

2016

Right Care Initiative Data and Briefs Packet

Cardiovascular, Hypertension and Diabetes Management and Prevention

Quality Indicators, Metrics and Promising Interventions



Right Care Initiative



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RIGHT CARE INITIATIVE *Clinical Quality Improvement Leadership Collaborative*

California Statewide Goals—Preventing Heart Attacks, Strokes, and Diabetic Complications

Achieve National HEDIS 90th Percentile “A-grade” Targets:

77% of hypertensive patients with blood pressure controlled: <140/90 mm Hg

69% of diabetic patients with blood sugar controlled: HbA1c <8

In absence of HEDIS cardiovascular disease 90th percentile target, Right Care Initiative 2016 target:

75% of patients with diabetes and/or cardiovascular conditions on appropriate statin (proxy, LDL controlled: LDL-C<100mg/dL)

Current Activities:

- **University of Best Practices** in three metropolitan areas to share learning and encourage adoption of evidence-based interventions for preventing heart attacks, strokes, and complications from diabetes (e.g., amputations, blindness, kidney failure, etc.). Practical presentations from benchmark performers are geared toward medical, pharmacy and quality improvement directors to spur achievement of national “A-grade” performance.
- **Annual Leadership Summit** to highlight UBP progress, new HEDIS & P4P performance data, promote adoption of strategies used by top performers, and give performance awards. 9th Annual Summit, Monday, November 14, 2016.

Contact: Hattie Rees Hanley, MPP, Right Care Initiative Director, hattie.hanley@dmhc.ca.gov; hattiehanley@berkeley.edu

Key Partners: This collaborative, expert-based, public-private bridge project draws on leadership from key partners:

- | | | |
|---|--|--------------------------------------|
| • CA Dept. of Managed Health Care | • Sierra Health Foundation | • American Heart/Stroke Association |
| • CA medical groups, clinics & health plans | • American Medical Group Assoc. Fdn. | • US Department of Veteran’s Affairs |
| • University of California Schools of Public Health, Medicine, and Pharmacy | • Integrated Healthcare Assoc. (IHA) | • Navy and Air Force Medical Centers |
| • California Chronic Care Coalition | • Pacific Business Group on Health | • Ralphs Grocery Company |
| • Health Services Advisory Group QIO | • CA Office of the Patient Advocate | • Abbvie |
| • Stanford Clinical Excellence Research Center | • CA Medi-Cal Program (DHCS) | • Boehringer-Ingelheim |
| • Stanford School of Medicine | • CA Dept. of Public Health (CDPH) | • Genentech |
| • University of Southern California | • CA Emergency Medical Services Agency | • Johnson & Johnson |
| | • CA No More Broken Hearts Foundation | • Novo Nordisk |

Objective: Measurably reduce death and disability through enhanced practice of patient-centered, evidence-based medicine.

Since 2007, The Right Care Initiative’s goal has been to apply scientific evidence and outcomes improvement strategies to reduce patient morbidity and mortality through a collaborative focus on achieving quality goals where performance metrics indicate that evidence-based, life-saving practices are not fully deployed. Data from the Integrated Health Care Association, the National Committee For Quality Assurance, the federal Agency for Health Care Quality and Research, the Commonwealth Foundation, CMS, and the Centers for Disease Control indicate that approximately 81,000 Californians die yearly from heart attacks, strokes and diabetic complications. Many of these deaths and associated disabilities and health care costs could be prevented with evidence-based patient management and clinical quality improvement to adopt up to date medical knowledge. Our work is focused in these high-leverage areas of better management of **cardiovascular disease and diabetes**, with particular emphasis on **control of blood pressure, cholesterol and blood sugar**.

CDPH estimates Californians suffer approximately **72,000 deaths from cardiovascular disease** (including heart attack and stroke) and **7,000 deaths from diabetes each year**, many of them preventable according to CDC. NCQA conservatively estimates that improving California’s cardiovascular disease and diabetes measures to the national HEDIS 90th percentile could save 1,694 to 2,818 CA lives each year, while avoiding \$118 million in yearly hospital costs, 766,401 sick days and \$125.56 million in lost productivity. Heart disease, hypertension and diabetes are increasingly well understood scientifically, and ripe for best practices collaboration. Over the course of this project, California has outpaced the nation in improving health system performance on control of blood pressure, cholesterol and blood sugar, building on the “100,000 Lives” campaign for reducing medical errors and the Million Hearts™ national initiative launched in 2011.

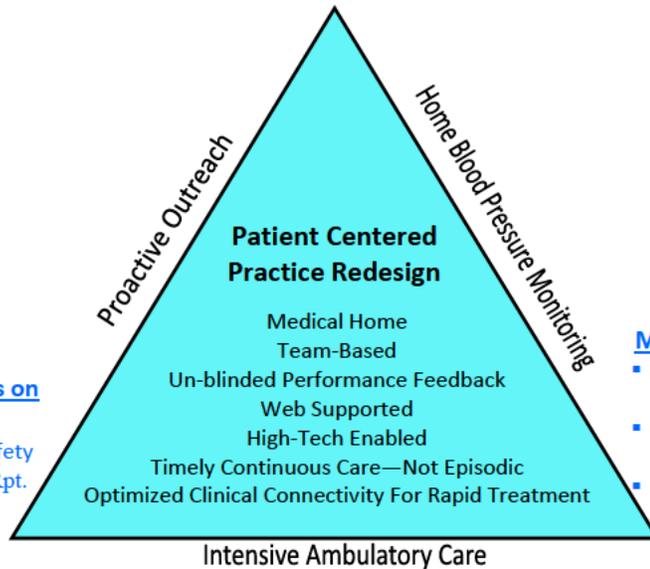
Promising Interventions to Reach HEDIS Control Targets for Heart Attack and Stroke Prevention

Patient Activation

- Stress reduction, medication adherence, healthy sleep, nutrition & physical activity, smoking cessation
 - Evidence-based patient education (e.g., Project DULCE; Stanford Patient Self-Management)
 - Motivational interviewing and evidence-based media messaging

Clinical Pharmacists on Care Team

- HRSA.gov/patientsafety
- Surgeon General's Rpt.



Medication Protocols

- Nationally Endorsed Guidelines (JNC, ADA)
- European Union Guidelines
- ALL/PHASE (Kaiser)

San Diego University of Best Practices steering committee medical directors came to consensus that heart attacks and strokes could be reduced by 50% in 5 years by implementing the interventions on the Right Care Triangle.

Research Questions:

- What are the promising interventions for bringing patients into safe control?
- How can implementation of evidence-based medicine be refined to quickly meet the Right Care goals and what are the barriers for doing so?
- What strategies are needed to improve clinical outcomes in light of health disparities in California's diverse population?

Implementation Action:

DMHC publicly launched the Right Care Initiative with NCQA and the Deans of UC Berkeley and UCLA Schools of Public Health in March 2008 at the 1st annual Clinical Quality Improvement Leadership Summit. Since then, more than a dozen Right Care summits have been held around the state. Each Right Care gathering is a collaborative effort to close the gap between science and practice to improve patient outcomes working with medical directors, pharmacy and quality improvement directors, as well as thought leaders in evidence-based medicine.

State-Wide Right Care Technical Expert Steering Committee Chair and Co-Founders:

Stephen Shortell, PhD, MPH, MBA, Professor and Dean Emeritus, University of California, Berkeley, School of Public Health
Arnold Milstein, MD, MPH, Professor of Medicine and Director, Stanford University Clinical Excellence Research Center; PBGH Medical Director
Jerry Penso, MD, MBA, Univ. of Best Practices Co-Founder and Chief Medical Officer, American Medical Group Association Foundation

Cardiovascular Disease and Diabetes Research Team:

Arnold Milstein, MD, MPH, Professor of Medicine and Director, Stanford University Clinical Excellence Research Center
Anthony DeMaria, MD, Immediate past Editor-in-Chief, Journal of American College of Cardiology; Founding Director, UCSD Cardiovascular Center
Susan L. Ivey, MD, MHSA, Director of Research, Health Research for Action & Associate Professor, UC Berkeley School of Public Health
Hector Rodriguez, PhD, MPH, Associate Professor, Health Policy and Management, Chair, Health Policy PhD Graduate Group, UC Berkeley, School of Public Health • **Brent D. Fulton, Ph.D., MBA**, Asst. Adjunct Professor of Health Economics and Policy, Associate Director, Petris Center on Health Care Markets and Consumer Welfare, UC Berkeley • **Jan Hirsch, PhD**, Assistant Professor of Clinical Pharmacy, UCSD Skaggs School of Pharmacy and Pharmaceutical Sciences • **Steve Chen, PharmD**, Associate Professor of Clinical Pharmacy, University of Southern California • **Mary Fermazin, MD, MPA**, Chief Medical Officer, Health Services Advisory Group (CMS-designated Quality Improvement Organization)

Thanks to an NIH GO Grant (2009-July 2012), the Right Care Initiative received a special opportunity to launch a **community-focused effort to reach the Right Care Initiative goals of preventing heart attacks, strokes and diabetic complications** and piloted the first University of Best Practices in San Diego (subsequently renamed *Be There San Diego*). Since then, a Right Care University of Best Practices has been launched in two additional metro areas: Sacramento in 2012 and Los Angeles in 2013. Each University of Best Practices is comprised of the major delivery systems of the region, including medical groups, health plans, community clinics, the V.A., Navy, and Air Force along with subject matter experts.

Los Angeles Right Care University of Best Practices Co-Chairs: Clayton Chau, MD, PhD, Medical Director, Behavioral Health and Care Management Services, L.A. Care Health Plan; Co-Principal Investigator, CMMI Grant; Assistant Clinical Professor of Psychiatry, UC Irvine School of Medicine •

Carol Peden, MB ChB, MD, MPH, Executive Director, USC Center for Health System Innovation Keck Medicine of USC; Professor, Department of Anesthesiology Keck School of Medicine, University of Southern California • **Karol E. Watson, MD, PhD, FACC**, UCLA Professor of Medicine/Cardiology; Co-director, UCLA Program in Preventive Cardiology; Director, UCLA Barbara Streisand Women's Heart Health Program (**Hosted at USC School of Pharmacy**)

Sacramento Right Care University of Best Practices Co-Chairs: José Arévalo, MD FAAFP, Senior Medical Director, Sutter Independent Physicians Medical Group • **Alan R. Ertle, MD, MPH, MBA**, Chief Medical Officer, Mercy Medical Group (**Hosted at Sierra Health Foundation**)

San Diego Be There University of Best Practices Chair: Anthony DeMaria, MD, Univ. of Best Practices Co-Chair; immediate past Editor-in-Chief, Journal of American College of Cardiology; Founding Director, UCSD Cardiovascular Center (**Hosted at UC San Diego**)

Resources: We wish to thank Right Care Initiative supporters: The Sierra Health Foundation, The California Chronic Care Coalition, The Health Services Advisory Group (federally designated Quality Improvement Organization), Ralphs Grocery Company, Abbvie, Boehringer-Ingelheim, Genentech, Johnson & Johnson, and Novo Nordisk, which enables research and logistical support for the Right Care Initiative University of Best Practices and our annual leadership summits by the University of California.

Right Care Websites: <http://www.rightcare.dmhc.ca.gov> and <http://rightcare.berkeley.edu>

View medical group scores by county via the CA Office of the Patient Advocate: http://opa.ca.gov/report_card/medicalgroupcounty.aspx

Last Updated: August 16, 2016.

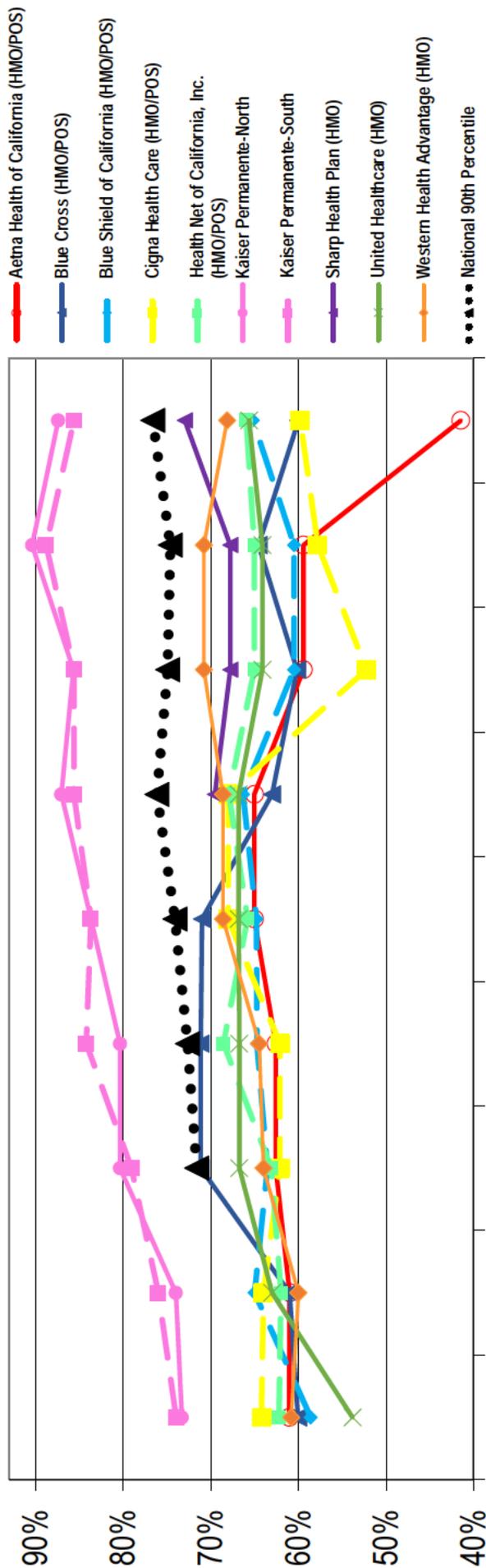


Right Care Initiative: Key Quality Indicators for Cardiovascular Prevention Among California Health Plans

Trend analysis provided by the UC Berkeley School of Public Health Right Care Research Team, November 2015



% Patients' Blood Pressure Controlled (<140/90 mmHg) Among California Health Plans



2006 2007 2008 2009 2010 2011 2012 2013 2014

Health Plan	2006	2007	2008	2009	2010	2011	2012	2013	2014	Change
Aetna Health of California (HMO/POS)	61.06%	61.00%	62.59%	62.59%	65.04%	65.04%	59.43%	59.43%	41.46%	-19.60%
Blue Cross (HMO/POS)	60.04%	61.00%	71.16%	71.16%	71.00%	63.02%	60.16%	64.56%	60.00%	-0.04%
Blue Shield of California (HMO/POS)	58.60%	65.00%	63.55%	64.73%	64.79%	66.33%	60.50%	60.50%	65.20%	6.60%
Cigna Health Care (HMO/POS)	64.23%	64.00%	62.11%	62.11%	68.04%	68.04%	52.22%	57.80%	59.80%	-4.43%
Health Net of California, Inc. (HMO/POS)	62.23%	62.00%	63.11%	68.56%	65.82%	67.93%	65.03%	65.03%	65.96%	3.73%
Kaiser Permanente-North	73.31%	74.00%	80.37%	80.37%	83.70%	87.08%	85.71%	90.41%	87.44%	14.13%
Kaiser Permanente-South	73.97%	76.00%	79.08%	84.23%	83.70%	85.64%	85.64%	88.81%	85.64%	11.67%
Sharp Health Plan (HMO)	53.81%	63.00%	66.75%	66.75%	66.83%	66.83%	64.10%	64.10%	65.63%	11.82%
United Healthcare (HMO)	60.83%	60.00%	63.99%	64.48%	68.61%	68.61%	70.80%	70.80%	68.13%	7.30%
Western Health Advantage (HMO)	60.83%	60.00%	63.99%	64.48%	70.30%	70.81%	68.93%	68.16%	67.22%	3.58%
National 90th Percentile	63.37%	64.09%	64.09%	64.09%	63.43%	65.36%	63.04%	63.30%	63.98%	0.61%

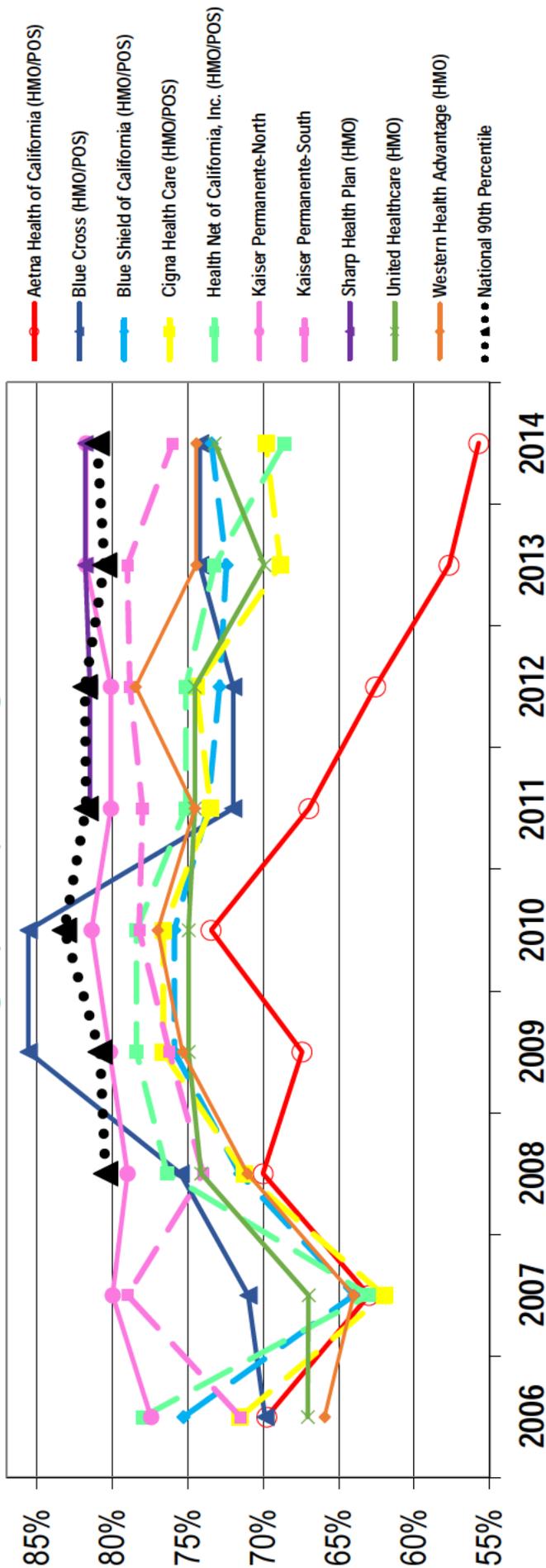


Right Care Initiative: Key Quality Indicators for Cardiovascular Prevention Among California Health Plans

Trend analysis provided by the UC Berkeley School of Public Health Right Care Research Team, November 2015



Patients with Diabetes with Blood Sugar (HbA1c)<9 Among California Health Plans



	2006	2007	2008	2009	2010	2011	2012	2013	2014	Change
Aetna Health of California (HMO/POS)	69.78%	63.00%	70.02%	67.43%	73.47%	66.98%	62.56%	57.68%	55.72%	-14.06%
Blue Cross (HMO/POS)	69.88%	71.00%	75.50%	85.58%	85.58%	72.00%	72.00%	74.21%	74.21%	4.33%
Blue Shield of California (HMO/POS)	75.30%	64.00%	71.56%	75.91%	75.91%	73.68%	72.91%	72.45%	73.44%	-1.86%
Cigna Health Care (HMO/POS)	71.53%	62.00%	71.29%	76.64%	76.64%	73.50%	74.45%	68.86%	69.83%	-1.70%
Health Net of California, Inc. (HMO/POS)	77.99%	63.00%	76.40%	78.42%	78.42%	75.13%	75.13%	73.24%	68.61%	-9.38%
Kaiser Permanente-North	77.45%	80.00%	79.01%	80.19%	81.39%	80.11%	80.11%	81.75%	81.75%	4.30%
Kaiser Permanente-South	71.53%	79.00%	74.01%	76.24%	78.24%	78.02%	78.86%	79.02%	76.00%	4.47%
Sharp Health Plan (HMO)	67.06%	67.00%	74.13%	74.96%	74.96%	81.51%	81.51%	81.80%	81.80%	0.29%
United Healthcare (HMO)	65.94%	64.00%	71.05%	75.36%	77.01%	74.55%	78.47%	74.45%	73.22%	6.16%
Western Health Advantage (HMO)	80.46%	80.84%	83.21%	80.84%	81.75%	81.82%	81.82%	80.54%	81.02%	0.56%
California Average	71.34%	76.75%	77.95%	76.75%	77.95%	72.26%	75.73%	67.04%	68.82%	-2.52%
National 90th Percentile	71.64%	71.79%	72.68%	71.79%	71.11%	71.11%	71.53%	69.29%	68.85%	-2.79%

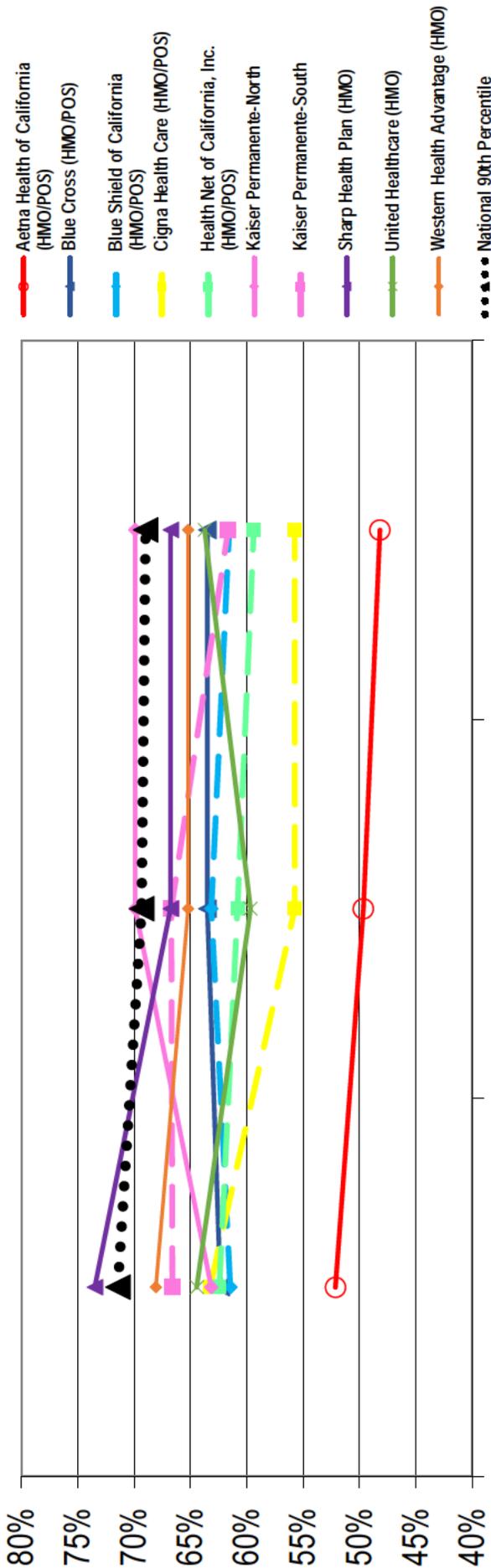


Right Care Initiative: Key Quality Indicators for Cardiovascular Prevention Among California Health Plans

Trend analysis provided by the UC Berkeley School of Public Health Right Care Research Team, November 2015



Patients with Diabetes with Blood Sugar (HbA1c) <8 Among California Health Plans



	2012	2013	2014	Change
Aetna Health of California (HMO/POS)	52.13%	49.65%	48.18%	-3.95%
Blue Cross (HMO/POS)	62.33%	63.50%	63.50%	1.17%
Blue Shield of California (HMO/POS)	61.45%	63.14%	61.56%	0.11%
Cigna Health Care (HMO/POS)	63.26%	55.72%	55.72%	-7.54%
Health Net of California, Inc. (HMO/POS)	62.44%	60.83%	59.37%	-3.07%
Kaiser Permanente-North	63.14%	69.89%	69.89%	6.75%
Kaiser Permanente-South	66.59%	66.69%	61.64%	-4.95%
Sharp Health Plan (HMO)	73.48%	66.75%	66.75%	-6.73%
United Healthcare (HMO)	64.44%	59.67%	63.74%	-0.70%
Western Health Advantage (HMO)	68.07%	65.21%	65.21%	-2.86%
National 90th Percentile	71.43%	69.33%	68.98%	-2.45%
California Average	64.69%	59.56%	63.03%	-1.66%
National Average	61.32%	58.90%	57.47%	-3.85%

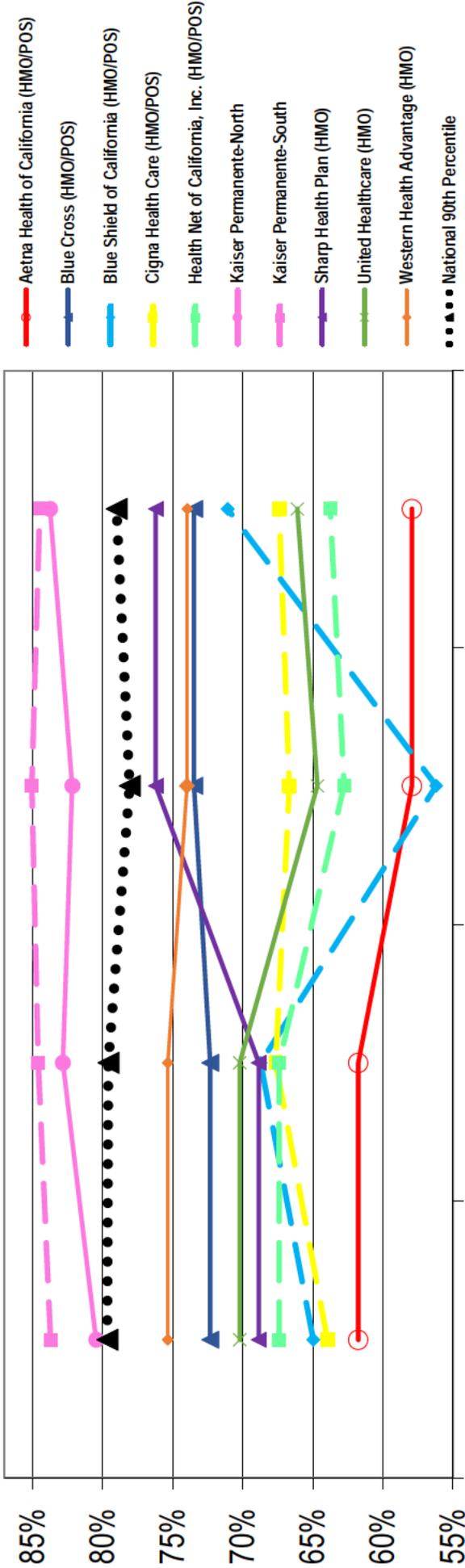


Right Care Initiative: Key Quality Indicators for Cardiovascular Prevention Among California Health Plans

Trend analysis provided by the UC Berkeley School of Public Health Right Care Research Team, November 2015



Patients with Diabetes with Blood Pressure Controlled (<140/90 mmHg) Among California Health Plans



	2011	2012	2013	2014	Change
Aetna Health of California (HMO/POS)	61.76%	61.76%	57.92%	57.92%	3.84%
Blue Cross (HMO/POS)	72.33%	72.33%	73.48%	73.48%	-1.15%
Blue Shield of California (HMO/POS)	64.97%	68.73%	56.20%	71.09%	-6.12%
Cigna Health Care (HMO/POS)	63.96%	67.64%	66.67%	67.40%	-3.44%
Health Net of California, Inc. (HMO/POS)	67.41%	67.41%	62.77%	63.75%	3.66%
Kaiser Permanente-North	80.47%	82.85%	82.18%	83.76%	-3.29%
Kaiser Permanente-South	83.72%	84.60%	85.07%	84.50%	-0.78%
Sharp Health Plan (HMO)	68.86%	68.86%	76.21%	76.21%	-7.35%
United Healthcare (HMO)	70.22%	70.22%	64.68%	66.11%	4.11%
Western Health Advantage (HMO)	75.36%	75.36%	73.97%	73.97%	1.39%
National 90th Percentile	79.68%	79.60%	78.08%	79.02%	0.66%
California Average	67.16%	72.86%	63.62%	72.01%	-4.85%
National Average	65.83%	66.48%	64.97%	64.64%	1.19%

California Health Plans vs. National Top 10 Performance

Right Care Initiative: Selected HEDIS Measures

Trend Analysis Provided by the UC Berkeley School of Public Health Right Care Research Team, October 2015

Controlling High Blood Pressure <140/90	
National 90th Percentile--"Grade A"	76.64
California Average	67.22
California	
Kaiser Foundation Health Plan, Inc. - Northern California	87.44
Kaiser Foundation Health Plan Inc. - Southern California	85.64
Sharp Health Plan	72.98
Western Health Advantage	68.13
Health Net of California, Inc.	65.96
UnitedHealthcare of California	65.63
Blue Shield of California	65.20
Blue Cross of California dba Anthem Blue Cross	60.00
Cigna HealthCare of California, Inc.	59.80
Aetna Health of California, Inc.	41.46
National Top 10	
Kaiser Mid-Atlantic States, Colorado, Northern California, Southern California, Northwest, Georgia, Hawaii	90.82-77.86
Tufts Associated Health Maintenance Organization, Inc. (MA)	85.19
Gundersen Health Plan, Inc. (WI)	82.97
Dean Health Plan, Inc. (WI)	81.85
Johns Hopkins US Family Health Plan (MD)	81.82
Medical Associates Health Plan, Inc. - Accred (IA)	80.78
Blue Cross and Blue Shield of Massachusetts HMO Blue, Inc.	80.69
Health New England, Inc. (MA)	78.35
Health Tradition Health Plan (WI)	77.32
Harvard Pilgrim Health Care, Inc. (MA)	77.31

Diabetes Care: Blood Pressure Control <140/90	
National 90th Percentile--"Grade A"	79.02
California Average	72.01
California	
Kaiser Foundation Health Plan Inc. - Southern California	84.50
Kaiser Foundation Health Plan, Inc. - Northern California	83.76
Sharp Health Plan	76.21
Western Health Advantage	73.97
Blue Cross of California dba Anthem Blue Cross	73.48
Blue Shield of California	71.09
Cigna HealthCare of California, Inc.	67.40
UnitedHealthcare of California	66.11
Health Net of California, Inc.	63.75
Aetna Health of California, Inc.	57.92
National Top 10	
Group Health Cooperative of Eau Claire (WI)	87.62
HealthSpan Integrated Care (OH)	86.86
Dean Health Plan, Inc. (WI)	85.04
Kaiser - Southern California, Colorado, Northern California, Mid-Atlantic States, Northwest, Hawaii, Georgia	84.50-81.02
Tufts Associated Health Maintenance Organization, Inc. (MA)	84.21
Gundersen Health Plan, Inc. (WI)	82.10
Health New England, Inc. (MA)	81.57
Medical Associates Health Plan, Inc. - Accred (IA)	81.02
CompCare Health Services Insurance Corporation dba Anthem Blue Cross and Blue Shield in Wisconsin	80.80
Cigna HealthCare of Arizona, Inc.	80.05

Diabetes Care: Blood Sugar (HbA1c) Control <8%	
National 90th Percentile--"Grade A"	68.98
California Average	63.03
California	
Kaiser Foundation Health Plan, Inc. - Northern California	69.89
Sharp Health Plan	66.75
Western Health Advantage	65.21
UnitedHealthcare of California	63.74
Blue Cross of California dba Anthem Blue Cross	63.50
Kaiser Foundation Health Plan Inc. - Southern California	61.64
Blue Shield of California	61.56
Health Net of California, Inc.	59.37
Cigna HealthCare of California, Inc.	55.72
Aetna Health of California, Inc.	48.18
National Top 10	
Martin's Point US Family Health Plan (ME)	76.89
Anthem Health Plans of New Hampshire, Inc. dba Anthem Blue Cross and Blue Shield in New Hampshire	75.18
Blue Cross and Blue Shield of Massachusetts HMP Blue, Inc.	74.33
Medical Associates Health Plan, Inc. - Accred (IA)	74.17
Optima Health Plan (VA)	73.92
Network Health Plan (WI)	72.77
Group Health Cooperative of Eau Claire (WI)	72.28
Tufts Associated Health Maintenance Organization, Inc. (MA)	72.22
Harvard Pilgrim Health Care of New England (NH)	71.78
Health New England, Inc. (MA)	71.53

Diabetes Care: Poor Blood Sugar (HbA1c) Control (>9%)	
(Lower Score Indicates Better Performance)	
National 90th Percentile--"Grade A"	18.98
California Average	31.18
California	
Sharp Health Plan	18.20
Kaiser Foundation Health Plan Inc. - Northern California	18.25
Kaiser Foundation Health Plan Inc. - Southern California	24.00
Western Health Advantage	25.55
Blue Cross of California dba Anthem Blue Cross	25.79
Blue Shield of California	26.56
UnitedHealthcare of California	26.78
Cigna HealthCare of California, Inc.	30.17
Health Net of California, Inc.	31.39
Aetna Health of California, Inc.	44.28
National Top 10	
Blue Cross and Blue Shield of Massachusetts HMO Blue, Inc.	12.22
Martin's Point US Family Health Plan (ME)	13.63
Tufts Associated Health Maintenance Organization, Inc. (MA)	14.04
Health New England, Inc. (MA)	14.23
Cigna HealthCare of Colorado	14.29
Anthem Health Plans of New Hampshire, Inc. dba Anthem Blue Cross and Blue Shield in New Hampshire	14.36
Medical Associates Health Plan, Inc. - Accred (IA)	14.68
Network Health Plan (WI)	16.13
Sanford Health Plan (SD)	16.42
HealthAmerica Pennsylvania, Inc.	16.61

*Plans within 1/2 point margin of error are considered to be performing at the national 90th percentile of performance.

**Please note that significant changes have been made to the measures this year.

Source: NCQA's Quality Compass (R) 2015 (Performance Year 2014)

California Health Plans vs. National Top 10 Performance

Right Care Initiative: Selected HEDIS Measures

Trend Analysis Provided by the UC Berkeley School of Public Health Right Care Research Team, October 2015

Persistence of Beta Blocker Treatment After a Heart Attack	
National 90th Percentile--"Grade A"	91.93
California Average	81.76
California	
Kaiser Foundation Health Plan, Inc. - Northern California	89.87
Kaiser Foundation Health Plan, Inc. - Southern California	89.72
Western Health Advantage	86.67
Aetna Health of California, Inc.	83.20
Blue Shield of California	82.73
Blue Cross of California dba Anthem Blue Cross	79.31
Health Net of California, Inc.	76.49
UnitedHealthcare of California	76.19
Cigna HealthCare of California, Inc.	71.70
Sharp Health Plan	NA
National Top 10	
Kaiser Foundation Health Plan of Colorado	97.80
Group Health Cooperative of South Central Wisconsin	95.65
Martin's Point US Family Health Plan (MA, NH, NY, PA, VT)	94.29
Tufts Associated Health Maintenance Organization, Inc. (MA)	94.23
Capital District Physicians' Health Plan, Inc. (CDPHP)	93.67
Unity Health Plans Insurance Corporation (WI)	93.15
Geisinger Health Plan (PA)	92.86
Aetna Health Inc. (New Jersey)	92.59
HealthPlus of Michigan, Inc.	92.31
Martin's Point US Family Health Plan (ME)	92.16

Diabetes Care: Blood Sugar (HbA1c) Testing	
National 90th Percentile--"Grade A"	95.36
California Average	89.05
California	
Kaiser Foundation Health Plan, Inc. - Northern California	94.71
Kaiser Foundation Health Plan Inc. - Southern California	94.45
Sharp Health Plan	93.20
UnitedHealthcare of California	90.76
Western Health Advantage	90.02
Cigna HealthCare of California, Inc.	89.78
Blue Shield of California	89.69
Blue Cross of California dba Anthem Blue Cross	89.05
Health Net of California, Inc.	87.35
Aetna Health of California, Inc.	86.62
National Top 10	
Grand Valley Health Plan, Inc. (MI)	97.83
Tufts Associated Health Maintenance Organization, Inc. (MA)	97.66
Blue Cross and Blue Shield of Vermont	97.27
Network Health Plan (WI)	97.14
Martin's Point US Family Health Plan (ME)	96.59
Neighborhood Health Plan, Inc. (MA)	96.13
Martin's Point US Family Health Plan (MA, NH, NY, PA, VT)	96.11
Blue Cross and Blue Shield of Massachusetts HMO Blue, Inc.	96.09
Medical Associates Health Plan, Inc. - Accred (IA)	96.09
Kaiser Foundation Health Plan of the Northwest, Inc. (OR)	95.97

Diabetes Care: Medical Attention for Nephropathy	
National 90th Percentile--"Grade A"	91.24
California Average	87.17
California	
Kaiser Foundation Health Plan, Inc. - Northern California	94.53
Kaiser Foundation Health Plan, Inc. - Southern California	93.64
Blue Shield of California	89.84
Sharp Health Plan	89.81
Cigna HealthCare of California, Inc.	89.05
UnitedHealthcare of California	87.44
Blue Cross of California dba Anthem Blue Cross	87.10
Western Health Advantage	86.86
Health Net of California, Inc.	86.62
Aetna Health of California, Inc.	84.67
National Top 10	
Kaiser - Mid-Atlantic States, Northwest, Northern California, Colorado, Southern California, Hawaii, Georgia	97.83-92.88
Gundersen Health Plan, Inc. (WI)	94.39
Tufts Associated Health Maintenance Organization, Inc. (MA)	93.57
Martin's Point US Family Health Plan (ME)	92.94
HealthSpan Integrated Care (OH)	92.85
Grand Valley Health Plan, Inc. (MI)	92.61
Network Health Plan (WI)	92.61
Blue Cross and Blue Shield of Massachusetts HMO Blue, Inc.	92.52
Dean Health Plan, Inc. (WI)	92.52
Harvard Pilgrim Health Care, Inc. (MA)	92.44

Diabetes Care: Eye Exams	
National 90th Percentile--"Grade A"	73.54
California Average	53.20
California	
Kaiser Foundation Health Plan Inc. - Southern California	81.40
Kaiser Foundation Health Plan, Inc. - Northern California	68.98
Cigna HealthCare of California	56.20
Sharp Health Plan	55.10
Western Health Advantage	52.80
Blue Shield of California	50.94
UnitedHealthcare of California	50.60
Blue Cross of California dba Anthem Blue Cross	49.39
Health Net of California, Inc.	46.47
Aetna Health of California, Inc.	45.74
National Top 10	
Blue Cross and Blue Shield of Massachusetts HMO Blue, Inc.	86.29
Kaiser - Mid-Atlantic States, Southern California	82.49-81.40
Grand Valley Health Plan, Inc. (MI)	82.17
Martin's Point US Family Health Plan (ME)	81.75
Anthem Health Plans, Inc. dba Anthem Blue Cross and Blue Shield - Connecticut	81.38
Harvard Pilgrim Health Care, Inc. (MA)	78.78
Anthem Health Plans of Maine, Inc. dba Anthem Blue Cross and Blue Shield in Maine	77.60
Johns Hopkins US Family Health Plan (MD)	77.46
HealthPlus of Michigan, Inc.	77.33
Group Health Cooperative (WA)	77.23

*Plans within 1/2 point margin of error are considered to be performing at the national 90th percentile of performance.

**Please note that significant changes have been made to the measures this year.

California Health Plans vs. National Top 10 Performance

Right Care Initiative: Selected HEDIS Measures

Trend Analysis Provided by the UC Berkeley School of Public Health Right Care Research Team, October 2015

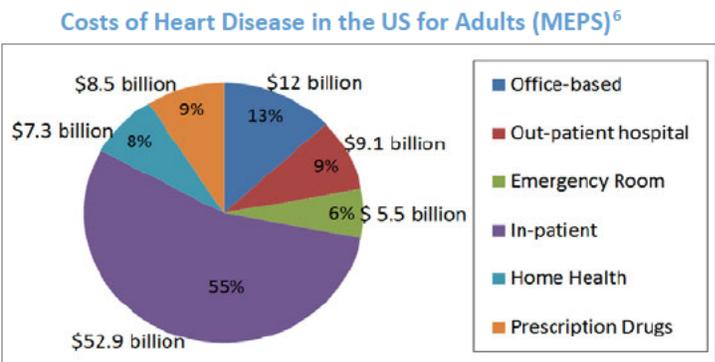
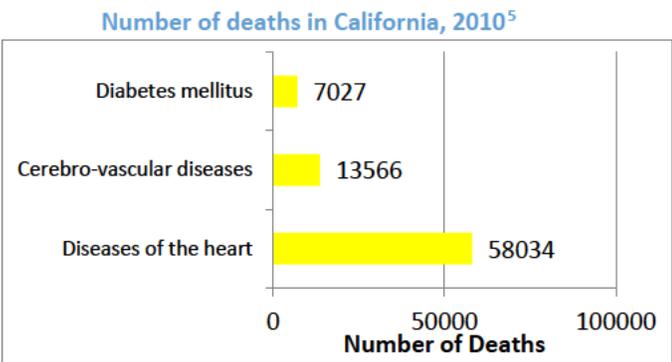
Measure	Definition
Controlling High Blood Pressure <140/90**	This HEDIS measure is the percentage of members 18–85 years of age who had a diagnosis of hypertension (HTN) and whose blood pressure (BP) was <140/90 mm Hg for members 18-59 years of age and whose BP was <140/90 mm Hg for members 60-85 years of age with a diagnosis of diabetes or whose BP was <150/90 mm Hg for members 60-85 years of age without a diagnosis of diabetes.
Diabetes Care: Blood Sugar (HbA1c) Control <8%**	This HEDIS measure is the percentage of members 18–75 years of age with diabetes (type 1 and type 2) who had HbA1c control of less than 8%. <i>In 2015, the ED visit requirement was revised when identifying the event/diagnosis of the eligible population. In addition, changes were made to General Guideline 41: Measures That Require Results from the Most Recent Test that affect the HbA1c indicators. Trending between 2015 and prior years' should be considered with caution.</i>
Diabetes Care: High Blood Pressure Control <140/90**	This HEDIS measure is the percentage of members 18–75 years of age with diabetes (type 1 and type 2) who had a most recent blood pressure measurement <140/90 mm Hg. <i>In 2015, the ED visit requirement was revised when identifying the event/diagnosis of the eligible population. Trending between 2015 and prior years' should be considered with caution. In 2012, clarified that organizations must combine blood pressure readings with a visit code in the administrative specification. Trending between 2012 and prior years' should be considered with caution.</i>
Diabetes Care: Poor Blood Sugar (HbA1C) Control (>9%)**	This HEDIS measure is the percentage of members 18–75 years of age with diabetes (type 1 and type 2) who had poor HbA1c control (>9.0%). <i>A lower rate indicates better performance. In 2015, the ED visit requirement was revised when identifying the event/diagnosis of the eligible population. In addition, changes were made to General Guideline 41: Measures That Require Results from the Most Recent Test that affect the HbA1c indicators. Trending between 2015 and prior years' should be considered with caution.</i>
Persistence of Beta Blocker Treatment After a Heart Attack	This HEDIS measure is the percentage of members 18 years of age and older during the measurement year who were hospitalized and discharged from July 1 of the year prior to the measurement year to June 30 of the measurement year with a diagnosis of AMI and who received persistent beta-blocker treatment for six months after discharge.
Diabetes Care: Blood Sugar (HbA1c) Testing**	This HEDIS measure is the percentage of members 18–75 years of age with diabetes (type 1 and type 2) who had received Hemoglobin A1c (HbA1c) testing. <i>In 2015, the ED visit requirement was revised when identifying the event/diagnosis of the eligible population. In addition, changes were made to General Guideline 41: Measures That Require Results from the Most Recent Test that affect the HbA1c indicators. Trending between 2015 and prior years' should be considered with caution.</i>
Diabetes Care: Medical Attention for Nephropathy**	This HEDIS measure is the percentage of members 18–75 years of age with diabetes (type 1 and type 2) who received medical attention for nephropathy (kidney disease). <i>In 2015, the ED visit requirement was revised when identifying the event/diagnosis of the eligible population. Trending between 2015 and prior years' should be considered with caution.</i>
Diabetes Care: Eye Exams**	This HEDIS measure is the percentage of members 18–75 years of age with diabetes (type 1 and type 2) who had an eye exam (retinal) performed. <i>In 2015, the ED visit requirement was revised when identifying the event/diagnosis of the eligible population. Trending between 2015 and prior years' should be considered with caution.</i>

*Plans within 1/2 point margin of error are considered to be performing at the national 90th percentile of performance.

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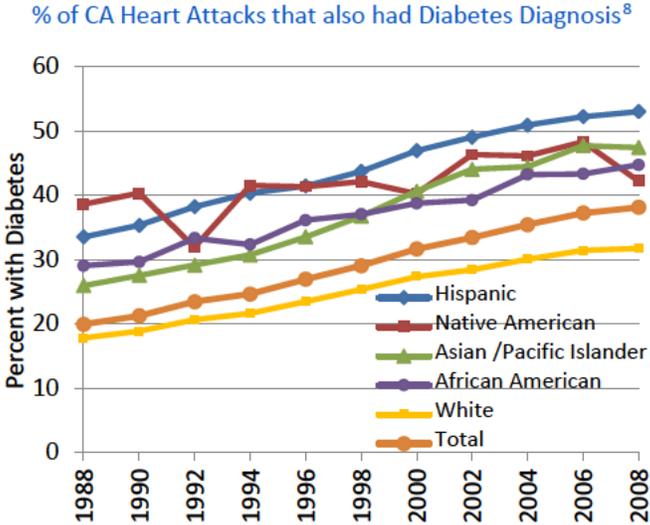
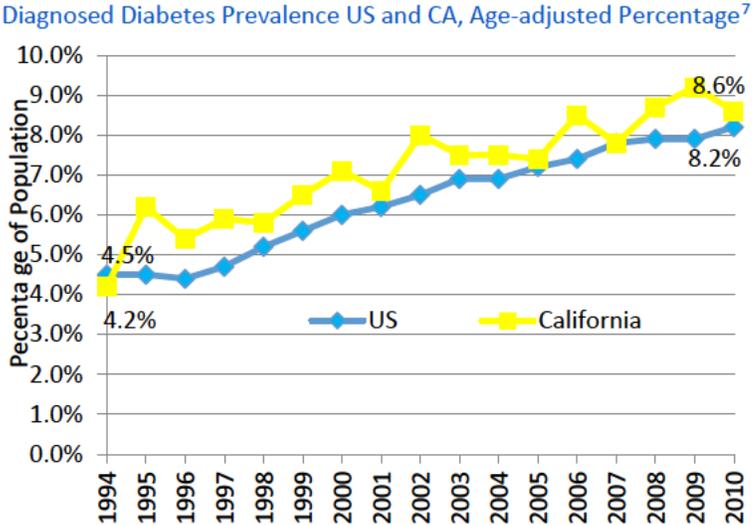
CALIFORNIA QUICK FACTS ^{1 2 3 4}

- In 2011 there were over 1 million hospitalizations for heart attacks and strokes - 836,040 for heart attacks and 215,777 for strokes.
- Hispanics, African-Americans, Asian-Pacific Islanders and Native Americans have significantly higher rates of heart attacks with diabetes diagnosis than whites.
- African-Americans have the highest stroke hospitalization rate of all racial/ethnic groups.
- Compared to 1989, in 2009 30% fewer patients died in hospital from stroke. But 10% more patients were sent to long term care institutions.
- According to the CDC, a major factor driving the national disparity in preventable death from CVD is that only 48% of adults ages 40-64 with high cholesterol are receiving treatment for it, compared with 64% in those over 65. This leads to approximately 112,000 preventable deaths annually among those ages 40-64.



Rate of Diabetes Almost Doubles 1994-2010 (CDC & OSPHD)

Note that the increase in diagnosed diabetes prevalence may be the result of improved survival of persons with diabetes, enhanced detection of undiagnosed diabetes, demographic changes, and changes in diagnostic criteria.

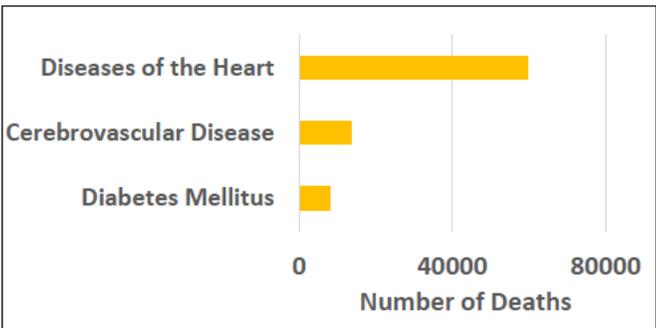


¹ California Office of Statewide Health Planning and Development, "Strokes and AMI in CA, 2010-2011" <http://www.oshpd.ca.gov/HID/HIRC/index.html>
² Centers for Disease Control and Prevention, Division for Heart Disease and Stroke Prevention, "Interactive Atlas of Heart Disease and Stroke", <http://apps.nccd.cdc.gov/DHDSAtlas/default.aspx>
³ Medical Expenditure Panel Survey. Statistical Brief #393 http://meps.ahrq.gov/mepsweb/data_files/publications/st393/stat393.pdf
⁴ Centers for Disease Control and Prevention, "Preventable Deaths from Heart Disease and Stroke" <http://www.cdc.gov/vitalsigns/HeartDisease-Stroke/infographic-text.html>
⁵ California Department of Public Health, "Thirteen Leading Causes of Death", <http://www.cdph.ca.gov/data/statistics/Documents/VSC-2010-0508.pdf>
⁶ Medical Expenditure Panel Survey. Statistical Brief #393 http://meps.ahrq.gov/mepsweb/data_files/publications/st393/stat393.pdf
⁷ Centers for Disease Control and Prevention, "Diabetes Interactive Atlas" <http://www.cdc.gov/diabetes/atlas/>
⁸ California Office of Statewide Health Planning and Development "Trends in Cardiac Care in California 1988 to 2008" http://www.oshpd.ca.gov/HID/Products/Health_Facts/HealthFacts_Cardiac2.pdf

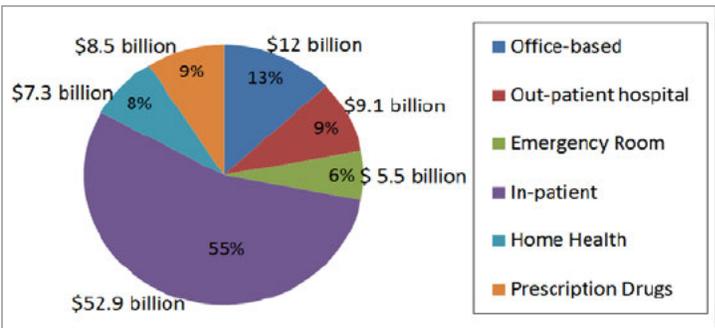
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Number of deaths in California, 2013⁵



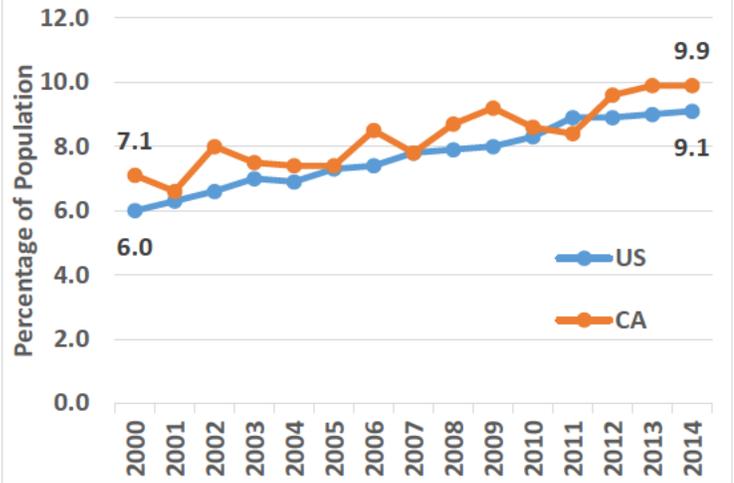
Costs of Heart Disease in the US for Adults (MEPS)⁶



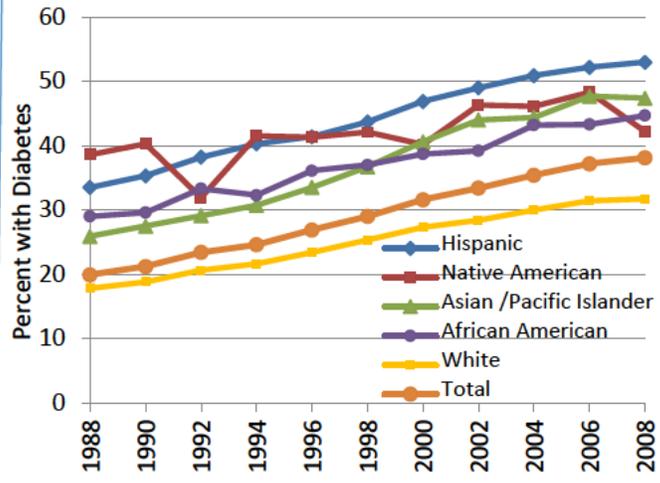
Rate of Diabetes Almost Doubles 1994-2010 (CDC & OSPHD)

Note that the increase in diagnosed diabetes prevalence may be the result of improved survival of persons with diabetes, enhanced detection of undiagnosed diabetes, demographic changes, and changes in diagnostic criteria.

Diagnosed Diabetes Prevalence US and CA, Age-adjusted Percentage⁷



% of CA Heart Attacks that also had Diabetes Diagnosis⁸



¹ California Office of Statewide Health Planning and Development, "Strokes and AMI in CA, 2010-2011" <http://www.oshpd.ca.gov/HID/HIRC/index.html>
² Centers for Disease Control and Prevention, Division for Heart Disease and Stroke Prevention, "Interactive Atlas of Heart Disease and Stroke", <http://apps.nccd.cdc.gov/DHDSAtlas/default.aspx>
³ Medical Expenditure Panel Survey. Statistical Brief #393 http://meps.ahrq.gov/mepsweb/data_files/publications/st393/stat393.pdf
⁴ Centers for Disease Control and Prevention, "Preventable Deaths from Heart Disease and Stroke" <http://www.cdc.gov/vitalsigns/HeartDisease-Stroke/infographic-text.html>
⁵ California Department of Public Health, "California's Leading Causes of Death for 2013", <http://www.cdph.ca.gov/programs/ohir/pages/CHSP.aspx>
⁶ Medical Expenditure Panel Survey. Statistical Brief #393 http://meps.ahrq.gov/mepsweb/data_files/publications/st393/stat393.pdf
⁷ Centers for Disease Control and Prevention, "Diabetes Interactive Atlas" <http://www.cdc.gov/diabetes/atlas/>
⁸ California Office of Statewide Health Planning and Development "Trends in Cardiac Care in California 1988 to 2008" http://www.oshpd.ca.gov/HID/Products/Health_Facts/HealthFacts_Cardiac2.pdf



The Right Care Initiative has worked since 2007 to improve clinical outcomes by catalyzing uptake of patient-centered, evidence-based best practices among medical groups, clinics, and health plans. This public-private partnership includes clinicians, health systems, patients, the University of California, USC, Stanford Clinical Excellence Research Center, Health Services Advisory Group (CMS QIO), the Chronic Care Coalition; RAND; and the CA Department of Managed Health Care. We collaborate intensively with local leaders in three major metro areas to work on improving critical metrics for heart attack, stroke and diabetes complications prevention. Speakers are invited from organizations with breakthrough clinical quality success to share their strategies for improving patient outcomes. The first University of Best Practices (UBP) launched in San Diego in 2011, the second in Sacramento in 2012, and the third in Los Angeles in 2013.

Purpose

- **Share ways to replicate successful strategies** by catalyzing the uptake of best practices with presentations by expert speakers experienced in achieving benchmark outcomes
- **Provide an educational, interactive setting** for exchanging proven clinical quality strategies
- **Build esprit de corps and enthusiasm** among medical directors, pharmacy directors and quality improvement teams across a region to meet the goals for preventing heart attacks, strokes, and diabetic complications

Participants Include:

- All major health delivery systems, representing more than 80% of medical care provided in a given metro area
- Medical, quality improvement and pharmacy directors from medical groups and pharmacies (and, in Sacramento and LA, from health plans)
- Community clinics
- The Veterans Administration and military medical centers
- Government officials:
 - The CA Department of Managed Health Care
 - CA Department of Health Care Services (Medi-Cal); OPA and CA Department of Public Health
 - County Health Officials
- Right Care research team (UC Berkeley, UCLA, UCSD, RAND, and USC)

Examples of UBP Presentations Include:

- Treatment Disparities in Women's Cardiovascular Disease (Data from one Health Plan) – Chloe E. Bird, PhD, MA, Senior Sociologist, RAND Corporation, Professor of Sociology and Policy Analysis Pardee RAND Graduate School
- Kaiser's Approach to Reducing Disparities in Controlling Blood Pressure, HbA1C and Cholesterol – Winston F. Wong, MD, MS, Medical Director, Community Benefits; Director, Disparities Improvement and Quality Initiatives, Kaiser Permanente
- Bringing it All Together: Evidence-Based Prevention and Treatment of Atherosclerotic Cardiovascular Disease – Gregg C. Fonarow, MD FACC, FAHA, Eliot Corday Professor of Cardiovascular Medicine and Science. Director, Ahmanson-UCLA Cardiomyopathy Center. Co-Director Preventative Cardiology Program and Clinical Co-Chief Division of Cardiology at David Geffen School of Medicine at UCLA
- "Measure Up, Pressure Down" AMGA Hypertension Management Campaign – Jerry Penso, MD, MBA, Chief Medical Officer, American Medical Group Association
- How the American Heart Association and Emergency Medical Services Can Help You Save Lives and Money—Jim Dunford, MD, City EMS Medical Director and President of the Board of the Greater SD American Heart Association
- Kaiser ALL Medication Protocol - Proactive Reduction of Risk of Heart Attack and Stroke for Diabetes and Heart Disease Patients—Jim Dudl, MD, National Community Benefits and Diabetes Clinical Lead, Kaiser Permanente Care Management Institute
- San Diego Beacon Community Grant to Strengthen Health Information Technology—Ted Chan, MD & Anupam Goel, MD, Principal Investigators of the Beacon Project UCSD & SD
- Achieving Benchmark Results through Collaboration with Pharmacists—Jan Hirsch, RPh, PhD, Associate Professor of Clinical Pharmacy, UC San Diego & Rebecca Cupp, RPh, Vice President of Pharmacy, Ralphs Grocery Company
- Patient Centered Care: Practical Lessons—Diane Stollenwerk, MPP, VP of Community Alliances, National Quality Forum
- Quality Improvement for Diverse Populations: Place and Race Matters—Rodney Hood, MD, Chief Medical Officer, Multicultural Primary Care Medical Group San Diego
- Strategies to Improve the Care of Patients with Diabetes and Vascular Disease—Dr. Bruce D. McCarthy, MD, MPH, President, Physician Division Columbia-St. Mary's Ascension Health

View these presentations and more at

http://www.dmhc.ca.gov/healthplans/gen/gen_rci_sdbps.aspx

The University of Best Practices in More Detail

Monthly Meetings

- Clinical quality benchmark performer and/or expert presents for the first hour
- A break out session or discussion in the round follows in the second hour to consider how to apply the speaker’s ideas in the local setting and to problem-solve how to overcome barriers

Lessons Learned

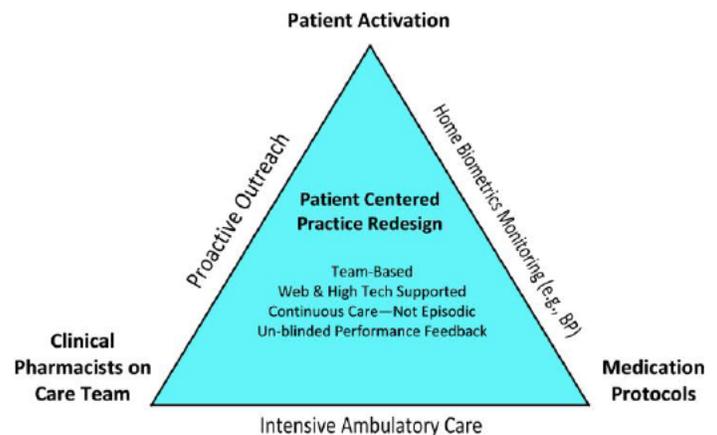
- A collaborative, “non-combat zone” spirit among local clinical leaders is the essential ingredient, following the Warren principle: *In this room we compete against disease, not against each other*
- Lecture should be scheduled for 50% or less of allotted time to allow for sufficient discussion on achievable, locally applicable action plans
- Informal time before and after the formal schedule facilitates one-on-one conversations and builds cohesive relationships
- Many hours of behind-the-scenes planning and organizing are needed for a successful collaborative

Resources

- An NIH-GO (National Institutes of Health - Grand Opportunity) grant, awarded to the Right Care research team in 2009, supported launch of the initial University of Best Practices in San Diego by the UC Berkeley research team
- Charitable contributions are continuing this important endeavor now that the NIH-GO grant is concluded

Looking Forward

- The learnings from the University of Best Practices dedicated to prevention of heart attack and stroke are expected to be spread statewide as they evolve
- Steering committee medical directors from the San Diego University of Best Practices came to consensus that heart attacks and strokes could be reduced by 50% in 5 years by implementing the interventions on the Right Care Triangle (see [Right Care Initiative Project Brief](#))



The California Health Care Quality Report Card

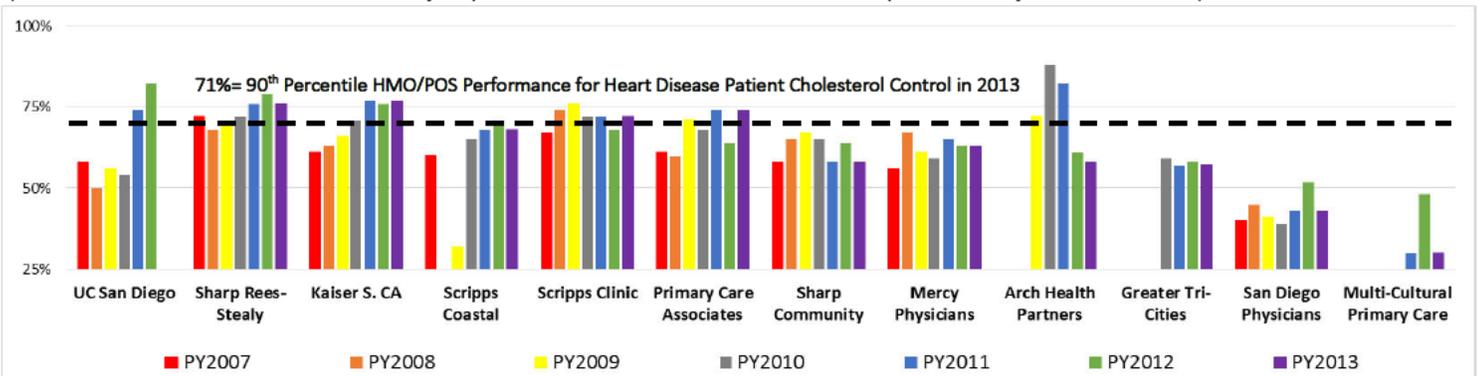
The California Health Care Quality Report Card compares performance for the largest California health plans and over 220 medical groups. It is published each spring by the CA Office of the Patient Advocate. These HEDIS and pay for performance metrics provide key benchmarks for the Right Care Initiative’s quality improvement effort. See example for San Diego [here](#).

Right Care Measures for Preventing Heart Attacks, Strokes, and Diabetic Complications

- Hypertension control (<140/90 mmHg)
- Cholesterol control for heart care patients (LDL-C <100)
- Cholesterol control for diabetes care patients (LDL-C <100)
- Blood sugar control for diabetes care patients (HbA1c <8)
- Blood pressure control for diabetes care patients (<140/90 mmHg)

San Diego Medical Group Cholesterol Control for People with Heart Disease

(Based on the California Health Care Quality Report Card 2009 - 2015 Editions—data from performance years 2007 & 2013)



This program description was written by the Right Care Initiative team at the University of California, Berkeley, with support from the California Office of the Patient Advocate—Last updated October 18, 2015. For more information visit: rightcare.berkeley.edu



The Agency for Healthcare Research and Quality (AHRQ) Innovations Exchange awards the Pharmacist on the Care Team intervention a “strong” evidence rating: *The results of the evaluation(s) show consistent direct evidence of the effectiveness of the innovation.*⁵

A Need for Pharmacy Medication Management

Approximately 25% of patients given a new prescription experienced an adverse drug event in a study of four primary-care practices¹. A pharmacist on the care team can help prevent and ameliorate adverse drug events and optimize medication therapy.

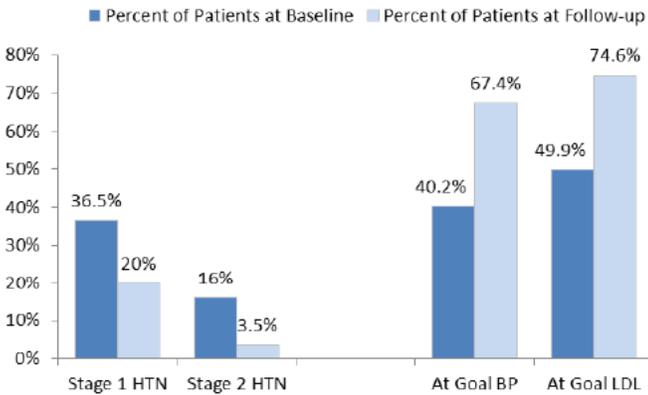
The Asheville Project (City of Asheville, NC)

The Asheville quasi-experimental, longitudinal cohort studies provided initial evidence of pharmacist on care team benefits.

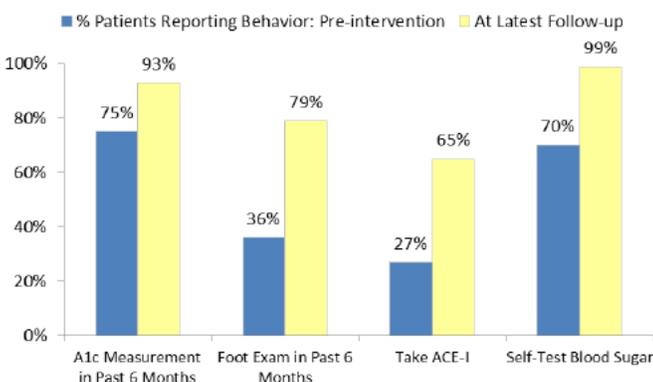
Asheville Cardiovascular (CV) Events and Costs:

Category	Before	After
Rate of CV events	77 per 1,000	38 per 1,000
CV-related medical costs	\$1,362 PPPY	\$734 PPPY

Outcomes for Cardiovascular Pharmacy Management²



Outcomes for Diabetes Pharmacy Management³



Typical “Pharmacist on the Care Team” Services

- 60-minute initial patient interview and counseling session with telephone follow up and future 20-30 minute sessions
- Comprehensive review of lab results and medications (including over-the-counter medications)
- Determination of drug interactions, how to improve medication therapy, and cost savings alternatives
- Interactive communication with physician
- Point of care testing (e.g., blood pressure)

Recent Studies Bolster Evidence for Pharmacy Care

Randomized controlled trials since the Asheville project are adding to the evidence of clinical and economic benefits.

HealthPartners Medical Group: Home BP Telemonitoring and Pharmacist Management Intervention (HyperLink)⁶ (Home BP telemonitors transmitted patient measurements to clinic-based pharmacists, who then adjust hypertensive therapy.)

Category	Intervention	Usual Care
BP Control After 12-month Intervention	71.2%	52.8%
BP Reduction From Baseline 6 Months Post-Intervention	21.3%	14.7%

Ralph’s Pharmacy Intervention Clinical Outcomes⁵

	Baseline Mean	Final Mean	% Change in Mean
Heart Patients			
BP Systolic	136.1	129.5	-4.85%
BP Diastolic	83.5	79.3	-5.03%
LDL	104.1	97.2	-6.63%
Diabetes Patients			
HbA1C	7.9	7.1	-10.1%
BP Systolic	136.1	130.4	-4.2%
BP Diastolic	81.0	76.3	-5.8%
LDL	91.6	84.0	-8.3%

Ralph’s Pharmacy Intervention Claims-Related Outcomes (Hypertensive patients, 12 months post-intervention)

	Intervention Group	% Change	Control Group	% Change
Total Costs (Mean ±SD)	\$1792 ±3847	-15.2%	\$1968 ±5112	-2.63%
Office Visits	\$111 ±129	+21.6%	\$97 ±106	+14.8%
ER Visits	\$54 ±229	-39.2%	\$83 ±475	-16.0%
Inpatient Visits	\$584 ±3122	-38.5%	\$1108 ±5025	-3.1%
Pharmacy Claims	\$505 ±550	+14.3%	\$402 ±495	+6.0%
Coaching Program	\$495 ±256	N/A	N/A	N/A

Right Care Initiative Pharmacy Collaborations— Research and Implementation Activities

UC San Diego NIH Demonstration Project

Overview

- A randomized control trial to evaluate a medication therapy management service (MTMS) model in a physician office
- 10 PharmD-MD partnerships implemented
- 90 patients per group (usual care & MTMS)

Selected Findings (Study in process through June 2012)

- 44.6% patients were on 10+ medications
- Drug therapy problem was identified among 46.3% of patients
- Only about 25% of patients are highly adherent to their medications though nearly 75% report rarely had difficulty remembering to take medication
- Preliminary outcomes demonstrate promise

UnitedHealthcare/Ralphs/San Diego School District (VEBA) Collaboration

Overview

- A partnership in San Diego between California Schools Voluntary Employee Benefits Association (VEBA), United Healthcare health plan, and Ralphs pharmacy
- Implements an MTM model for 300 diabetes patients using a community pharmacist model

Progress

- Enrollment is underway
- Intervention will last six months

Center for Comparative Effectiveness and Outcomes Improvement (CEOI) Analyses

Objective Examination of Cost Effectiveness and Modeling

- Return on Investment estimates range from \$3 to \$12 for every \$1 invested. (Though improved study designs needed for more accurate assessment)
- Cost effectiveness varies based on several factors, including:
 - Pharmacist reimbursement rate
 - Intervention intensity
 - Characteristics of population receiving intervention



Questions a Pharmacist Can Review

- Is the medication dose appropriate to the patient's age or other conditions and medications?
- How can medication therapy be changed to improve patient compliance or address side effects?
- Are all prescribed medications necessary?
- What time of day should patients take medications?
- With what should (or should not) a medication be taken?
- Are less expensive, equivalent medications available?

Works Cited

- 1) Gandhi TK, Weingart SN, Borus J, et al. "Adverse Drug Events in Ambulatory Care." *New England Journal of Medicine*. 348, no. 16 (2003): 1556-1564.
- 2) Bunting BA, Smith BH, and Sutherland SE. "The Asheville Project: Clinical and economic outcomes of a community-based long-term medication therapy management program for hypertension and dyslipidemia." *Journal of the American Pharmacists Association*. 48, no. 1 (2008): 23-31.
- 3) Cranor CW, Bunting BA, and Christensen DB. "The Asheville Project: Long-Term Clinical and Economic Outcomes of a Community Pharmacy Diabetes Care Program." *Journal of the American Pharmaceutical Association*. 43, no. 2 (2003): 173-184.
- 4) Wertz D, Hou L, DeVries A, et al. "Clinical and Economic Outcomes of the Cincinnati Pharmacy Coaching Program for Diabetes and Hypertension." *Managed Care*. (March 2012): 44-55.
- 5) AHRQ Health Care Innovations Exchange. "Pharmacists Monitor Hypertensive Patients and Make Recommendations to Physicians, Leading to Better Blood Pressure Control and Increased Physician Adherence to Established Guidelines." 2005.
- 6) Margolis KL, Asche SE, Bergdall AR, et al. "Effect of home blood pressure telemonitoring and pharmacist management on blood pressure control: a cluster randomized clinical trial." *JAMA*. 2013;310(1):46-56.

This program description was written by the Right Care Initiative team at the University of California, Berkeley—Last updated January 31, 2014. For more information: RightCare@berkeley.edu; (510) 642-4937



“Home blood pressure monitoring should become a routine component of blood pressure measurement in the majority of patients with known or suspected hypertension.... [It] has the potential to improve the quality of care while reducing costs....”

Joint call to action by the American Heart Association, the American Society of Hypertension, and the Preventive Cardiovascular Nurses Association³

More than 7 million California adults (about 27%) have hypertension.¹ Approximately 69% of people who had a first heart attack, 77% who had a first stroke, and 74% of those with congestive heart failure had blood pressure greater than 140/90 mmHg.² Home blood pressure monitoring is a readily accessible, evidence-based and cost-effective strategy for improving hypertension treatment and control.

Improved Health and Cost Outcomes with Home Blood Pressure Monitoring

- Home monitoring in one study reduced the medication needed for blood pressure control, saving \$1198 per 100 patients per month.⁴
- A meta-analysis of 18 randomized controlled trials found that hypertensive people using home monitoring had blood pressure 4.2/2.4 mmHg lower than those with standard office monitoring. Risk of blood pressure above target was also lower in people with home monitoring.⁵
- Home monitoring identifies whether blood pressure is different outside the doctor’s office, which is common for as many as 20% of Americans. These patients are at higher risk for developing sustained high blood pressure (Harvard Newsletter).
- 95% of physicians agreed that home blood pressure measurements were useful in making treatment decisions to manage hypertension patients’ condition.⁶

Home Monitoring Benefits ⁸

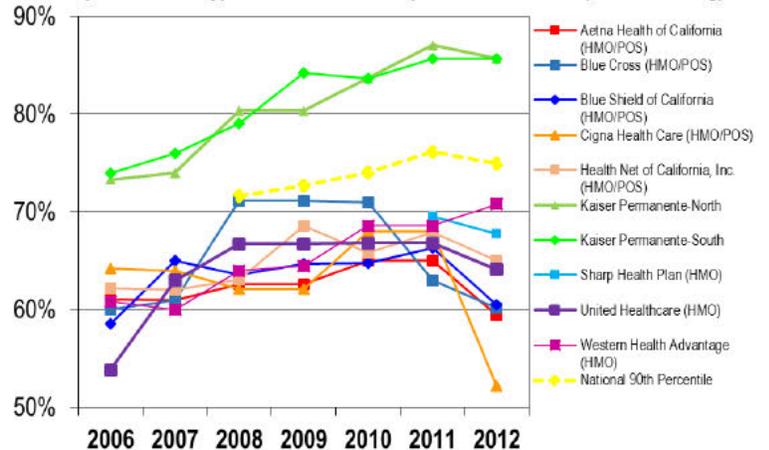
- Promotes better blood pressure control by engaging patients and motivating proactive behaviors—healthy eating, physical activity, proper medication use.
- Cuts healthcare costs—may reduce medications, the total number of doctor or clinic visits, and patients’ travel expenses and lost wages.
- Tracks treatment effects between doctor visits.
- Helps doctors confirm hypertension diagnosis earlier.

Blood Pressure Control among Critical Right Care Goals

- The Right Care goal for all California health plans and medical groups is to achieve the national “A grade” of performance on cardiovascular disease and diabetes prevention and treatment measures, particularly for blood pressure and cholesterol control.
- The National Committee for Quality Assurance (NCQA) estimates that controlling high blood pressure alone is estimated to save 619-1,057 lives annually and avoid \$4.5 million in hospitalization costs.

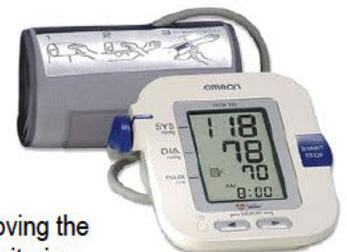
Blood Pressure Control Trends: Most California Health Plans are Making Progress

Percent patients with hypertension with blood pressure controlled (<140/90mmHg)



Home Monitors Increasingly Accurate and Affordable

- Machines can be purchased over-the-counter at most drugstores and pharmacies.
- Prices range from less than \$50 to about \$100.
- Validated machines are listed at <http://www.dableducational.org/>
- New technology is continually improving the ease and convenience of home monitoring.



U.S. & International Guidelines Support Home Blood Pressure Monitoring



- Joint National Committee on Prevention Detection, Evaluation and Treatment of High Blood Pressure
- A Joint Call to Action by the American Heart Association, American Society of Hypertension and Preventive Cardiovascular Nurses Association
- European Society of Hypertension/European Society of Cardiology
- Canadian Hypertension Education Program
- Japanese Society of Hypertension
- British Hypertension Society

Blood Pressure Guidelines

Joint National Committee—7th Edition

Classification	Systolic / Diastolic
Normal	<120 and <80
Pre-hypertension	120-139 or 80-89
Stage 1 hypertension	140-159 or 90-99
Stage 2 hypertension	≥160 or ≥110

Patient-Directed Blood Pressure Control with Home Monitoring Featured in the American Medical Group Association's *Best Practices in Hypertension Compendium*¹¹

This demonstration project showed that patient participation in the control of blood pressure through home monitoring is feasible, effective, requires few extra clinic resources, and leads to better goal achievement.

Target Population

- Patients with high blood pressure and high risk for adverse cardiovascular outcomes

Intervention

- Each patient was given a blood pressure goal, a 30-60 minute educational session about blood pressure control importance, information about treatment options, and a home blood pressure monitor.
- Patients measured and recorded their blood pressure and pulse two times per day until blood pressure was at goal or after changes in treatment. Blood pressure readings were phoned/faxed/e-mailed to a clinic nurse. (Wireless versions now available make reporting even easier).
- Patients also evaluated blood pressure personally and, if not at goal, contacted clinic for instructions to improve blood pressure control.

Outcomes

- 31% of patients in the patient-directed care (home monitoring) group achieved goal in 6 months compared to 13% of patients in the usual care group.

Lessons Learned

- Physicians committed as a group to implement home monitoring when the project plan was presented at unit meetings.
- Questionnaires, blood pressure tracking sheets and educational materials helped patients better understand their blood pressure goal.

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An estimated 935,000 heart attacks and 795,000 strokes occur in the United States each year. 150,000 of all Americans who died of cardiovascular diseases in 2007 were younger than age 65. ¹ An inexpensive cardio-protective medication bundle could substantially prevent cardiovascular events. ^{2, 6}

The Right Care Initiative research team recognized the value of medication protocols and convened a consensus conference in January, 2011. ⁶ Participants included experts from California universities; medical groups and health plans; the Veteran’s Administration; the Navy; the CDC; and the Karolinska Institute of Sweden. The consensus experts concluded:

Unless contraindicated, a statin and ACE-inhibitor bundled therapy should be prescribed to patients who:

- Have suffered a heart attack or stroke
- Are high risk for heart attacks and strokes or
- Have diabetes & over age 55 (therefore more than twice as likely to have a cardiovascular event).

Aspirin should be used as secondary prevention for all patients who have had a heart attack or stroke unless contraindicated. Aspirin for primary prevention has not been proven but may be used in the bundle according to the individual’s risk factors at the physician’s discretion if no contraindication.

“In patients hospitalized for a coronary event, we must do more than treat the ischemia. We must begin to aggressively treat the damaged vascular bed with combination medical therapy, including a statin (regardless of lipid levels), aspirin, a beta-blocker, and an angiotensin-converting enzyme (ACE) inhibitor. This therapy should be started before hospital discharge.

In addition, all patients with known atherosclerotic cardiovascular disease, regardless of how it was diagnosed, should receive appropriate combination therapy. And those patients at high risk, such as people with diabetes and those who score high on the Framingham risk model should also be treated aggressively.”

–Gregg C. Fonarow, MD
Director, Ahmanson-UCLA Cardiomyopathy Center; Director, Cardiology Fellowship Training Program; Co-Director, UCLA Preventative Cardiology Program; Associate Professor of Medicine, UCLA Division of Cardiology

The Right Care Initiative research team is actively comparing medication protocols among high performers such as Kaiser Permanente, Sharp-Rees Stealy Medical Centers, the Veteran’s Administration, and medical groups outside California. To date, only Kaiser Permanente has widely published their cardio-protective medication protocol.

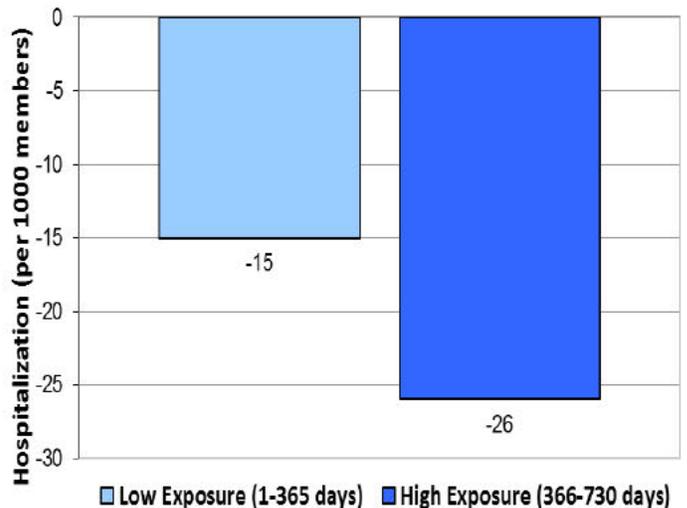
Kaiser Permanente’s medication bundle, called **ALL** in Southern California or **PHASE** in Northern California, treats patients with coronary artery disease or over 55 with diabetes. The specific content of the medication bundle may be tailored based on the patient’s calculated 10-year Framingham risk score.

- **ALL:** Aspirin, Lisinopril (ACE-inhibitor), and Lipid lowering statin (currently Simvastatin 40mg)
- **PHASE:** Preventing Heart Attacks and Strokes Everyday (ALL protocol with beta blocker therapy and lifestyle emphasis added)

Reduced Heart Attack and Stroke Hospitalizations with ACE-Inhibitor & Statin Bundle ²

A Kaiser Permanente quality improvement study tracked 170,000 individuals over two years. Compared to those with no medication bundle exposure:

- Among the 47,268 “**low exposure**” individuals who used the medication bundle 1-365 days, 726 fewer heart attacks and strokes occurred—a reduction in hospitalization for heart attack or stroke by 15 per 1,000 members.
- Among the 21,292 “**high exposure**” individuals who used the medication bundle 366-730 days, 545 fewer heart attacks and strokes occurred—a reduction in hospitalization for heart attack or stroke by 26 per 1,000 members.



Staggering Price of Preventable Heart Attack and Stroke According to CDC

“In 2010, the total costs of cardiovascular diseases in the United States were estimated to be \$444 billion. Treatment of these diseases accounts for about \$1 of every \$6 spent on health care in this country. Preventing and controlling high blood pressure and high cholesterol play a significant role in cardiovascular health. For example, a 12-13 point reduction in average systolic blood pressure over 4 years can reduce heart disease risk by 21%, stroke risk by 37%, and risk of total cardiovascular death by 25%.”¹

Health plans and medical groups that proactively implement a cardio-protective medication bundle protocol greatly improve clinical outcomes, particularly for the critical prevention measures:

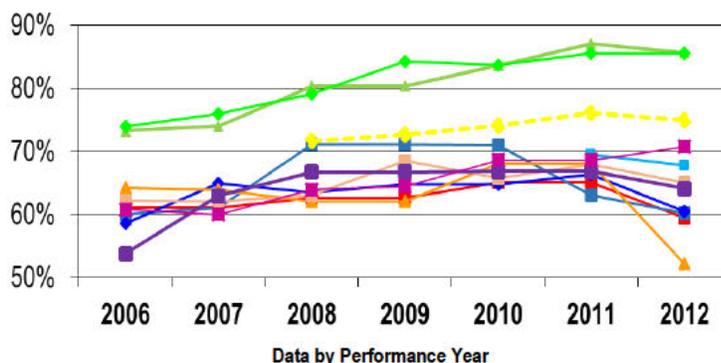
- Blood pressure control for patients with hypertension
- Lipid control for patients with heart disease
- Lipid control for patients with diabetes

Kaiser Permanente is now among the best performing plans in the U.S. for blood pressure and lipid control.⁵ Kaiser Permanente researchers indicate that the ALL protocol contributes to their national top 10 performance in blood pressure and cholesterol control, leading to significant heart attack and stroke prevention as follows:

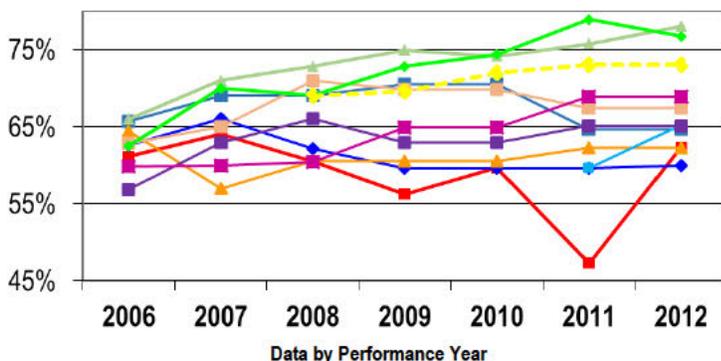
- For those that took the medication bundle less than one year, the bundle reduced heart attack and stroke hospitalizations by 60% compared to those that never took the medication bundle.²
- The medication bundle protocol saves their health plan about \$300 per patient per year.²
- The medication bundle utilizes inexpensive generic medications, costing just \$8/patient/month total.³
- Implementing a cardio-protective medication bundle among 10% of patients with diabetes in the U.S. could save \$2 billion.³
- The Kaiser Permanente generic bundle and protocol is now used in more than 46 California community clinics.⁴



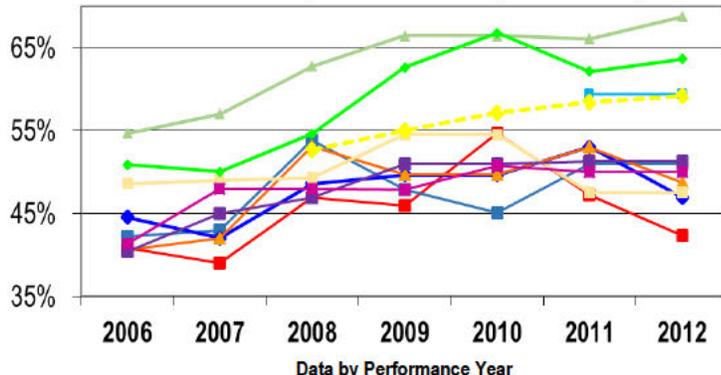
Patients with Blood Pressure Controlled (<140/90 mmHg)



Heart Patients with Lipids Controlled (LDL-C <100)⁵



Diabetic Patients with Lipids Controlled (LDL-C <100)⁵



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Regular physical activity, nutritious eating, not smoking, and maintaining a healthy weight can reduce risk of heart attack, stroke, or diabetes by up to 80%.¹ Proactive patients—confident in their ability to manage their health—are fundamental to positive clinical outcomes.

Encourage Proactive, Healthy Living with:

- Motivational interviewing
- Evidence-based patient education programs (e.g., Project Dulce, Chronic Disease Self Management Program)
- Tools that promote
 - Medication adherence
 - Regular physical activity (at least 150 min/week)
 - Nutritious eating (e.g., DASH)
 - Smoking cessation
 - Blood pressure control

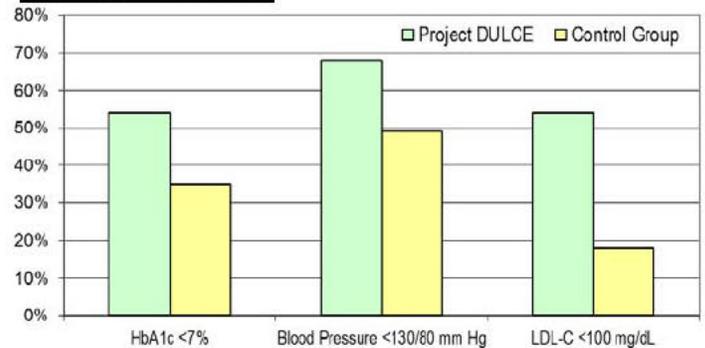
Evidence-Based Patient Education Programs Support Self Care and Better Health Outcomes

Ex. 1: Project Dulce

(Scripps Whittier Diabetes Institute; Athena Philis-Tsimikas, MD)

A coordinated care team of a nurse, dietician, and peer educator supports the primary care physician to provide culturally appropriate, community-based diabetes management with enhanced education and support.

Improved outcomes:⁴



Cost savings and higher quality care:⁵

- Projected savings of \$1,260/patient over 3 years
- Saved 60% in ER/hospital costs in 1 year
- Met American Diabetes Association standards of care 81% to 100% of the time (vs. only 33% in usual care)
- Overcame many cultural misunderstandings about care

Ex. 2: Chronic Disease Self-Management Program⁶

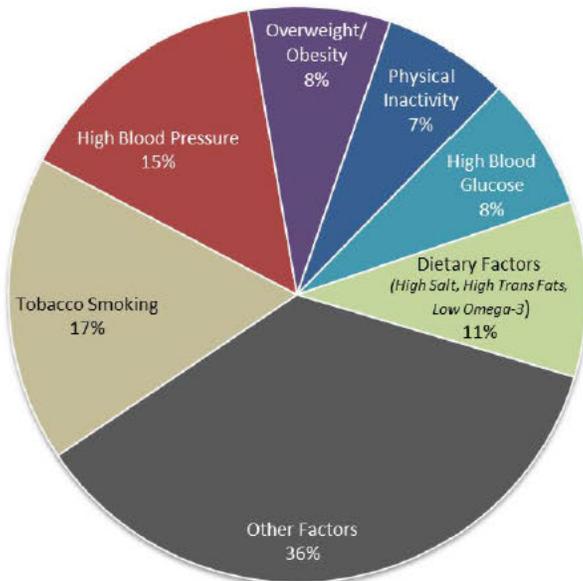
(Jointly developed by Stanford University & Kaiser Permanente; Kate Lorig, RN, DrPH)

Six, weekly 2½ hour classes provide participants with the knowledge, skills, and support to self manage their condition. Topics include communication, medications and treatments, and emotional and physical health.

CDC meta-analysis finds this low-cost program yields significant, small to moderate effects at 9-12 months:

- Increased self-efficacy (generally and specific to managing disease and other symptoms)
- Increased aerobic exercise
- Reduced social/everyday limitations

Cardiovascular Deaths Attributable to Lifestyle Factors²



Clinician Motivational Interviewing Helps Patients Reach Goals

- A clinician’s encouragement through mutually identifying goals and barriers as well as actionable steps can promote greater success toward healthier living.
- A systematic review of eight studies on motivational interviewing in diabetes, asthma, hypertension, hyperlipidemia, and heart disease suggests positive results.³



Proactive Patient Tools Promote Healthy Lifestyles

Medication Adherence

- Only 54% of patients with coronary artery disease were adherent to all initial medications one year after discharge from the hospital with a coronary catheterization.⁷
- Clinician coaches on the care team, such as a pharmacist that provides Medication Therapy Management (MTM), increases adherence.⁸
- If every hypertensive patient took the right medication dose and frequency, 86,000 premature deaths from cardiovascular disease in the U.S. could be prevented.⁹

Regular Physical Activity

(At least 150 min/week, moderate intensity—e.g., brisk walking)

- Physical activity yields the following heart health benefits:
 - Reduces coronary heart disease risk by 50%¹⁰
 - Reduces stroke risk by 20% among moderately active and 27% among highly active people¹¹
 - Reduces blood pressure by up to 11/8mm Hg in most hypertensive patients¹⁰
 - Lowers blood sugar and increases insulin sensitivity, reducing risk of developing type 2 diabetes by 50%.¹⁰
- A Fitbit Activity Monitor or basic pedometer can monitor and encourage increased activity.
- Locate nearby parks and exercise/recreation areas at <http://www.letsmove.gov/where-go>



Image Source: U.S. Department of Health and Human Services.

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Nutritious Eating

- A reduced calorie DASH (Dietary Approaches to Stop Hypertension) eating plan lowered blood pressure 11.4 /5.5 mmHg on average among those with hypertension and 5.5/3mmHg on average among all participants.
- The DASH Eating Plan is low in total fat, saturated fat & cholesterol and emphasizes fiber, potassium, magnesium, and calcium.¹²
- The National Heart, Blood, and Lung Institute provides free DASH resources and heart-healthy recipes on its website: http://www.nhlbi.nih.gov/hbp/prevent/h_eating/h_recip.htm

Smoking Cessation

- Heart attack or stroke risk falls by half within the first year following cessation. Risk is nearly back to that of a non-smoker by three years after cessation.¹³ Although quitting smoking is difficult, a variety of strategies, programs, and medications can help.
- If just 3-4% of U.S. smokers quit, 924 hospitalizations for heart attack and 538 for stroke could be avoided, saving \$44 million in direct medical costs for the first year alone.¹⁴

Home Blood Pressure Monitoring for Hypertension

- Compared to only office monitoring, home monitoring led to less medication use and the same or better blood pressure control, saving about \$1200 per 100 patients per month.¹⁵
- Home monitors are available for over-the-counter purchase at most drugstores and cost about \$50-\$100.
- Find more information: see the Right Care Brief, "The Power of Home Blood Pressure Monitoring," available at <http://www.healthresearchforaction.org/right-care-initiative>

