

***Robotics and Patient
Engagement – Differentiating
by Delighting Patients, Saving
Cost, and Achieving Outcomes***

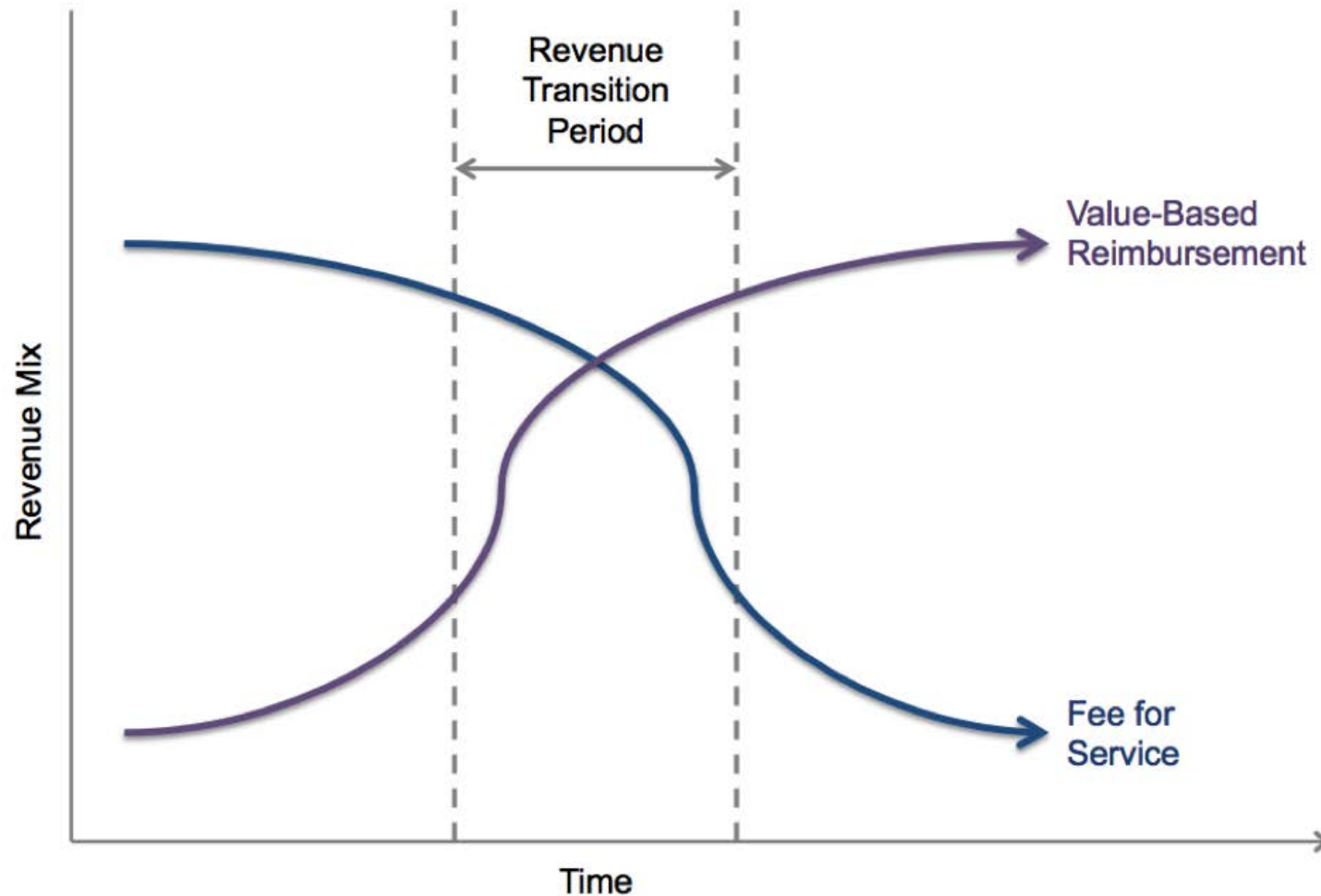
Seth Bokser MD, MPH
May 16, 2017





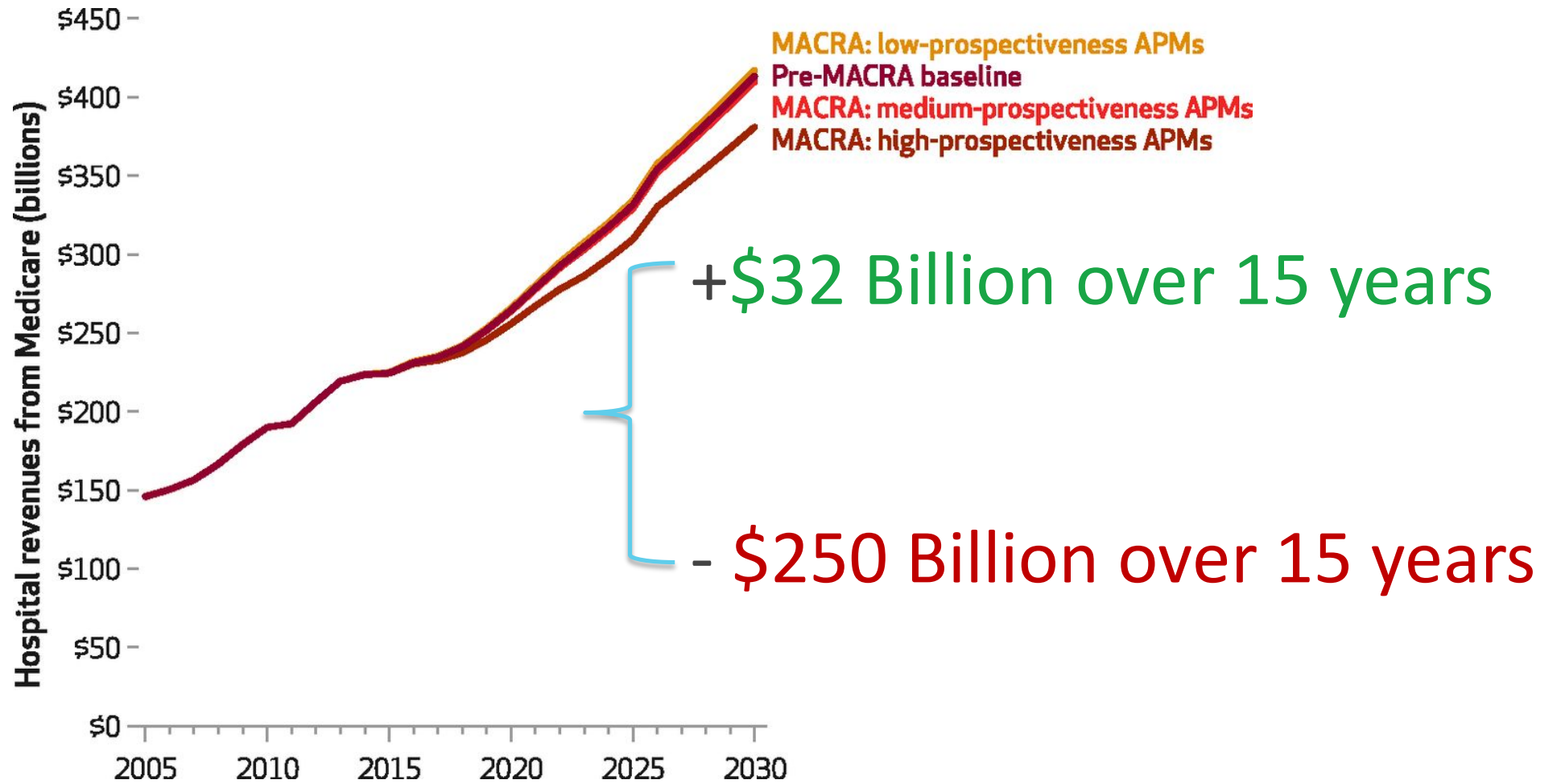
“I think we'll have >50% of patients in alternative payment models, and it could be as early as 2018”

-Patrick Conway Chief Medical Officer at Centers for Medicare & Medicaid Services. Society for Hospital Medicine May, 2017



Hospital Are Feeling Financial Pressure

Medicare Access and CHIP Reauthorization Act

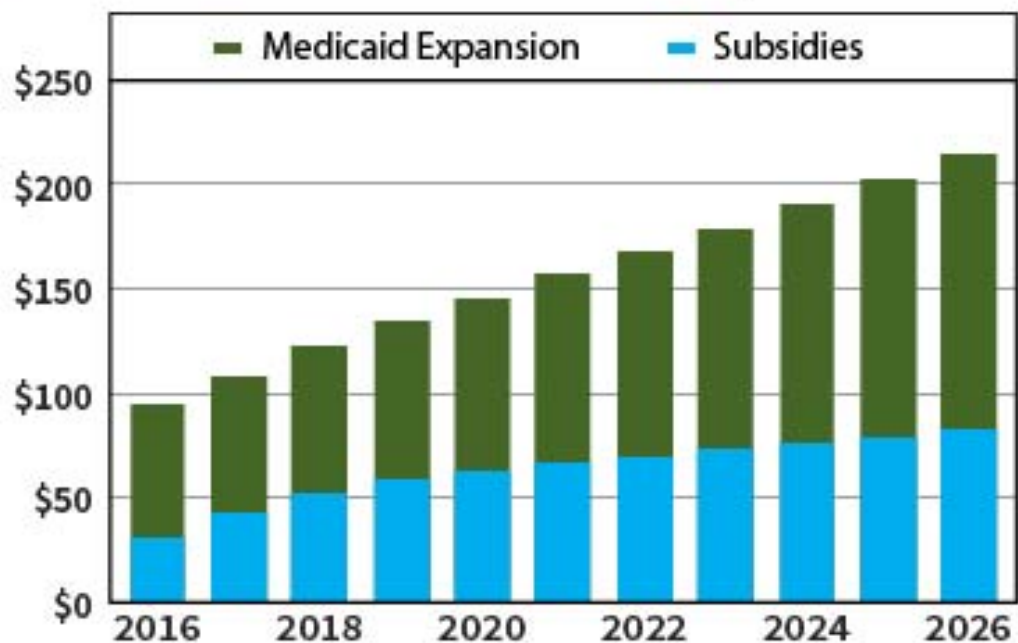


Hospital Are Feeling Financial Pressure

Medicaid

Obamacare's Rising Costs

According to current Congressional Budget Office projections, the combined annual cost of Obamacare's subsidies and its expansion of Medicaid will more than double over the next decade. The total bill: \$1.64 trillion.

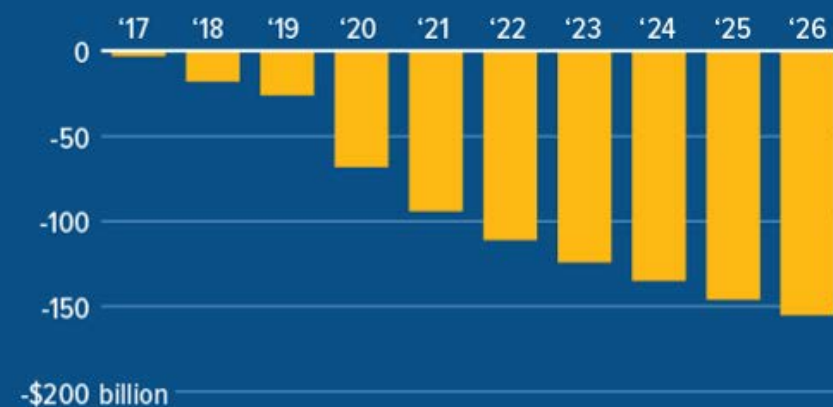


Amounts are in billions

Sources: Congressional Budget Office, Money Morning Staff Research

MEDICAID SPENDING CUTS IN HOUSE GOP PLAN WOULD TOTAL \$880 BILLION OVER 10 YEARS AND GROW OVER TIME

Federal Spending Cuts, Relative to Current Law



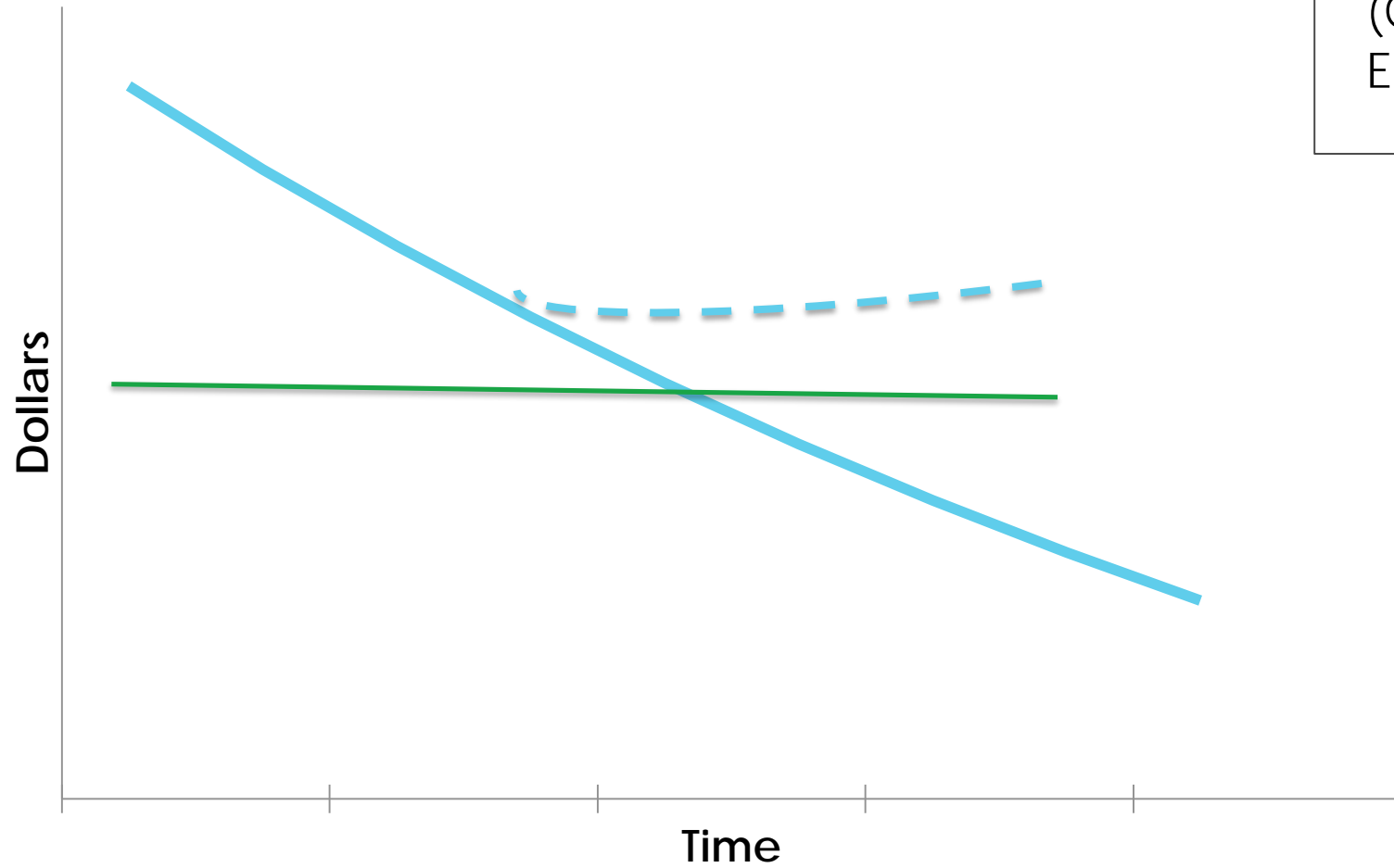
Source: Congressional Budget Office

CENTER ON BUDGET AND POLICY PRIORITIES | CBPP.ORG

Health System Priorities = Lower Cost and Increase Market Share

Increase Revenue

- Market share growth (Quality and Customer Experience)



What's Driving Hospital Engagement

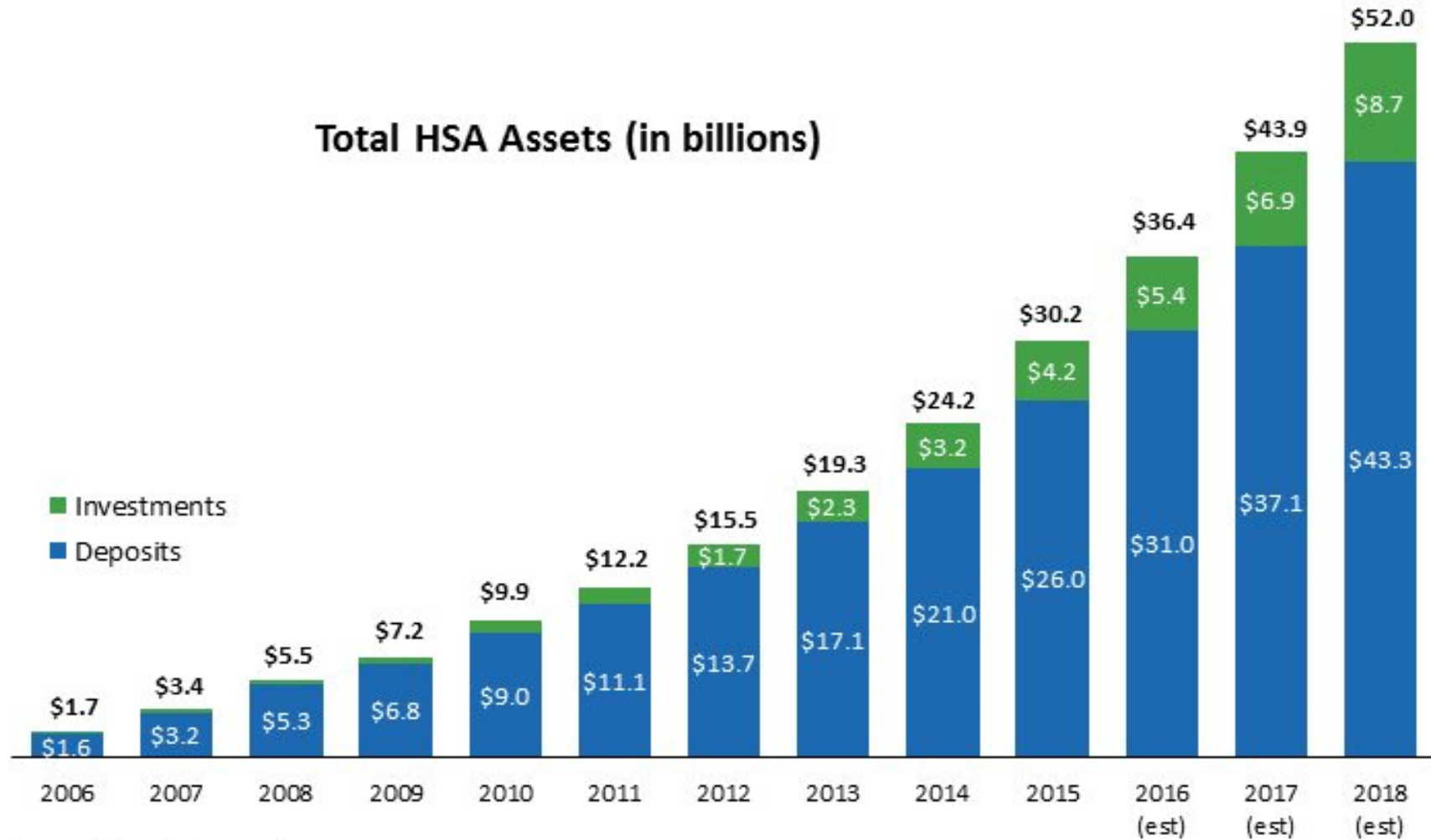
- The global patient engagement solutions market*
 - \$7.4 billion USD in 2015
 - \$39.3 billion USD by 2024
- Healthcare consumerism and liquid expectations
- Value Based Reimbursement >> Need for Cost Savings



*Source <http://www.grandviewresearch.com/industry-analysis/patient-engagement-solutions-market>



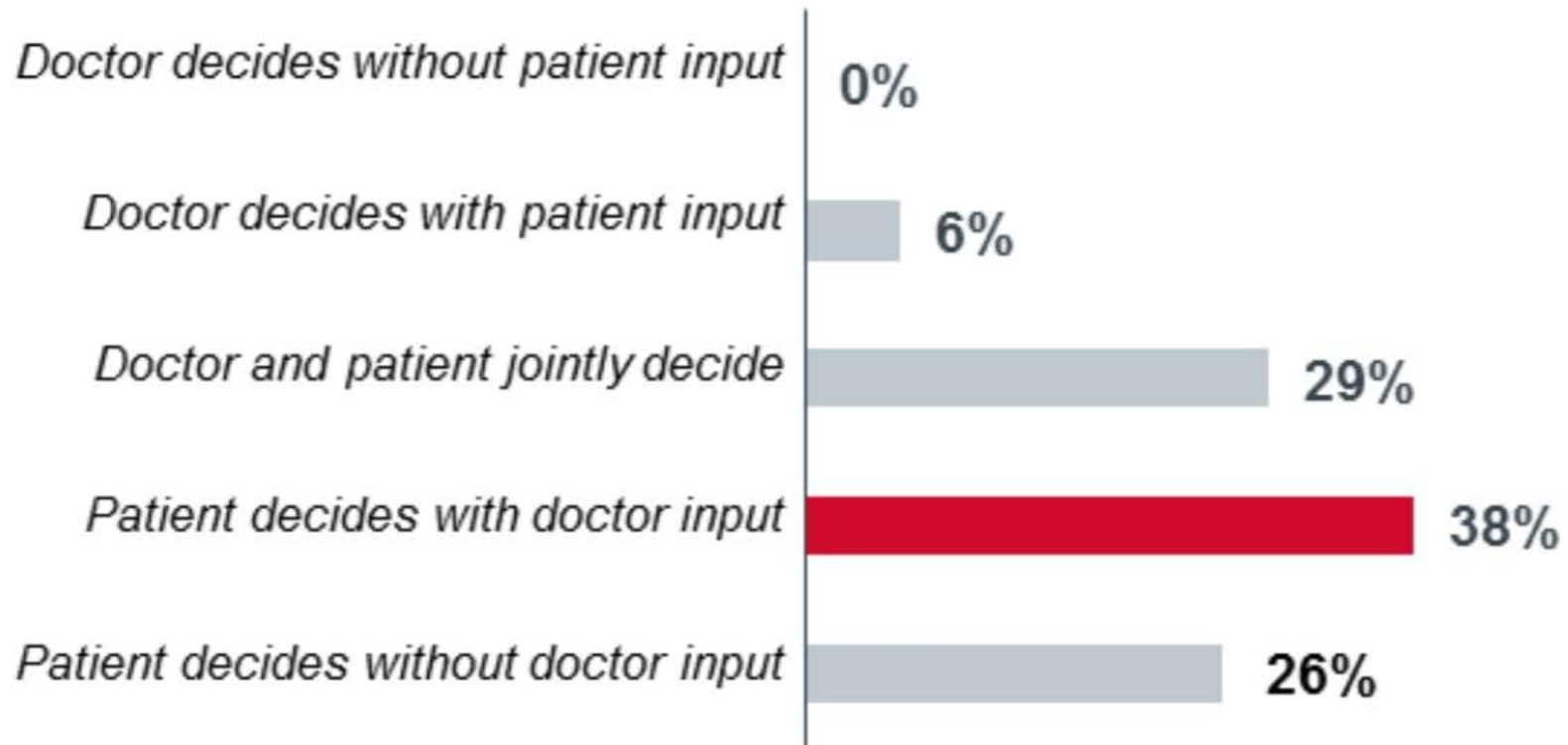
Growth of Consumerism – Health Savings Accounts



Source: Devenir Research

The New Reality

Who should make treatment decisions? N = 2,071



Source: Thomson, I. Advisory Board research and analysis. HIMSS National Conference Feb 2017

amazon

Liquid Expectations

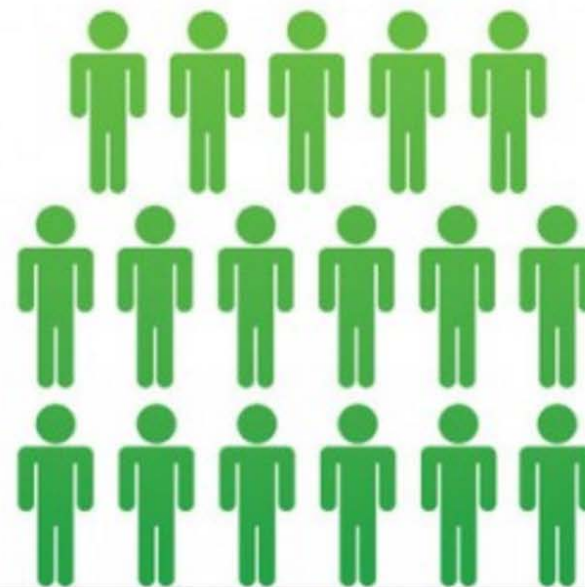
Google
AdWords

Willingness of U.S. adults to switch PCPs for video visits *



2015

FROM 17 MILLION TO*
50 MILLION
AMERICANS



2017

Base: n=2,007

Source: American Well





Bienvenido Luis
Luis Pascual

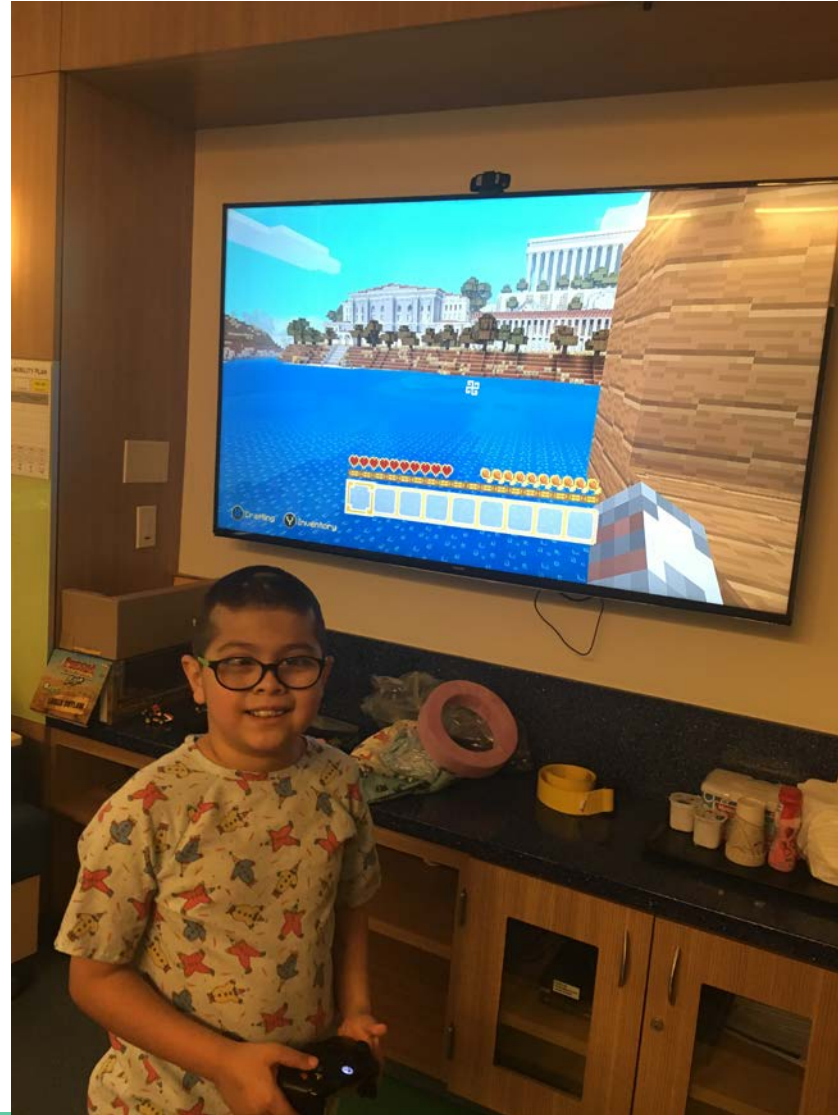
 **Fecha de alta esperada**
lunes, 12 de diciembre de 2016

 C5807-03  4155143384  UCSFguest

Mi equipo de tratamiento

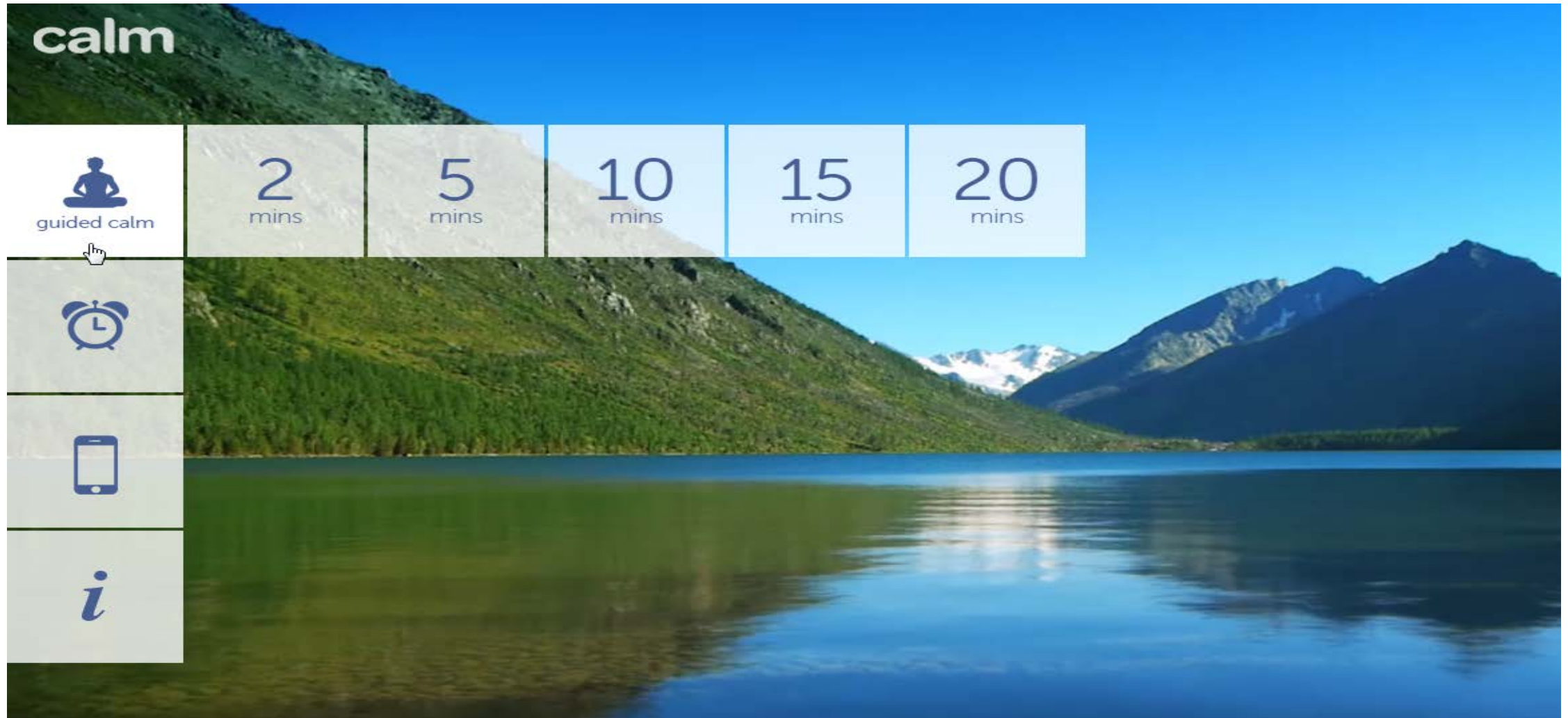
 Mary Hunter Fisioterapeuta	 Jennifer Waters Terapia ocupacional	 Andrei Massenkoff Child Life Teacher
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Digital Patient Experience





Digital Health Therapeutics



Digital Health Therapeutics



Virtual Reality to Reduce Pain Intensity



[KindVR](#) is borrowing virtual-reality technology from the gaming world to mitigate pain in children with sickle cell disease. In a pilot study at UCSF Benioff Children's Hospital Oakland, 15-minute sessions in which children explore and interact with a calming underwater world full of dolphins, whales, and rainbow-colored bubbles seems to reduce pain intensity by 16 percent. Additional VR pilot studies are underway in Oakland for oncology and MRI patients.



Virtual Reality



5.4 Pre-VR Pain
(mean)

Post-VR Pain
(mean)
 $P < 0.00001$ 4.1

Relaxation Video



5.4 Pre-Video Pain
(mean)

Post-Video Pain
(mean)
 $P = 0.0006$ 4.8

$P = 0.008$

Tashjian VC, Mosadeghi S, Howard AR, Lopez M, Dupuy T, Reid M, Martinez B, Ahmed S, Dailey F, Robbins K, Rosen B, Fuller G, Danovitch I, IsHak W, Spiegel B Virtual Reality for Management of Pain in Hospitalized Patients: Results of a Controlled Trial. JMIR Ment Health 2017;4(1):e9



Danville, CA

329 friends

541 reviews

Elite '16



4/23/2015

3 check-ins

This new facility is absolutely beautiful! State of the art. You can even check in at a kiosk if the line at the desk is too long, which it usually isn't, because they've done a great job...

4.8 ★★★★★ 29 reviews



D [redacted]

3 months ago

★★★★★ In the middle of my son's stay right now. Really amazing staff!!!! The food is great but I sure could use a candy bar! The room is super clean and Big so is the TV. They have many movies that cater to young and old.



[redacted] 157 41

Flat Screen TV. Beautiful rooms

March 15, 2015

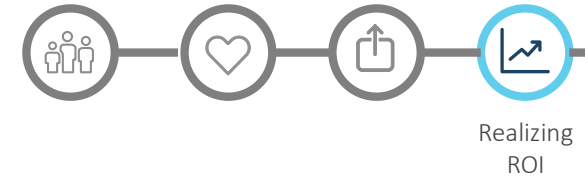


[redacted] · 10 Oct 2015

FIRST TWEET ON ADRIELS HOSPITAL **TABLET**. UCSF IS SO TECHNOLOGICALLY ADVANCED



Outcomes: Epworth Eastern Hospital



Epworth Eastern

Epworth Eastern Hospital,
Melbourne, Australia

- Part of the largest not-for-profit healthcare group
- 167 beds, now 1,200 across the group
- Oneview client since 2014

"We selected Oneview because of its advanced functionality and open integration capabilities with our patient engagement goals."

Louise O'Connor, RN, MHA
Executive Director
Epworth Eastern, Australia

Ranked No.1 for patient satisfaction in Australia (Press Ganey)

1st

Decreased length of stay

6% Educational videos, goal completion, real-time collaboration with care team

Decreased patient falls

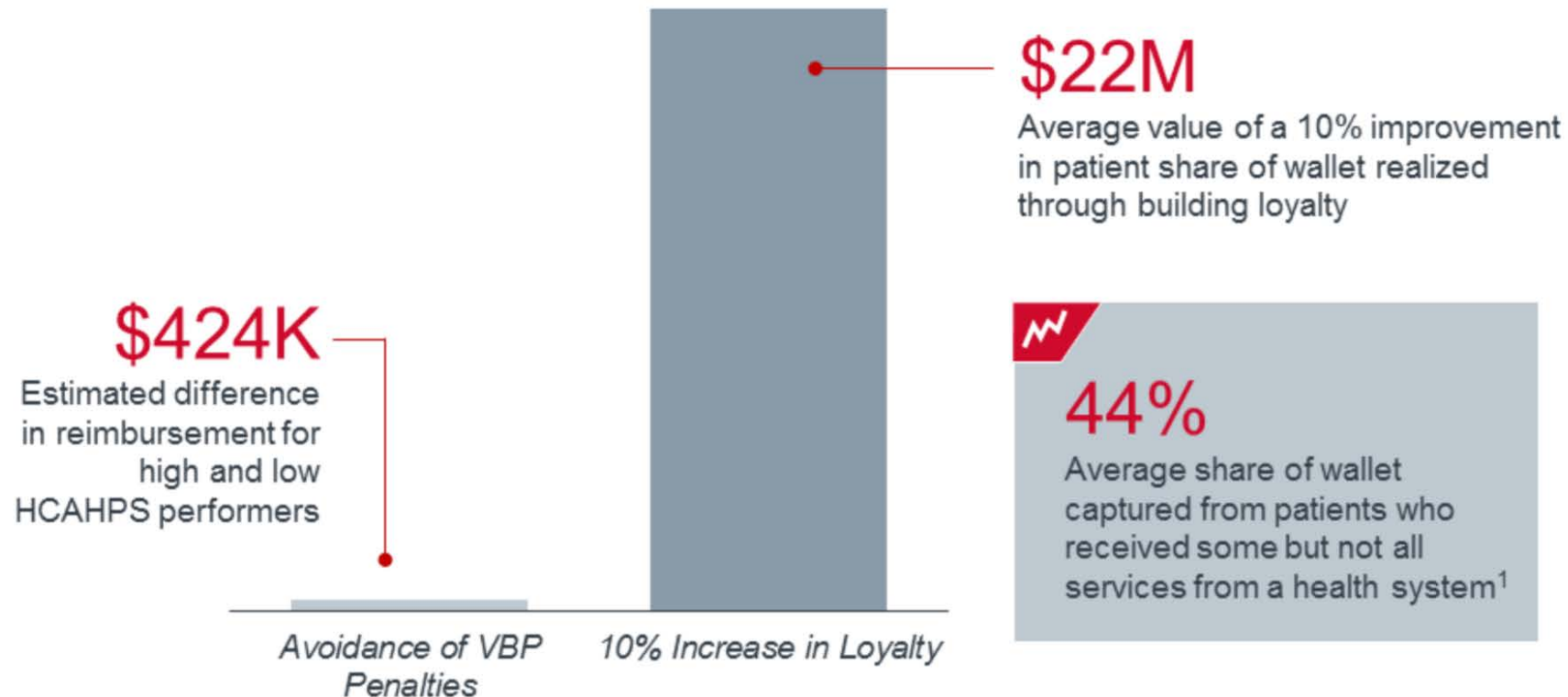
4% Due to digital nurse-rounding



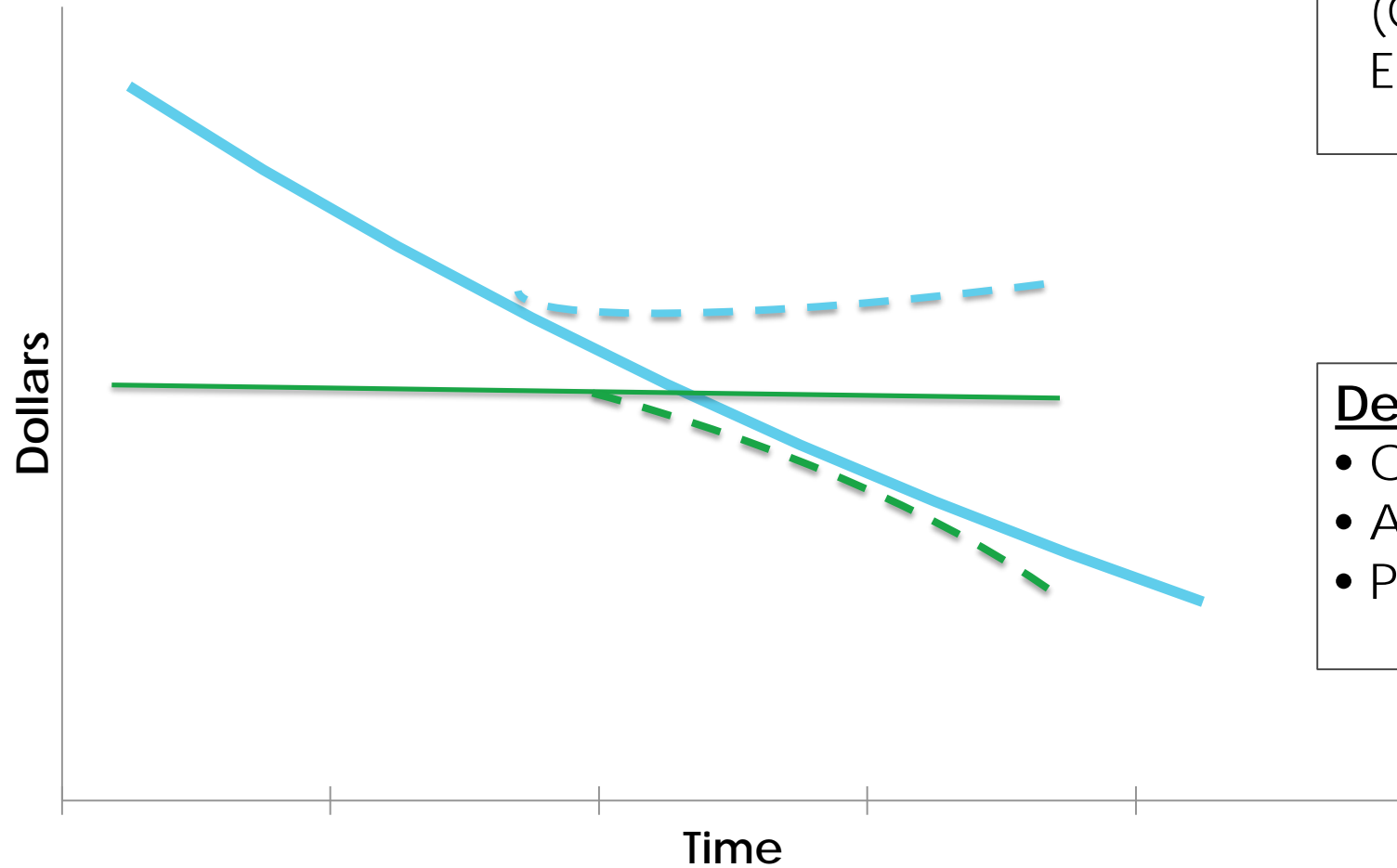
The Business Case for Loyalty

Opportunity for repeat business overshadows value-based purchasing

VBP a Necessary but Low-Upside Focus



Health System Priorities = Lower Cost and Increase Market Share




Increase Revenue

- Market share growth (Quality and Customer Experience)

Decrease Cost

- Operational Efficiency
- Automation
- Preventive Care

What's Driving Health IT? Cost Savings

$$\text{Value} = \frac{\text{Perceived Benefits}}{\text{Cost}}$$


2000's
Quality & Safety



2009 - 2016
Meaningful Use
Revenue/Penalty



2016 - Present

UCSF ROI: Patient Engagement Platform Meal

- Labor savings through automation
- Decreased food wastage
- Reduced surgical delays and cancellations

UCSF Contractor Wins AHF Spotlight Award

The Association for Healthcare Foodservice (AHF) has announced that Ami Bh Director of Patient Food Service, UCSF Medical Center, is the recipient of the 2020 Spotlight Award. Oneview Healthcare is proud to have partnered with Ami Bh on this successful project.

The screenshot displays a mobile application interface for a patient engagement platform. The main screen shows a "Lunch" menu with a "Regular Diet" filter. The menu items are listed with their respective dietary icons (GF, SS, Vg, etc.) and checkboxes. A detailed view of "Roasted Italian Squash" is shown on the right, including nutritional information and a list of allergens.

Item	Dietary Icons	Selected
Mushroom Barley Soup	SS Vg	<input type="checkbox"/>
Vegetable Primavera Soup	SS Vg	<input checked="" type="checkbox"/>
Chicken Noodle Soup	SS	<input checked="" type="checkbox"/>
Beef Broth	GF SS	<input type="checkbox"/>
Chicken Broth	GF SS	<input type="checkbox"/>
Vegetable Broth	GF SS Vg	<input type="checkbox"/>
Mashed Potatoes with Gravy	V	<input type="checkbox"/>
White Rice	GF SS Vg	<input type="checkbox"/>
Organic Brown Rice	GF VS SS Vg	<input type="checkbox"/>
Organic Wheat Roll	VS SS V	<input type="checkbox"/>
Steamed Green Bean Blend	GF SS Vg	<input type="checkbox"/>
Roasted Italian Squash	GF SS Vg	<input checked="" type="checkbox"/>
Seasoned Baby Carrots	GF SS Vg	<input type="checkbox"/>
Steamed Broccoli	GF SS Vg	<input type="checkbox"/>
Mixed Green Side Salad with Vinaigrette	GF V	<input type="checkbox"/>
Chicken Broth Juk with Green Onions	GF SS	<input type="checkbox"/>
Pinto Beans	GF VS SS Vg	<input type="checkbox"/>
Snack Fruit Box with String Cheese	GF SS V	<input type="checkbox"/>
Vegetable Snack Box with Ranch	V	<input type="checkbox"/>

Roasted Italian Squash
Energy (kcal) 43 kcal
Fat 2 gm
Cholesterol 0 mg
Total Carbohydrates 6 gm
Protein 2 gm
Sodium 16 mg
Potassium 282 mg

GF Gluten Free
SS Smart Choice Side
Vg Vegan

Order Now

Algorithms

Your diet requires you to have no more than 75gms
of Carbohydrate per meal.

[Back to Meal Ordering](#)



Menu



Home



Remote Off



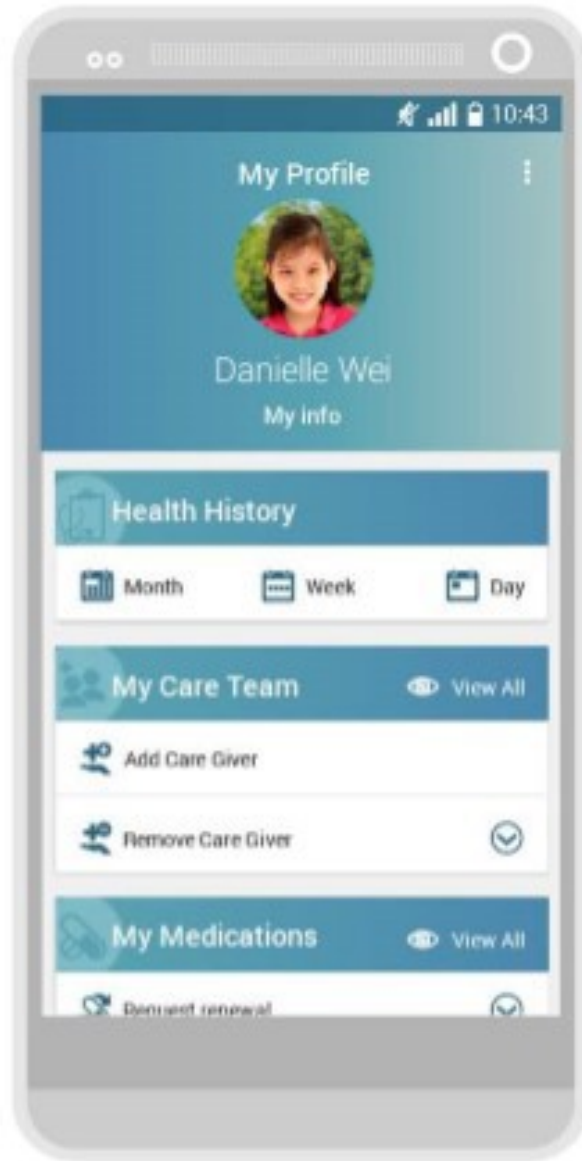
Mute



Vol -

Vol +

Population Health / Preventive Care





Making Technology Easier for Older People

Retiring

By CONSTANCE GUSTKE MARCH 11, 2016

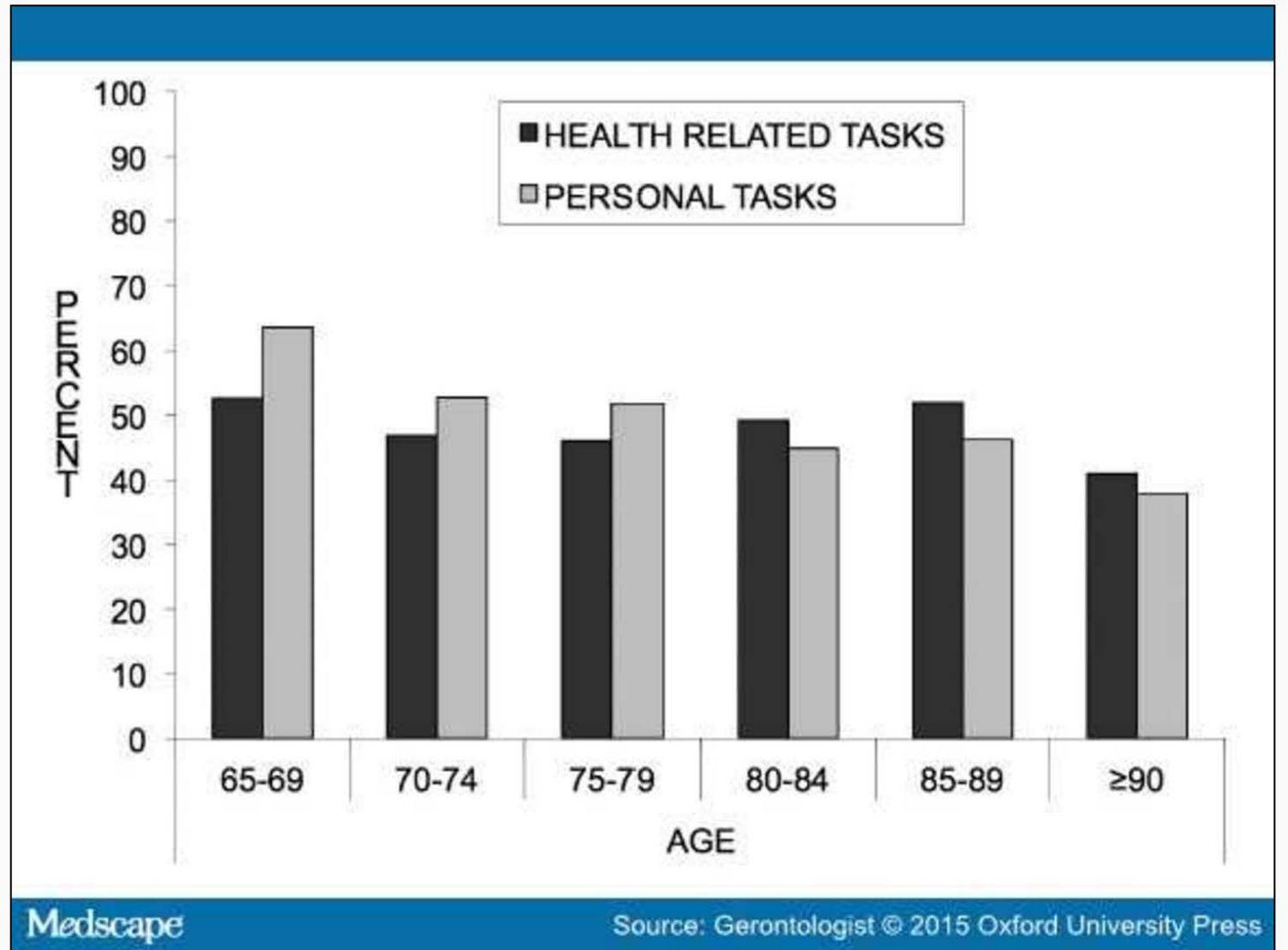


Figure 2.

Use of internet for health-related and personal tasks among internet users in the past month.

Automation







Cargo Robots Transport

- Meds/Chemo,
- Food/Dirty Trays
- Linen
- Laundry
- Labs/Pathology specimens
- Case carts for ORs
- Clean/dirty scopes
- Or Supplies
- Waste



Outcomes

- 27 Robotic Carriers
- 120 (193 km) per day
- 420 Deliveries
- 230 Hours per Day
- Equivalent work of 33 FTEs
- 46 FTE Savings (including non-productive time (e.g. sick, vacation, etc.))
- Approx \$50K per robot



CNET > Sci-Tech > Robots roam hallways of SF's newest hospital, lending a helping hand

Robots roam hallways of SF's newest hospital, lending a helping hand

A fleet of 25 new workers rolls through the hallways of UCSF Medical Center at Mission Bay, delivering meals and medicine, among other tasks formerly completed by humans.



WALL·E



Disney.com/Cars

©Disney/Pixar

