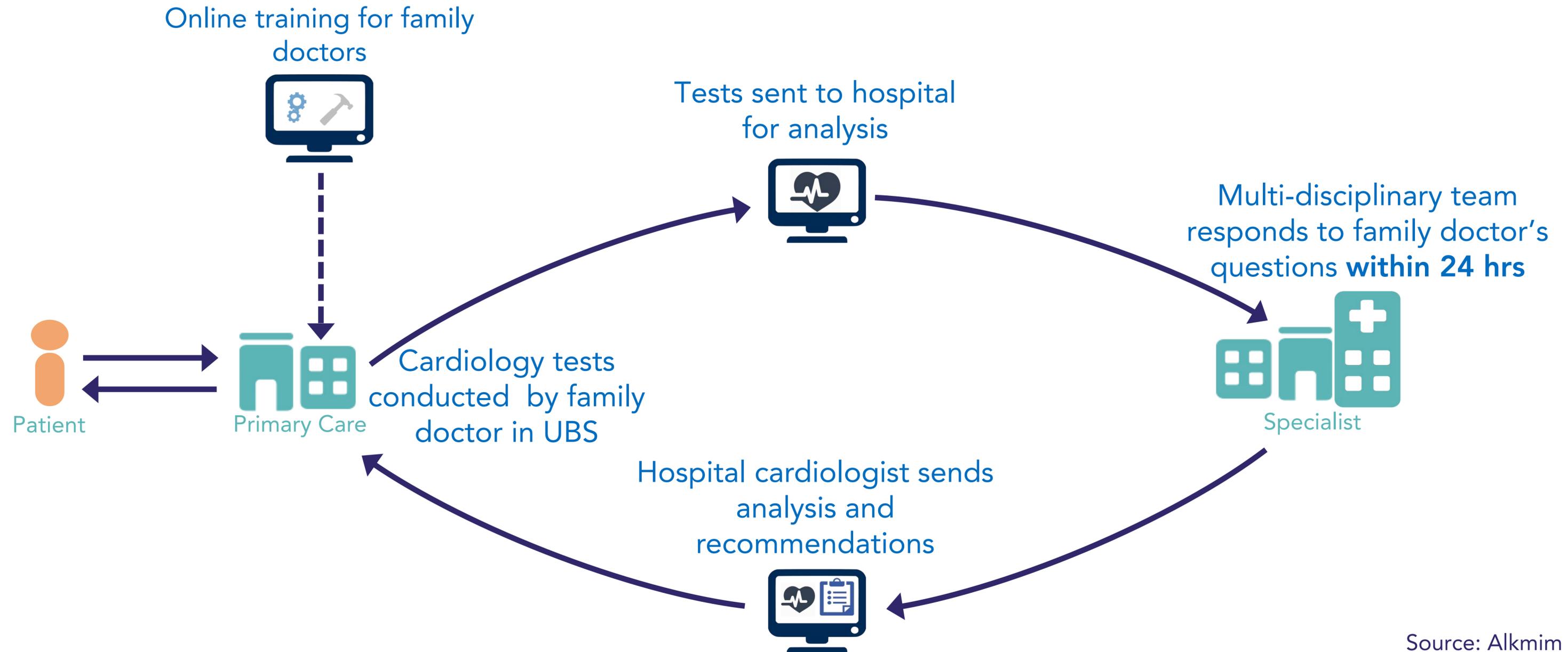
5.9

[2.3-7.7]

*p<.10; **p<.05; ***p<.01 (Mann-Whitney test)

Source: LaForgia and Couttolenc 2008

Minas Gerais Telehealth for Cardiology Care



Source: Alkmim 2012

Private Sector Innovations Important for SUS

Prevent Senior, São Paulo

- Integrated, team-based, coordinated care
- Focus on high risk
- Incentives for keeping patients healthy and out of the hospital
- Strong data system across all services
- Management central component

• UNIMED, Belo Horizonte

- Integrated, coordinated care
- Incentives for keeping patients healthy
- Strong, integrated data system with links to non-UNIMED providers
- Sophisticated payment system
- Management central component

DRGs as Analytic Tool

IAG Saúde has digitalized and categorized 1.5 million discharge records from the private sector, covering more than 200 hospitals

Analysis of 2017 data finds opportunities for substantive efficiency gains:

Reduce length of stay

- Private: 28% of cases above median ALOS
- Public: 80% of cases

Increase hospital safety

- Adverse events in private hospitals cost R\$ 10.9-15.6 billion
- Adverse events increase patient ALOS by 6.9 days

Reduce avoidable hospitalizations

- 26% of hospitalizations in private sector avoidable -- could be resolved at lower level of care
- Account for 23% of total inpatient days

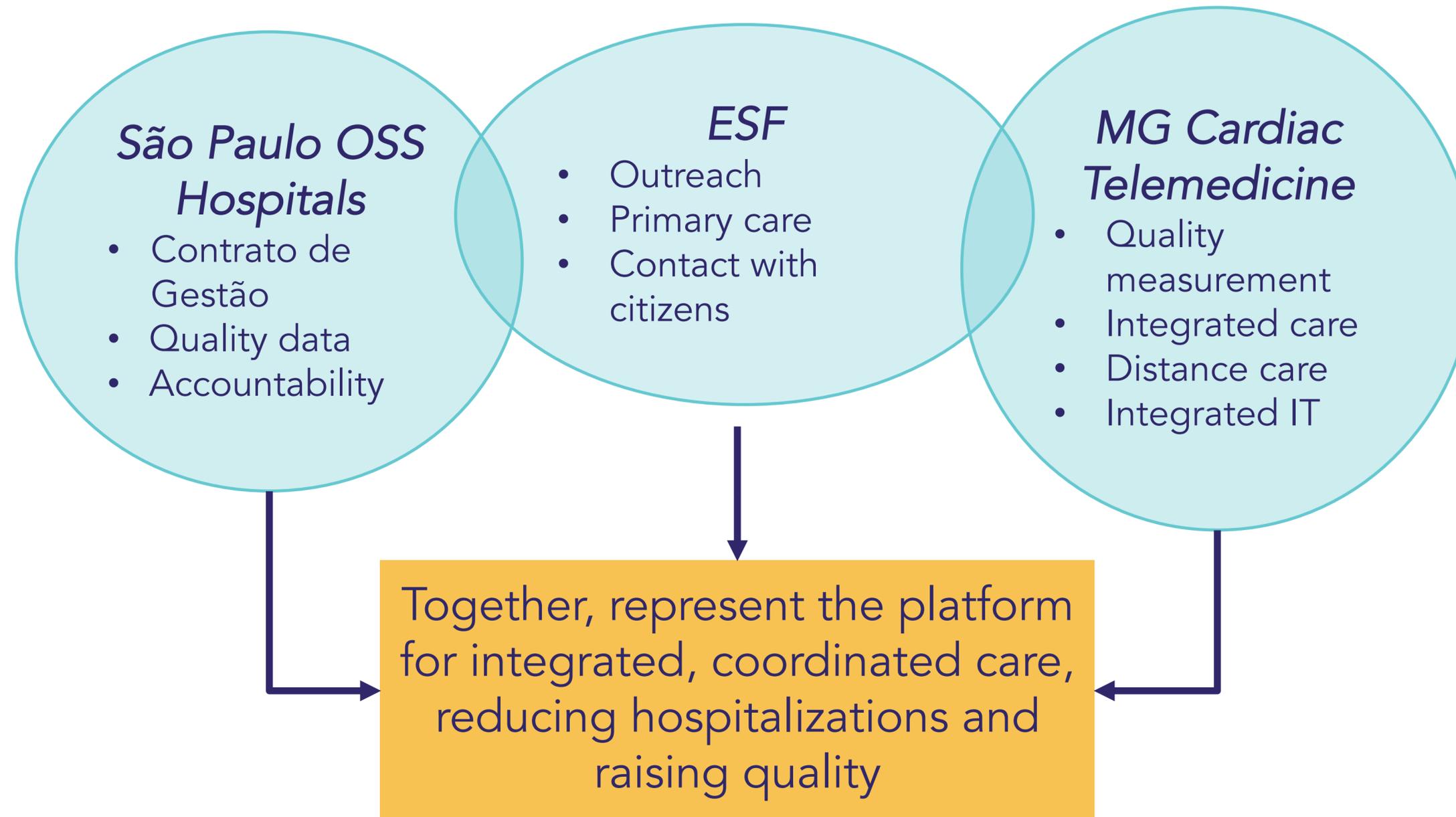
Reduce avoidable readmissions

- In private sector, 5% of total inpatient days due to avoidable readmissions

Combined, could reduce waste by 42.3%

Source: Couto 2018

Innovations in Brazilian Healthcare are the Foundation for Networks and Integrated, Coordinated Care



Integrating SUS Service Delivery

Integrated Care is the Evolving Paradigm for Healthcare

Old Paradigm

Emphasis on specific illness episode

Hospital objective is to fill beds

Public and private payers function separately from providers



New Paradigm

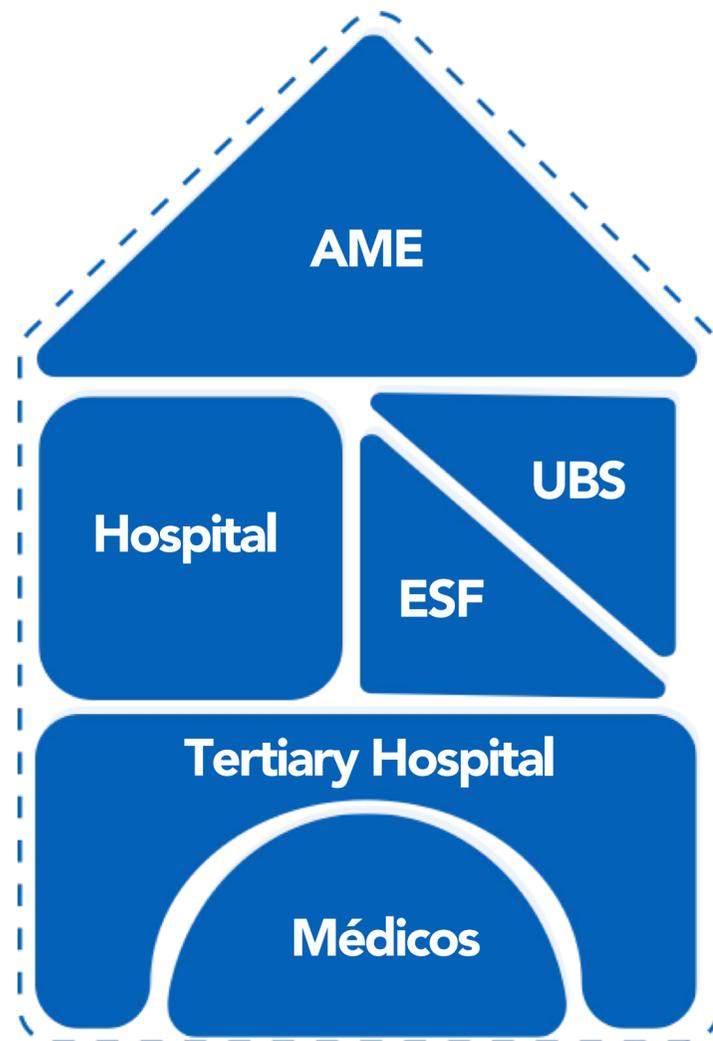
Care is integrated and continuous across levels of care

Success is keeping patients well and out of the hospital

Payers and providers coordinate

SUS: Integrated, Coordinated Care Model

-- Putting the Pieces Back Together



Network Service Delivery: New Directions

- Acute care model
- Fragmentation
- Hospital-centric structure
- Distorted incentives
- Little accountability

System Change

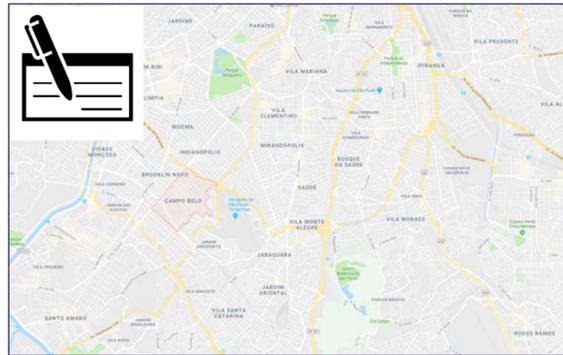
- Enabling incentive environment
- Paradigm shift in delivery model
- Care coordination/integration
- New roles for hospitals
- Quality measurement and improvement in primary care and prevention

Network Services Focus on Care Management

- Patient is registered with Network – not UBS
- Patient registry (*cadastrado*)
- Risk stratification with focus on managing high risk, chronically ill population (eg., diabetes, HBP, COPD, asthma, co-morbidities)
- Team of care providers manage patients in integrated network
- Teams and referral networks ensure continuity of care
- Estratégia Saúde de Família integrated with UBS care teams
- Embrace protocol use
- Integrated information system fundamental
- Reduce need for emergency room and hospitalization

Key Steps to Achieve Integrated Care Networks

Step #1



Define Network



Network registers specific population to specific provider(s)

A screenshot of a data table with multiple columns and rows, likely representing patient registries. The table contains numerical and text data, possibly representing patient IDs, dates, and other identifiers.

Network uses patient registries and risk stratification



Network introduces care management of high-risk patients to monitor chronic conditions

Key Steps to Achieve Integrated Care Networks

Step #2



Build care teams within Networks



Expand the role of non-physicians in patient communication and care



Assign roles and responsibilities to care team members



Provide management and clinical training to care teams



Use care coordinators

Key Steps to Achieve Integrated Care Networks

Step #3



Enhance appointment access

- Immediate attention to patients effectively manages illness



Standardize processes

- Standards and protocols for care coordination and patient transition



Enhance use of cellphones for:

- Appointments
- Coordination of care
- Referrals
- Test results



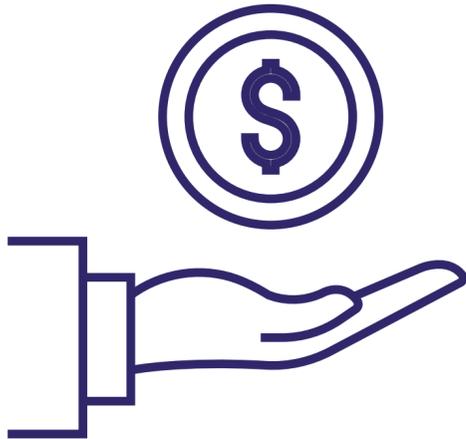
Expand use of telemedicine

Embedding Quality in SUS Delivery Model

- Establishing a culture of quality
- Accreditation of facilities – important, but not sufficient
 - Currently only 5% of private hospitals have accreditation
- Develop a limited number of core quality measures for different levels of the healthcare delivery system
- Improved and expanded management of healthcare services
- Management training and subsequent use of data to monitor quality
- Authority and management capacity key to change processes and practices to improve quality

Financing and Payment Reform in SUS

Financing Key Principles



Specific budget criteria

Focus on quality and outcomes

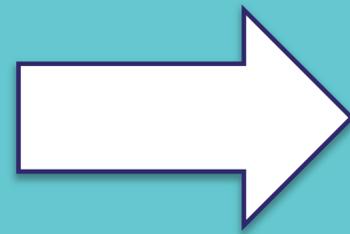
Financial autonomy

Accountability for financial performance

Reliance on data

Payment Arrangements Central – not just about financial flows

- **Incentives in payment arrangements** drive change and help achieve objectives
- Payment arrangements offer an opportunity to **influence processes and outcomes**



- Shifts behavior from focus on volume of care (fee for service) to performance (purchasing for value)
- Changes behavior of providers and patients, if structured properly
- Can improve quality in healthcare delivery

Alternative Payment Arrangements in SUS



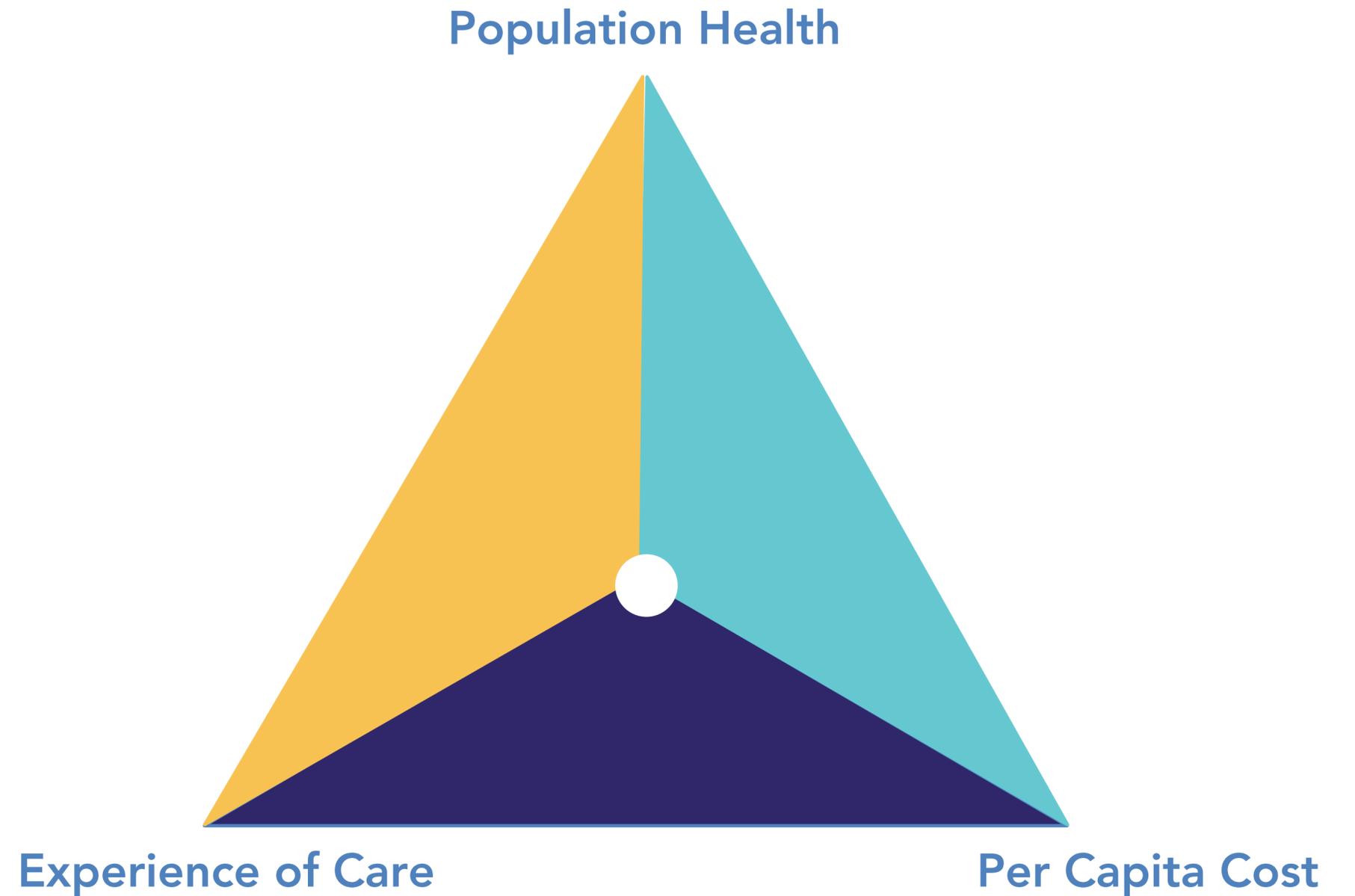
- **Capitation and accountability**
annual payment to group of PHC providers based on population with adjustments but payment based on with information on performance
- **Value based hospital payment**
Payment based on the quality of care provided; reimbursements based on value, not volume
- **Bundled payment**
Predetermined, risk-adjusted payment for full cost of a clinical episode – PHC or PHC and hospital
- **Diagnostic Related Group (DRG)**
Prospective, case rate payment to hospitals based on primary and secondary diagnoses

Conclusions

Achieving Triple Aim Goals in SUS

Key System Components:

- Focus on individuals and families
- Redesign primary care services and structures
- Population health management
- Cost control platform
- System integration and execution



Source: IHI 2009

SUS for the 21st Century Is already Evolving, but More To Be Done

- Innovations in many areas now
- External experiences informative for adapting SUS to systems to address new **disease burden**
- Pockets of **quality** improvement exist
- Using **payment system** to achieve objectives a useful tool
- All imply more and better **management**
- More **autonomy and accountability** encourage better performance
- **Integrated, coordinated care** difficult to achieve but critical to promoting health
- **Common information system** an over arching requirement if
 - system is to change
 - management can improve
 - accountability to happen

Obrigada.

mlewis@acesoglobal.org