

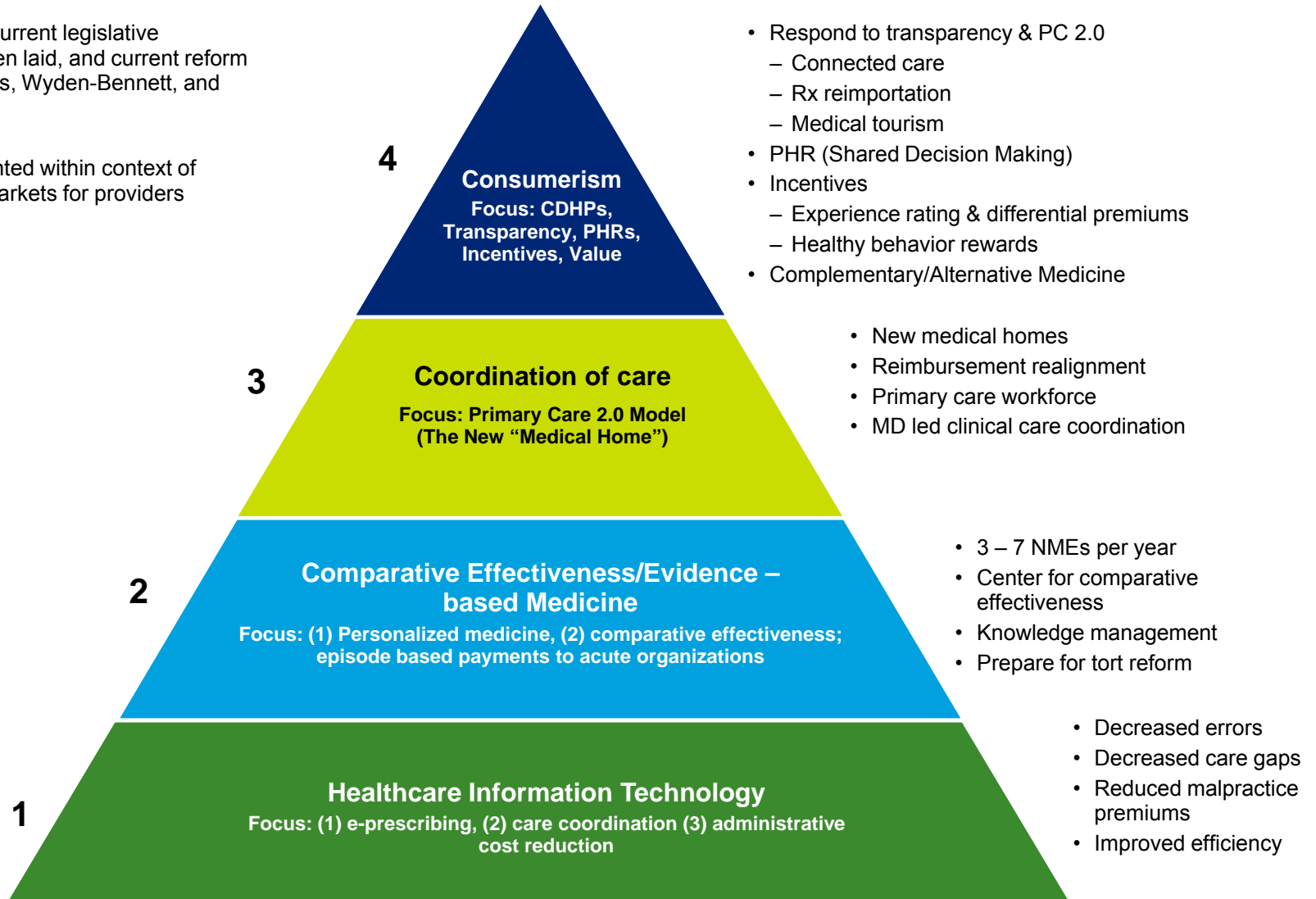


Reducing Costs while Improving Care in the US Health System: The Health Reform Pyramid

Deloitte Center for Health Solutions
Washington, DC
January 2009

The pyramid is built on four areas of focus: reducing cost to a CAGR of 4% is possible while improving population-based outcomes

- For each of these, current legislative groundwork has been laid, and current reform proposals by Baucus, Wyden-Bennett, and Obama are aligned
- All can be implemented within context of continued private markets for providers and plans



Considering the framework...

- Each of the four major areas represents a strategic direction: within each, the focus is on programs that build on current regulatory & industry momentum. Therefore, the framework can be fully implemented in 10 years (and in most cases less).
- Each of the four is interdependent: the exclusion of any of the four, or the exclusion of programs suggested within each nullifies/limits potential savings and systemic impact. The framework, therefore, should be viewed as a “whole”.
- The framework addresses quality of care and cost: it does not opine to increased access to health services in under-served populations by design. The intent is that net savings resulting from implementation of this framework be used to expand access to health services and considered a necessary means to that end.

S1: Health Care information technology

Initiative	Application goal	Investment	Possible savings	Assumptions
1a: E-Prescribing	<ul style="list-style-type: none"> Decreased Rx errors (ADEs) for medication management 	<ul style="list-style-type: none"> \$7.7 – 13.0B 	<ul style="list-style-type: none"> \$10.2 – 22.6B 	1
1b: E-Enabled care coordination	<ul style="list-style-type: none"> Decreased gaps in care via real time sentinel monitoring of clinical data Medical Malpractice savings 	<ul style="list-style-type: none"> \$25.5 – 35.0B 0.4 – 0.8B 	<ul style="list-style-type: none"> \$62.5 – 95.4B 0.2 – 1.1B 	2, 3
1c: Administrative cost reduction	<ul style="list-style-type: none"> Improved administrative and clinical efficiencies 	<ul style="list-style-type: none"> \$69.5 – 77.4B 	<ul style="list-style-type: none"> \$63.4 – 99.8B 	4
Total HCIT		<ul style="list-style-type: none"> \$103.1 – 126.2B 	<ul style="list-style-type: none"> \$136.3 – 218.9B 	
Net Savings			<ul style="list-style-type: none"> \$33.2 – 92.7B 	

General HCIT assumptions:

- \$25,000/physician system, \$15,000 workflow disruption, 800,000 MDs, \$17,616/bed, 947,412 beds, 25% annual maintenance, 80% penetration. Rollout at beginning and continuing over the next 10 years from exponential or straight-line adoption rates. References: 2, 3
- EBM derived clinical algorithms embedded in EMR's knowledge management backbone

S2: Comparative effectiveness/evidence-based medicine

Initiative	Application goal	Investment	Possible savings	Assumptions
2a: Personalized Medicine	<ul style="list-style-type: none"> Develop/advance Personalized Medicine market 	• \$61.6 – 143.8B	• \$96.7 – 225.5B	5
2b: EBM	<ul style="list-style-type: none"> More appropriate utilization (decrease mis/overuse and increase underuse) of health services with a Center for Comparative Effectiveness/CPG Clearinghouse Data warehouse and knowledge management to systematize outcomes research/clinical practice guidelines 	• \$14.2-14.9B	• \$50.3-73.6B	6
Total EBM		• \$75.8 – 158.7B	• 147.1 – 299.1B	
Net savings			• \$71.3 – 140.4B	

S3: Primary care 2.0—The new medical home

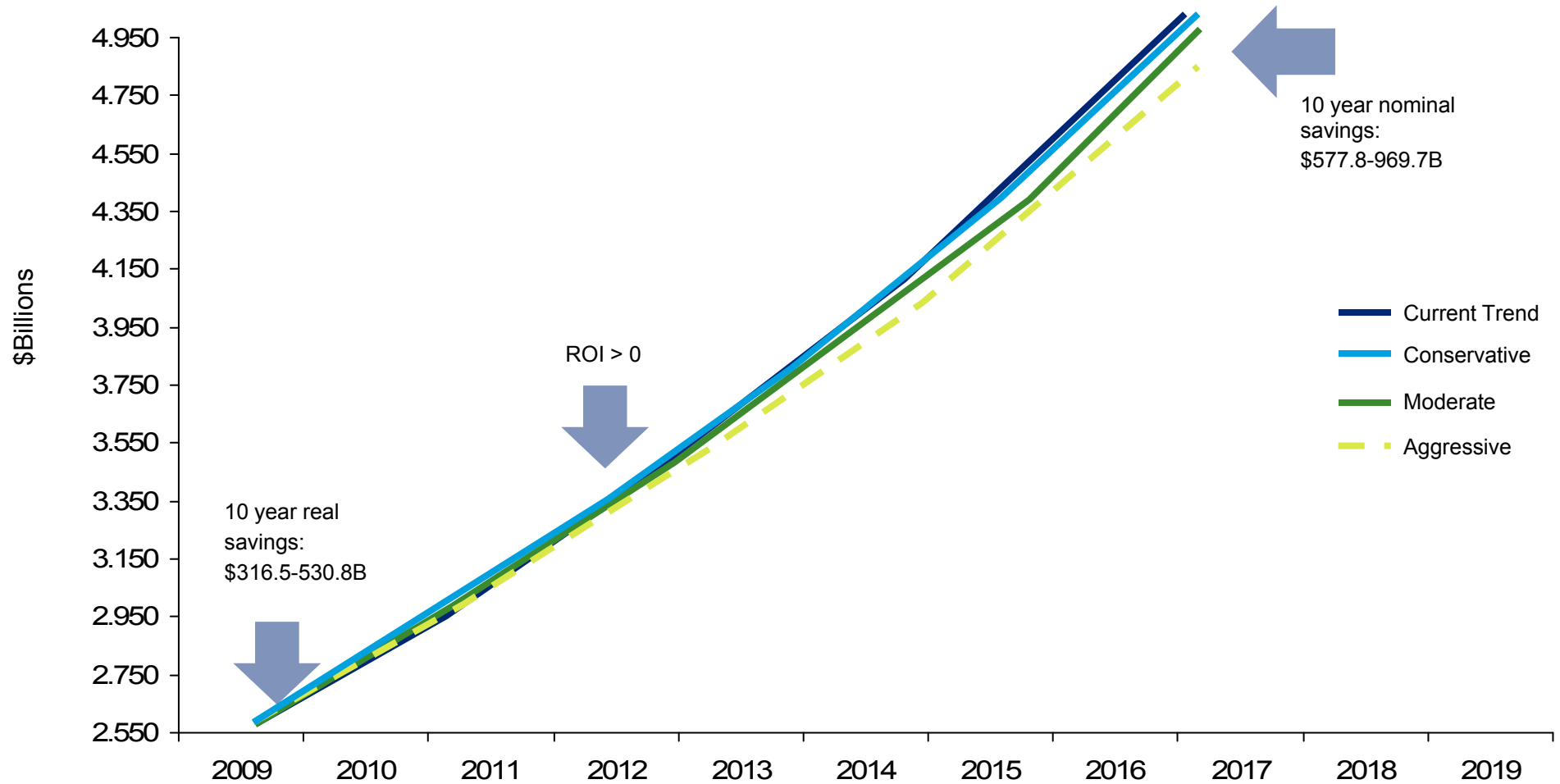
Initiative	Application goal	Investment	Possible savings	Assumptions
3: PC 2.0	• Increase number of functional medical homes	• \$93.1 – 186.3B	• N/A	7
	• Realignment of incentives from volume driven reimbursement to episode derived pay for performance	• \$63.3 – 126.8B	• N/A	8
	• Ease primary care workforce shortage	• N/A	• \$20.4 – 26.0B	9
	• Physician-led clinical care coordination yields superior clinical outcomes	• N/A	• \$115.9 – 147.6B	10
Total		• \$156.4 – 313.1B	• 136.3 – 173.6B	
Net savings/(loss)		• \$(20.2) – (139.6B)		

S4: Consumerism

Initiative	Application goal	Investment	Possible savings	Assumptions
4a: Responding to transparency & PC 2.0 structure	• Reduce post acute admissions via smart home/connected care	• \$4.4 – 6.9B	• \$22.0 – 37.9B	11
	• Decrease Rx costs via drug reimportation	• 2.1 – 2.7B	• 15.2B	12
	• Decrease medical costs via medical tourism	• 24.4 – 27.7B	• 83.9 – 178.3B	13
4b: Use of PHRs	• Improve inappropriate (over/mis/under/use) utilization and improve adherence via a PHR embedded Health Dialog like Shared Decision Making model	• \$5.8 – 10.5B	• \$29.4 – 57.0B	14
4c: Alignment of incentives	• Experience Rating (utilization based) as consumers are offered differential premiums based on their health status and adherence	• \$16.9 – 20.1B	• \$63.2 – 112.9B	15
	• Decrease medical costs with healthy behavior/reward incentives	• \$5.3 – 5.7B	• \$24.1 – 31.9B	16
4d: Growth of CAM	• Decrease medical costs via Complementary/Alternative Medicine (CAM)	• \$19.5 – 21.7B	• \$72.9 – 99.4B	17
Total		• \$78.4-95.3B	• \$310.7-532.6B	
Net savings			• \$232.3-437.3B	

Bend the national health expenditure cost trend

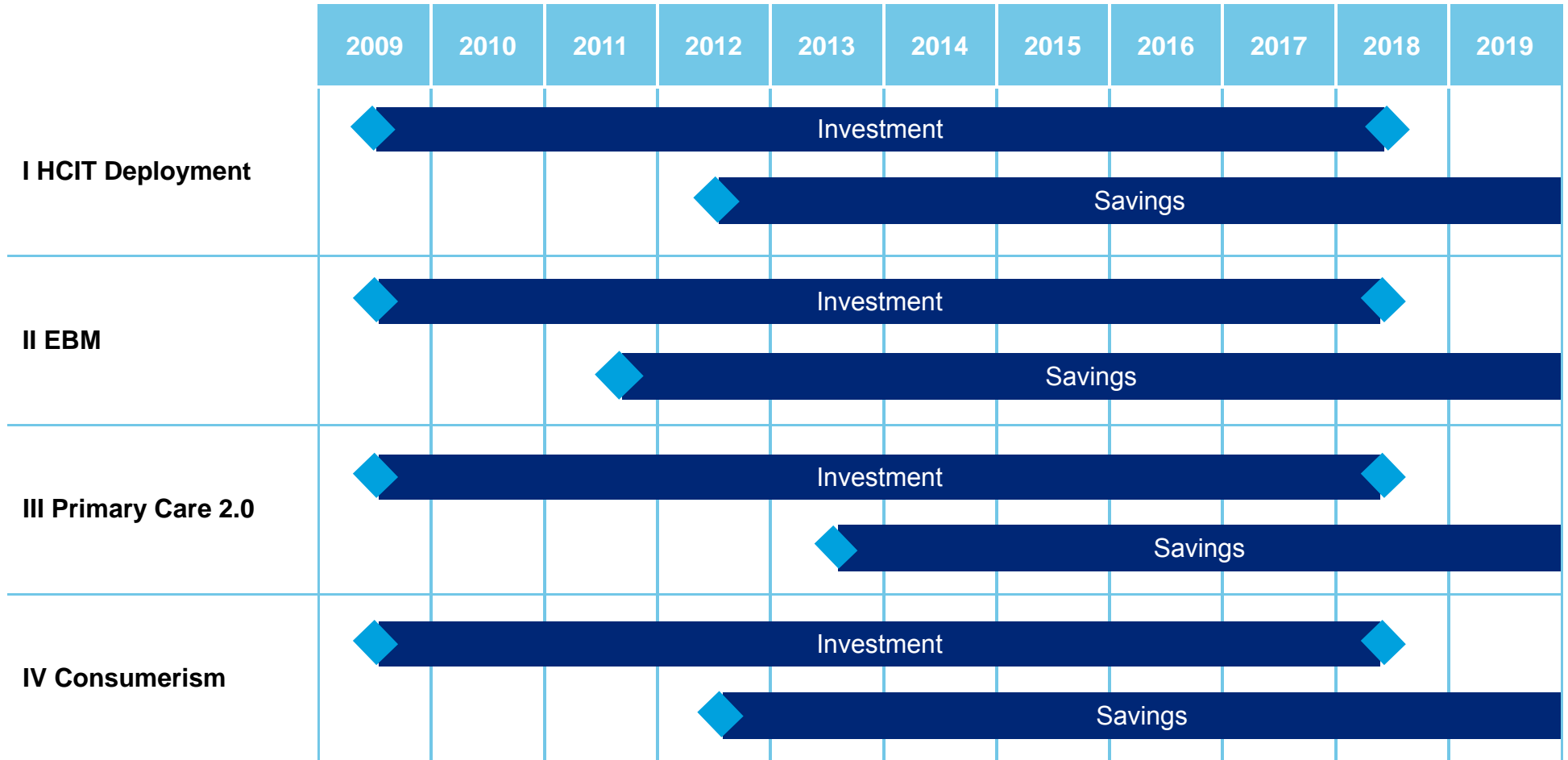
At end of 3rd year, cash flow turns positive with accumulated investment of 112.0-220.7 and savings to date of 65.1- 128.7, i.e. an accumulated deficit of 46.9-92.0B



Current trend assumed at 6.7%¹

Dependencies

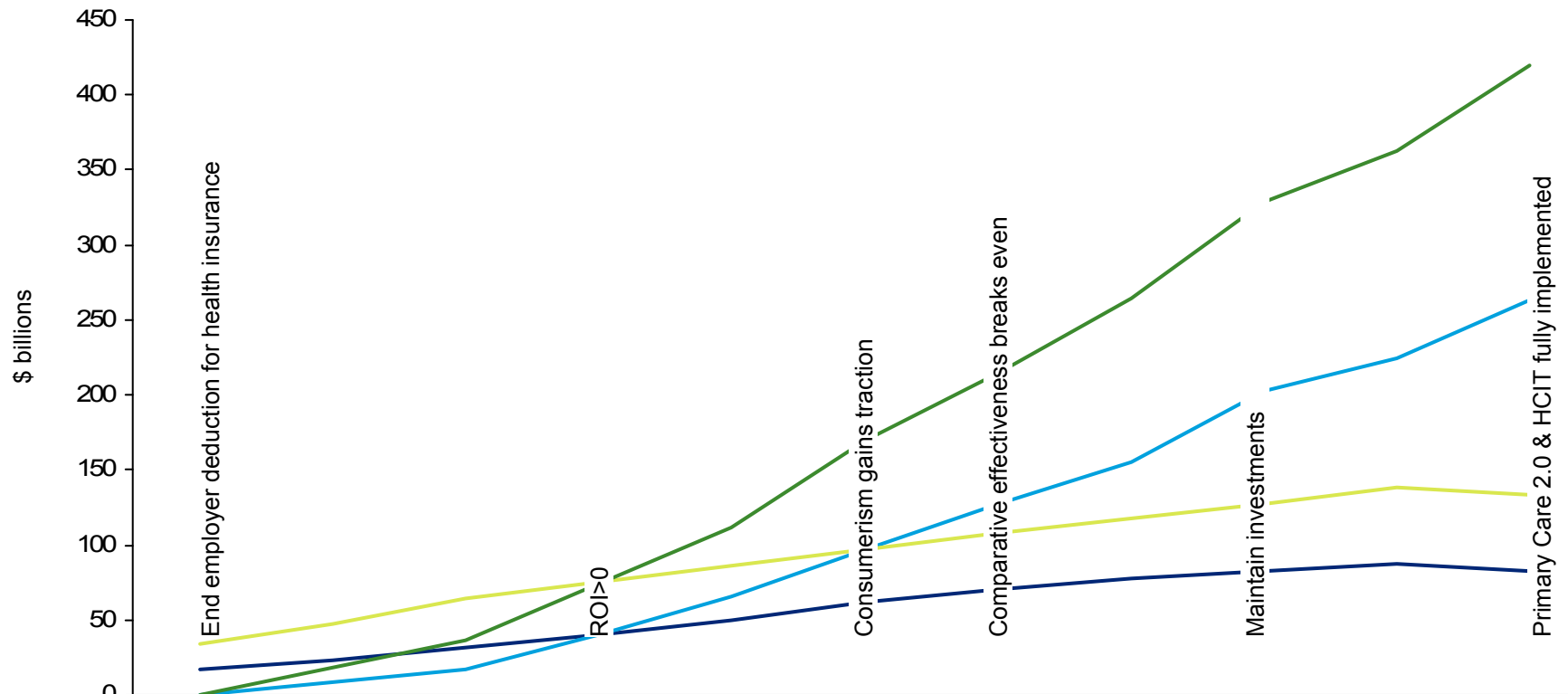
The 4 components are interdependent, so an all-or-none approach is necessary to maximize the potential for value creation.



Goal: Bending the curve to 4% CAGR requires aggressive implementation of four strategies

Investment/savings timing

At end of 3rd year, cash flow turns positive with accumulated investment of 112.0-220.7 and savings to date of 65.1- 128.7, i.e. an accumulated deficit of 46.9-92.0B



	0	1	2	3	4	5	6	7	8	9	10
Investment – low	17.3	23.5	31.6	39.7	50.2	61.7	70.9	77.2	82.4	86.9	82.2
Savings low	0	8.4	17.2	39.5	65.9	97.4	127.2	155.4	202.7	224.6	263.1
Investment – High	34.2	47.4	63.7	75.4	86.4	97.3	107.4	117.6	127.9	138.3	133.6
Savings – High	0	18	36.8	73.9	111	169.3	214.3	265	328.8	362.2	419.6

Summary: Investments and potential savings

Start	1	2	3	4	5	6	7	8	9	10
\$17.3 – 34.2	23.5 – 47.4	31.6 – 63.7	39.7 – 75.4	50.2 – 86.4	61.7 – 97.3	70.9 – 107.4	77.2 – 117.6	82.4 – 127.9	86.9 – 138.3	82.2 – 133.6
Svgs	8.4 – 18.0	17.2 – 36.8	39.5 – 73.9	65.9 – 111.0	97.4 – 169.3	127.2 – 214.3	155.4 – 265.0	202.7 – 328.8	224.6 – 362.2	263.1 – 419.6

- \$413.8 – 693.4B investment in today’s dollars yields...
- \$730.3 – 1,224.2B gross savings created in today’s dollars (ROI =1.8:1)
- Resulting in ...
 - More efficient health care delivery
 - Improved quality, and
 - Savings to provide access to the uninsured

Appendix

Key Modeling Assumptions

Key modeling assumptions

#	Description
1	<ul style="list-style-type: none"> ▪ EMR adoption to 80% for eRx, 200,000 hospital ADEs (cost \$5,000), 8,000,000 outpatient ADEs (1/3 – 1/2 preventable, 2/3 CPOE avoidable, cost \$1,000 – 2,000), \$30/hour and 8 hour workday for absenteeism, 9.7% of ADEs cause disability averaging \$6,020 per case - References: 4 – 15
2	<ul style="list-style-type: none"> ▪ Literature (Reference 13) reported 8:1 ROI (\$5 – 11 PMPM savings on a \$1 PMPM investment at the 95% confidence level). For more conservatism and realism in Deloitte’s model, assumed ROI 2.5 – 2.7:1 (\$5 – 8 PMPM savings/ \$2 – 3 PMPM investment) - Reference: 16, 142
3	<ul style="list-style-type: none"> ▪ 2 – 5% discount on medical malpractice premiums for use of the EMR; premium loss ratio 62% - Reference: 17 – 19
4	<ul style="list-style-type: none"> ▪ Improved worker productivity with decrease time spent on/duplication (savings): <ul style="list-style-type: none"> – Transcription (80%) – Chart pulls (60%) – Lab tests (10 – 20%) – Drug utilization (15%) – Radiology (6%) – Nursing (10 – 15%) – Hospital stay (10 – 30%) – Medical records (50%) ▪ Reference: 20 – 25

Key modeling assumptions (cont.)

#	Description
5	<ul style="list-style-type: none"> ▪ Drug safety and efficacy improvement via reduced adverse events, cost of disease, improved productivity and non economic (QALY) benefits ▪ 3 – 7 new molecular entities annually ▪ PM ROI model-assumptions <ul style="list-style-type: none"> – Adverse events (nausea/emesis, neutropenia, anemia, DVT/PE) due to chemo 1 – 14% costing \$40 – 1,400 – PM intervention costs (test, treatment, MD visits) \$3,000 – 25,000 – Transportation costs (\$11) per hospital visit – Life course cost of care (lab, Dx, Rx, Tx, MD, Home health care, etc) – \$100,000/QALY – \$1.28B R&D expense – 7 year product exclusive/13 years preparing for market entry – 7% cost of capital for discounting ▪ Reference 26 – 123
6	<ul style="list-style-type: none"> ▪ 20 – 30% of care is unnecessary ▪ Move McGlynn’s 55% adherence to 60% for outpatient care in 10 years ▪ Move inpatient utilization rate to 50%ile (Rochester, MN average) in 10 years ▪ \$1B seed to launch Center for Comparative Effectiveness ▪ \$300 – 375M annually to fund Center for Comparative Effectiveness ▪ \$100 – 125M annual data maintenance ▪ \$400 – 500M CPG clearinghouse annually ▪ \$1B annually for MD detailing/education (800K * 12 hrs * \$100/hr) ▪ Reference: 124– 130
7	<ul style="list-style-type: none"> ▪ 10 year phase in of 150 – 300 K (US Population 300M/1 – 2K per panel) new medical homes in synch with HCIT implementation with nurse coach (\$125k/FTE) and data team (\$25K/ 1/3 FTE) ▪ Reference: 131, 132

Key modeling assumptions (cont.)

#	Description
8	<ul style="list-style-type: none"> ▪ \$100K per medical home for care coordination and clinical performance incentives amortized over 10 year phase in of new medical homes ▪ Reference: 131
9	<ul style="list-style-type: none"> ▪ Clinical delivery efficiencies derived from e-care coordination with online visits and Rx refills, and broadened scope of practice of clinical ancillaries (5 – 15% savings on 823.5 M office visits @ \$120/visit) ▪ Reference: 133
10	<ul style="list-style-type: none"> ▪ Prevalence of diabetes, CHF, COPD/asthma are 5%, 0.2%, 3.2% respectively and assumed static growth to be conservative ▪ \$150 PMPM average care coordination savings ▪ First 3 years 10 – 20% of eligibles are enrolled, peaking at 40 – 50% at year 10 ▪ \$30/hour wage, 8 hour work day for absenteeism avoidance ▪ Savings estimates validated against peer reviewed Health Affairs article ▪ Reference: 132, 134 – 136
11	<ul style="list-style-type: none"> ▪ Remote patient monitoring box \$2.10 – 3.80 PMPD ▪ PCP visit costs \$120, averaging 2 visits/month for chronic management, 33% reduction in visits due to connected care ▪ Chronic disease prevalence same as PC 2.0 assumption above ▪ Initially 5% of 20% active consumers with chronic disease members participate, increasing to 25% at 10th year, 15% ER reduction of 400/k, ER admission costs \$1K ▪ Reference: 134, 138, 146
12	<ul style="list-style-type: none"> ▪ GAO estimates 1% savings on Rx expenditures with reimportation - Reference: 139, 144
13	<ul style="list-style-type: none"> ▪ Savings can be as much as 70% off US prices, inclusive of travel. (In 2007, 750,000 US citizens went offshore for health services) ▪ 10% of Deloitte's Medical Tourism forecast since POV predicts it is going to happen regardless.- Reference: 149

Key modeling assumptions (cont.)

#	Description
14	<ul style="list-style-type: none"> ▪ PHR costs \$7 – 12 PMPY ▪ US National Health Expenditure \$2.1 T ▪ Health dialog study reports their approach saves 4 – 11% of medical costs—assumed 2% for Deloitte model ▪ Cost \$1 PMPM ▪ Initially 10 – 20% engagement peaking at 25 – 30% at 10 years ▪ Adherence improvement 4 – 11% in literature—used Active Health’s reported 3.1% adherence rate ▪ Reference: 137, 139 – 143
15	<ul style="list-style-type: none"> ▪ Inpatient admissions 120/k @\$5,000/admit, decrease from 1 – 15% over 10 years, ER 400/k decreases from 1 – 2 to 4 – 6% over 10 years, <16.9% for admissions & 6.8% from consumerism ▪ Value-based insurance design saves 5 – 10% of costs on an investment of \$0.5 – 2PMPY ▪ Reference: 146, 148
16	<ul style="list-style-type: none"> ▪ Within 3 years of trans fat labeling, heart attacks would decrease 600 – 1,200 and save 250 – 500 lives approximating cost savings of \$.9 – 1.8B/year ▪ Assumed distribution of healthy, at risk, chronically ill in the population – 20, 60, 20% and assumed 75, 50, 30% participation in wellness program with an average \$20 PMPM incentive based on subsidies given for health clubs & decrease in premium ▪ 10% of enrolled at risk and chronic participants qualify for additional incentives of \$50 – 100 PMPM for wellness program compliance ▪ 1.5% shift of members across the cost curve from high cost group to low cost ▪ Reference: 155 -157
17	<ul style="list-style-type: none"> ▪ Back pain prevalence 17.8% ▪ Chiropracty @ 50% cost of PCP office visit educes back pain’s \$5,000 costs 10 – 15% (references cite 69% fewer admissions, 50% less Rx, 80% less surgery/procedures that lowered overall medical expenses by more than 60%. Health care charges for people with neuropathic disorders (including fibromyalgia) were threefold higher (\$17,355 vs. \$5,715, respectively) than patients without neuropathic disorders, but felt these were too aggressive for Deloitte’s model ▪ Reference: 150 – 154

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