Capitation payment – international examples

As part of the development of payment approaches for Integrated Care, Monitor commissioned a review of some of the international examples of capitation payment. This research, supported by McKinsey & Company, has informed our thinking on how international models of care and payment approaches may hold relevant lessons for the NHS, ideas which we set out in our accompanying 'Capitation: a potential new payment model to enable integrated care'.

Although designed for, and used in, very different healthcare systems to the NHS in England, these examples may provide some helpful information for commissioners and providers.

Reference material that informed this research can be found on the Integrated Care and Support Exchange (ICASE).
http://www.icase.org.uk/pg/cv_blog/content/view/151725/88206

A glossary of the acronyms used can be found at the end of the document.

Payment innovation case studies: summary of findings

	Pros	Cons
Pioneer ACO *Beacon Health*	▪ Phased transition to full risk transfer with options for more limited risk-sharing ▪ 3-5 year planning and contractual cycle ▪ Forces cross-setting provider shared accountability	▪ New model so long-term outcomes, and provider gaming strategies, unknown ▪ Capitation based on historic spend (rather than need)
Medicare Advantage *ChenMed, CareMore, Kaiser Permanente*	▪ Full transfer of downside risk ▪ Freedom for providers to innovate ▪ Adjusts for quality, case mix (at patient-level) and efficiency ▪ Uptake driven by patient choice	▪ More costly than traditional fee-for-service model for Medicare beneficiaries (though this is currently being addressed) ▪ Drives 'up-coding' of patient risk factors
CareFirst	▪ Payer/provider gain-sharing ▪ Provides framework /incentives for specific elements of best practice ▪ Adjusts for quality, case mix (at patient-level) and efficiency	▪ No transfer of downside risk (at least in the short/medium term) ▪ Capitation fee based of historic utilization (rather than need) ▪ Relative complexity
Valencia	▪ Full transfer of downside risk ▪ Freedom for providers to innovate ▪ Long-term contracts encourage investment in service improvements ▪ Less costly than traditional model	▪ Unclear if *Comisionado* role adequately protects quality ▪ Long-term contracts create risks in case of poor performance
Knappschaft	▪ Upside gains shared between integrated care network, payer and patients ▪ Most sophisticated mechanism for calculating expected costs	▪ No transfer of downside risk ▪ Quality monitored through KPIs only ▪ Ten year timeframe to develop effective mechanism to calculate expected costs

Payment innovation case studies: direct relevance to the NHS

	High level assessment	Rationale
Pioneer ACO *Beacon Health*		▪ Gains are shared between the payer and the provider creating incentives to lower total costs to the system ▪ Spending is compared to a matched cohort to ensure that cherry-picking is not rewarded ▪ Population covered is elderly only (Medicare)
Medicare Advantage *ChenMed, CareMore, Kaiser Permanente*		▪ Gains are retained by the provider, so despite incentives to create savings, gains are not shared with the health system as a whole ▪ Capitation payments are risk-adjusted so high incentives to “upcode” patients
CareFirst		▪ Gains are shared between the payer and the provider creating incentives to lower total costs to the system ▪ Individual patient risk scoring is used to ensure that cherry-picking is not rewarded (though this system may create “upcoding” risks)
Valencia		▪ Services are put to tender with a requirement that bids are priced at a lower rate than average capitated spend to guarantee savings to the system ▪ Population coverage is defined by region so cherry picking is eliminated
Knappschaft		▪ Underlying care delivery model is very different to the NHS so may not be directly applicable here ▪ Risk equalisation method – used to define capitation amount and provide a standard from which to benchmark savings – may have more direct relevance

Contents

Beacon Health Pioneer ACO[1]: Summary (1/2)

1 Context

- In 2011, CMS in the US published the regulations governing ACOs and authorised the first wave of Pioneers, which went live in 2012. The initiative developed out of the Medicare Shared Savings Program as a means to shift payment to capitated, shared savings model.
- Eastern Maine Healthcare Systems (EMHS) led applications for CMS Pioneer ACO designation for Bangor Beacon Community in 2011 (BBC has since changed its name to Beacon Health), with support from Geisinger of Pennsylvania
- Beacon Health aims to promote cost-effective care through care coordination and patient self-management by leveraging existing and establishing new health information technology and building on the existing care delivery model
- EMHS received a 3-year $12.7m grant from the Office of the National Coordinator for health IT to support the BBC program in May 2012

2 Population and services

- Beacon Health covers ~22,000 Medicare beneficiaries with a specific focus on patients with long term conditions
- The Pioneer ACO programme covers Part A and Part B Medicare spend:
  - Hospital services and some long term residential care (Part A)
  - Primary, community and outpatient care including diagnostic and mental health services (Part B)

3 Payment approach

- All 9 participating hospitals that make up Beacon Health are jointly responsible for delivering services (and savings) under the Pioneer ACO programme
- Pioneer ACOs operate over 3 to 5 year period
  - Y1: upside-only
  - Y2: increased upside- and down-side risk
  - Y3: capitation and shared revenue from risk sharing contract
  - Y4&5: extension of Y3 if minimum savings achieved in years 1-3

4 Gain/loss sharing

- The ACO retains 50-70% of gains or losses dependent on:
  - Tenure - ACOs take on increasing share of risk over time
  - Achievement of minimum savings thresholds (1-2.7% depending on ACO size and tenure) for Part A costs
  - Guaranteed discount threshold (3-6% depending on quality score) for Part B costs
  - Maximum savings cap
- CMS retains the remaining share of gains and losses

5 Contractual framework

- Pioneer ACO contracts run for 3 to 5 years (years 4 to 5 dependent on achieving minimum savings level in years 1-3)
- Pioneer ACOs are required to submit full claims data throughout the contract period (for monitoring purposes)
- Beacon Health is a legal entity made up of Eastern Maine Healthcare System (lead grantee in ACO application) alongside 9 hospital and 3 health center partners

1 Accountable Care Organization (Beacon Health was originally called Bangor Beacon Community)
SOURCE: CMMI; Eastern Maine Healthcare System

Beacon Health Pioneer ACO: Summary (2/2)

6 Insurer landscape

- The Pioneer ACO model is only open to Medicare FFS beneficiaries so the insurer in all cases is CMS

7 Care delivery model

- Beacon Health ACO is made up of a consortium of partners including hospitals, primary and community care providers and medical practices (outpatients)
- Nurse care managers were added to each primary care practice to design care plans and coordinate care on behalf of patients
- 5 quality improvement initiatives were supported by investment in health IT:
  - Shared EHR
  - Integration of social and primary care
  - Home telemedicine
  - Performance management

8 Transition

- Beacon Health ACO grew out of the Bangor Beacon Community which was created to lead improvements in care coordination and quality of care
- EMHS was the lead organi-zation behind both the BBC program and Beacon LLC
- ONC grant (for health IT)was received in May 2010
- Necessary health IT and clinical interventions were operation by September 2010
- Beacon LLC was designed a Pioneer ACO in October 2011 and became operational in January 2012

9 Enablers

- Integrated Electronic Health Record (across all settings of care including behavioural health and long term residential care), shared information system and analytics
- Nurse care manager role to coordinate care delivery of high-risk patients across a network of providers
- Clinical leadership through bi-weekly Care Manager Forums and Statewide Advisory Committee to share best practices
- Focus on continuous patient engagement through encouraged self-management and Beacon Patient Advisory Group

10 Impact

- Improved outcomes in diabetes (45% decrease % patient with HbA1C >9) and chronic health failure patients (9% increase in % patients with BP <130/80) over the first 12 months of the programme.
- Reduced healthcare utilization: both ED visits and hospital admissions decreased ~40% 12 months after intervention
- Beacon Health achieved 3% cost savings in its first three quarters as a Pioneer ACO, outperforming 25/32 peer providers

SOURCES: Eastern Maine Healthcare Systems' Annual Report, 2012, Office of the National Coordinator for Health Information Technology: Bangor Beacon Community

Scope of the Beacon Health Pioneer ACO

	Description
Size of population targeted	▪ Bangor Beacon Community program affected **53.7k patients** – **1,200 patients** enrolled initially in primary care management model ▪ Pioneer ACO will initially focus on **22k Medicare beneficiaries** but aim extend care delivery model to service all patient sub-populations
Geographic Scope	▪ Bangor hospital service area covers **Piscataquis, Hancock, Waldo, and Somerset counties** in Maine
Patient segments & pathways	▪ **Clinical focus areas** include diabetes, cardiovascular care, asthma, COPD, mental health, and immunizations ▪ **Nonclinical focus areas** include utilization and patient-report, measurement, disparities, and safety
Providers involved	▪ **Eastern Maine Healthcare Systems** is the lead grantee of the Bangor Beacon Community and initial applicant for CMS Pioneer ACO designation ▪ **3 hospital partners**, Eastern Maine Medical Center, Inland Hospital, and TAMC (all part of EMHS) are involved in initial BBC program – Beacon LLC expanded to include total of **9 hospitals** operating as Pioneer ACO ▪ **4 Federally Qualified Health Centers**

SOURCE: Office of the National Coordinator for Health Information Technology: Bangor Beacon Community Fact Sheet, December 7, 2012

The Pioneer ACO payment model has four core elements

Baseline expected spend

- **Weighted average actual spend** in last 3 years calculated at individual patient level:
  - 2010 x 60%
  - 2009 x 30%
  - 2008 x 10%
- 2008 and 2009 trended forward to 2010
- **Adjusted for national growth rates** for a matched cohort of non-ACO Medicare FFS beneficiaries:
  - 50% of percentage change
  - 50% of absolute value change
- Set prospectively but adjusted for legislative or regulatory changes that would affect spend
- **Rebased for contract years 4 and 5** based on spend data for 2011, 2012 and 2013

Minimum savings rate (MSR)

- Defines the **level of savings that an ACO needs to achieve to become eligible for upside gains-sharing**
- Varies by year of contract
- **Adjusted by size** of ACO patient panel in some contract types
- **Guaranteed Medicare savings rate** applies in some contract types which is tied to the quality score (the higher the quality, the lower the level of savings required)
- Meeting defined minimum savings thresholds is a **pre-requisite for contract extension** beyond 3 years

Degree of risk-sharing

- ACOs can **choose between one-sided and two-sided risk-sharing options and level of exposure**
- Percentage loss/gain applies to all spend above/below baseline expected spend provided minimum savings threshold is met (except where a guaranteed savings discount applies) up to the maximum savings/losses cap
- Incremental increases in degree of risk-sharing for each of first 3 years of ACO contract

Risk-sharing cap

- Defines **level at which Medicare reassumes risk for gains/losses**
- Set as a percentage of total health spend (e.g. the ACO may share up to x% of savings/losses versus baseline expected spend provided these do not exceed y% of total spend)
- Varies by contract type and year of contract

SOURCE: CMMI

CMS offers five Pioneer ACO contract model options

	Year 1	Year 2	Year 3	Year 4	Year 5
Pioneer Core	▪ 60% 2-sided risk sharing ▪ 10% cap ▪ 1% MSR	▪ 70% 2-sided risk sharing ▪ 15% cap ▪ 1% MSR	▪ If 2% ave. savings achieved in Y1 & Y2: – Prospective payment of ≤50% of baseline (Parts A and B) – Risk, cap and MSR as Y2 ▪ If savings not reached, as Y2	▪ Termination option ▪ Rebasing of baseline ▪ As Y3	▪ As Y4
Pioneer Option A	▪ 50% 2-sided risk sharing ▪ 5% cap ▪ 1% MSR	▪ 60% 2-sided risk sharing ▪ 10% cap ▪ 1% MSR	▪ If 2% ave. savings achieved in Y1 & Y2: – Prospective payment of ≤50% of baseline (Parts A and B) – Risk, cap and MSR as Y2 ▪ If savings target not reached, as Y2	▪ Termination option ▪ Rebasing of baseline ▪ As Y3	▪ As Y4
Pioneer Option B	▪ 70% 2-sided risk sharing ▪ 15% cap ▪ 1% MSR	▪ 75% 2-sided risk sharing ▪ 15% cap ▪ 1% MSR	▪ If 2% ave. savings achieved in Y1 & Y2: – prospective payment of ≤50% of baseline (Parts A and B) – Risk, cap and MSR as Y2 ▪ If savings target not reached, as Y2	▪ Termination option ▪ Rebasing of baseline ▪ As Y3	▪ As Y4
Pioneer Alternative 1	▪ 50% 1-sided risk sharing ▪ 5% 1-sided cap ▪ 2-2.7% MSR[1]	▪ 70% 2-sided risk sharing ▪ 15% cap ▪ 1% MSR	▪ If 2% ave. savings achieved in Y1 & Y2: – Prospective payment of ≤100% of Part B baseline – Full risk for Part B less 3-6% guaranteed discount[2] – Part A risk, cap and MSR as Y2 ▪ If savings target not reached, as Y2	▪ Termination option ▪ Rebasing of baseline ▪ As Y3	▪ As Y4
Pioneer Alternative 2	▪ 60% 2-sided risk sharing ▪ 10% cap ▪ 1% MSR	▪ 70% 2-sided risk sharing ▪ 15% cap ▪ 1% MSR	▪ If 2% ave. savings achieved in Y1 & Y2: – Prospective payment of ≤100% of Parts A and B baseline – Full risk for Parts A and B less 3-6% guaranteed discount[3] ▪ If savings target not reached, as Y2	▪ Termination option ▪ Rebasing of baseline ▪ As Y3	▪ As Y4

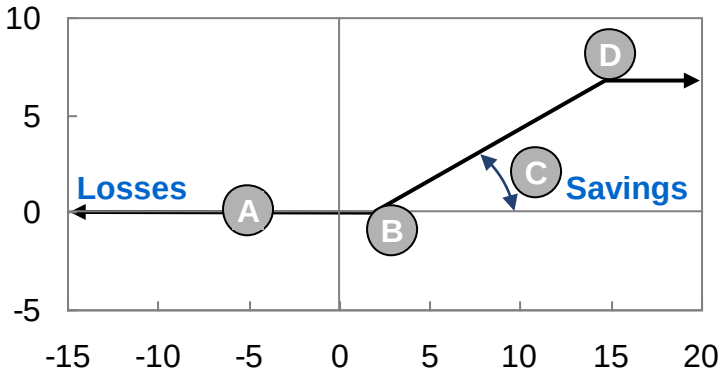
Definitions: MSR = Minimum Savings Rate; Part A relates to hospital expenditure; Part B relates to out-of-hospital expenditure
1 Level varies by size of patient panel. In this option, gains-sharing applies only to savings above the MSR.
2 Level varies by quality score (the higher the quality score, the lower the required discount)
SOURCE: CMMI

Comparison of one and two-sided risk sharing options

ILLUSTRATIVE

1-sided model

ACO gain sharing
% of total cost of care

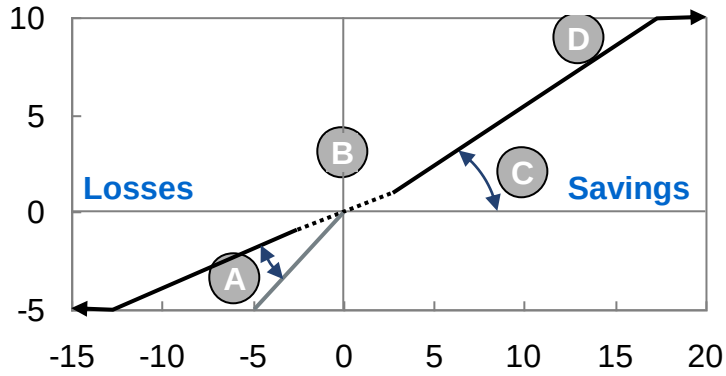


Savings relative to 3-year baseline
% change

- **A** No downside risk
- **B** No gain sharing until Minimum Savings Rate (MSR) achieved (varies from 2.0 to 2.7% based on ACO size)
- **C** ACO shares 0 to 50% of savings (above 2%), depending on quality performance[1]
- **D** Cap on gain sharing is 7.5% of Cost of Care (reached at ~17% gross savings, assuming distinctive quality performance)

2-sided model

ACO gain/cost sharing
% of total cost of care



Savings relative to 3-year baseline
% change

- **A** ACO shares 40–100% of losses, depending on quality performance[2]
- **B** Share of losses (or gains) begins to accrue from first dollar saved, but pays out only if greater than 2%
- **C** ACO shares 0 to 60% of savings (from first dollar), depending on quality performance[1]
- **D** Cap on gain sharing is 10% of Cost of Care (reached at ~17% gross savings, assuming distinctive quality performance)

1 Improved sharing rate for inclusion of Federally Qualified Health Centers and Rural Health Clinics
2 Annual loss capped – 5% in year 1, 7.5% in year 2, 10% in year 3
SOURCE: CMMI, team analysis

Beacon Health delivers coordinated care by nurse care managers

Care delivery process

Patient ID/enrollment

- Identify high risk/high cost chronic conditions patients (diabetes, CHF, COPD, asthma) with:
  - At least one hospital admission, ED, non-urgent care/walk-in care visit due to condition in last 6 months
  - Other disease-specific measures

Initial assessment

- PCP takes clinical lead
- Utilizes and updates state-wide health information exchange, HealthInfoNet
- Nurse care manager assesses need to involve other clinical staff or care team

Care plan

- Nurse care manager develops care plan
- Coordinates care team when necessary
  - Mental health care management team
  - Home health services
  - Inpatient care management team
- In-clinic patient education is provided by the nurse care manager

Monitor/outreach

- Telemedicine allows remote monitoring
  - Patients upload health vitals daily
  - Alerts are sent to nurse care manager
- Nurse care manager provide telephone consultation and health coaching
- Dispatches relevant care team when necessary

Ongoing care

- Patients are encouraged to self-manage chronic condition, as per in-clinic education
- Nurse care managers are available for telephone consultation when needed

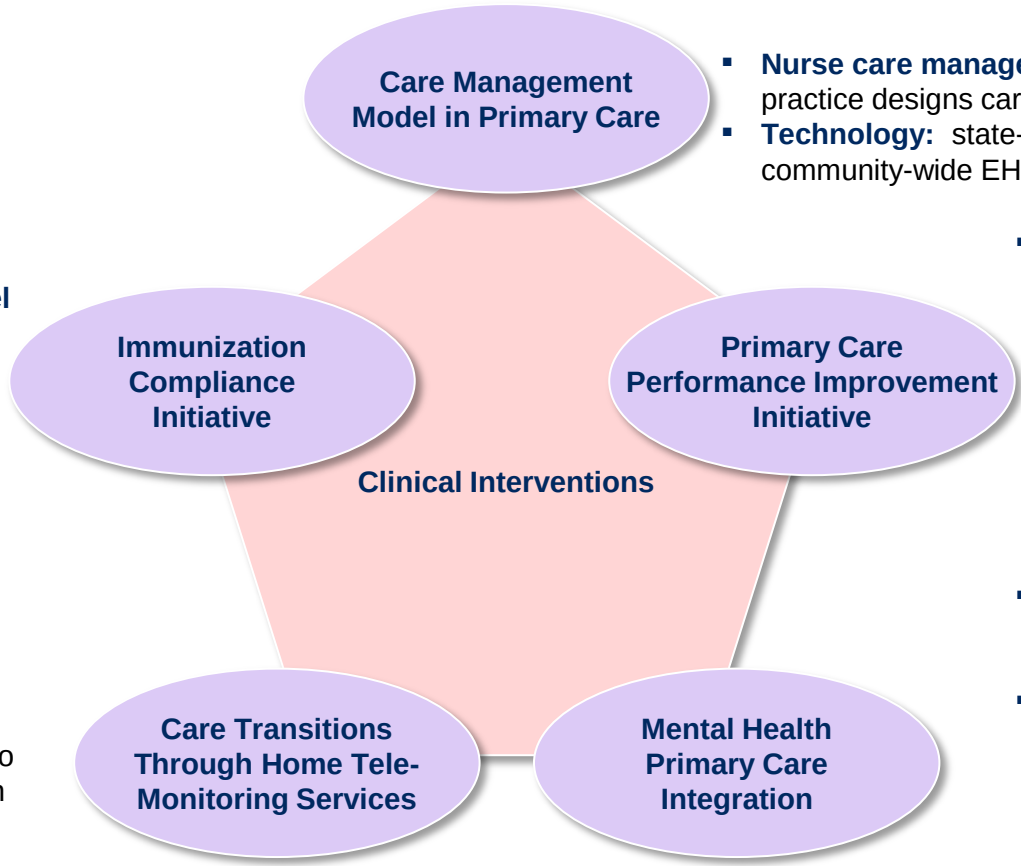
Addition of nurse care managers is the key operational change supporting the new care delivery model

Technology integration

- **Community-wide HIE** provides care transition infrastructure between hospitals and primary care practices, providing real-time information to care managers on admissions and emergency department visits
- **EHR adoption across the region** includes standardized data collection through care manage encounter forms
- **Secure e-mail** connects providers, nurse care managers, and patients

SOURCE: Bangor Beacon Community 2012 Annual Report, *Bangor Metro*, "Healing at Home," May 2012.

Clinical transformation takes place through five targeted initiatives, each supported by IT infrastructure



- **Nurse care manager** in each primary care practice designs care plans and coordinates care
- **Technology:** state-wide HIE (HealthInfoNet), community-wide EHR adoption

- **Care Management Model** in Primary Care engages **targeted patient population**
- **Immunization** for influenza and pneumonia are given to treatment group
- **Technology:** electronic medical records
  - During each patient visit, EMR system provides electronic prompts for provider to address immunization

- PCPs **share clinical performance data** and office operational processes to:
  - Establish regional target goals
  - Standardize data
  - Share best practices
  - Improve performance and quality indicators
- **Regular PI meetings** discuss metrics and establish 90-work plans
- **Technology:** data registry and reporting tool package that abstracts information from EMRs and produces standardized reports

- **Two models** for care transitions 30 days after discharge
  - Nurse care manager + remote monitoring
  - Nurse care manager alone
- Care team follows **hospital discharge instructions**
- **Technology:** Philips remote monitoring tele-health solutions

- **Social worker** provides community-based care management
  - Oversees psychiatric and clinical care
  - Manages access to social aspects
- **Technology:** Text messaging provides remote support

SOURCE: Office of the National Coordinator for Health Information Technology: Bangor Beacon Community, December, 7, 2012

Health information technology is a crucial enabler for extension of the primary care workforce

1. Enhancing health information technology infrastructure

- Broadening reach of **HealthInfoNet**, statewide health information exchange
- **Connecting major health systems**, mental health facilities, LTC facilities, homecare, FQHCs
- Adding **functionality to send notifications** to provider or care manager
- Integrating **mental health data** in HealthInfoNet

2. Care coordination through extension of PCP workforce

- Expanding reach of primary care through a network of technology-supported **nurse care managers**
- Managers utilize **electronic health records** to capture and access and track patient information and monitor patients via electronic home monitoring
  - Enhancing **performance improvement efforts** of PCPs through sharing clinical performance data and office operational processes
    - Participants extract and share performance reports from practice EHR, which are stratified by region

3. Test mobile health innovation

- **mHealth:** Exploring ways to extend the reach of care coordinators to patients by using remote monitoring technology to monitor patients after release from hospital to reduce avoidable readmissions
  - Providing texting support to mental health patients
- **Telemonitoring project:** Care team tracks patient vitals on a daily basis through devices such as automated medication dispensers and other monitors
  - Homecare agencies and care coordinators collaborate to monitor patients at home and collaborate to identify warning signs
  - Care coordinators have been able to telephonically do medical reconciliation with the patients and homecare nurse

SOURCE: Office of the National Coordinator for Health Information Technology: Bangor Beacon Community, December, 7, 2012.

Beacon Health addressed a range of key success factors

Summary of key elements

Organisation and Accountability

- Nation-wide Beacon community programs share general design
- EMHS was lead ONC grantee and the initial Bangor health system recognized as an CMS Pioneer ACO

Clinical leadership and culture development

- Effective use of leadership groups
  - Care Manager Forums are held bi-weekly and address issues of communication, technology, and process barriers
  - Statewide Advisory Committee shares best practices

Information sharing

- Maine already used statewide health information exchange system, HealthInfoNet
- Increased functionality of EHR, clinical data sharing capabilities, and telemedicine initiatives were enabled by ONC's $12.7m grant

Aligned incentives

- ACO structure is utilized to provide financial sustainability by holding provider accountable for total care costs
- ONC grant funded many improvement initiatives

Patient engagement

- Continuous patient engagement is ensured through in-clinic patient education, at-home consultations, and encouraged self-management
- Bangor Beacon Patient Advisory Group provides

Beacon Health took 18m to establish and achieve Pioneer ACO status

Office of the National Coordinator for Health Information Technology announces $235 million in grants to ***advance specific health improvement goals through interoperable health IT and information exchange*** *through establishment of Beacon Community Program*

EMHS ***receives $12.7m grant*** *to become 1 of 17 Beacon Communities nation-wide*

Development of the HIT infrastructure: *third party companies were contracted to act as a centralized data repository for program participants*

Practice Level Performance *and* ***Care Management model initiatives*** *kicks off and produces first provider reports*

Throughout 2011: *Roll out of nurse care manager training*

August 2011: *Immunization initiative kicks off*

October 2011: *EMHS was notified of successful application and designation as a* ***CMS Pioneer ACO*** *as* ***Beacon LLC***

Year 1 as Pioneer ACO *begins, with 3 hospitals and 9.400 covered lives*

BBC publishes ***Annual Report 2012: quality and performance improvements*** *in the final year of the Beacon project*

Year 1 as Pioneer ACO *concludes with* ***cost savings***

- *Expands to 9 hospitals, covering 22,000 lives*

At ONC Annual Conference, Maine received ***Meaningful Use Acceleration Maine Award***

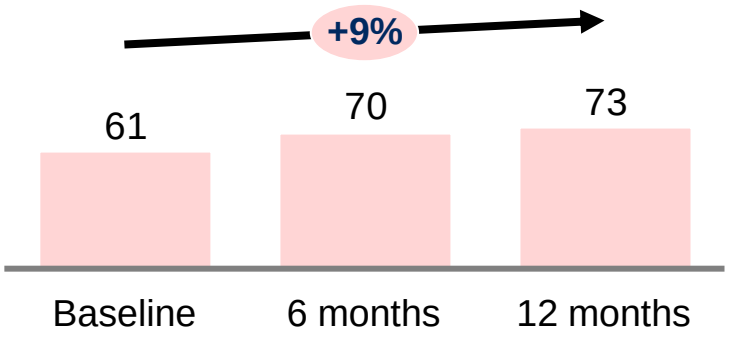
SOURCE: US Department of Health & Human Services: HealthITBuzz, ONC Beacon Communities, December 2, 2009, Bangor Beacon Community Program Annual Report 2012

In year one, Beacon Health has improved outcomes and reduced costs

Improved chronic heart failure outcomes[1]

Blood pressure control for CHF patients

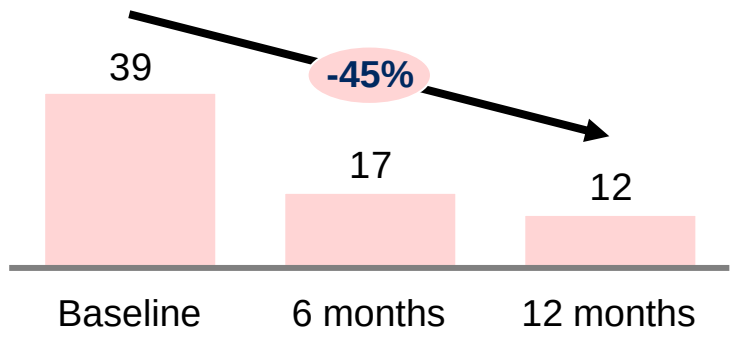
Percent of CHF patients with BP <130/80



Improved diabetes outcomes[1]

HbA1C levels in diabetes patients

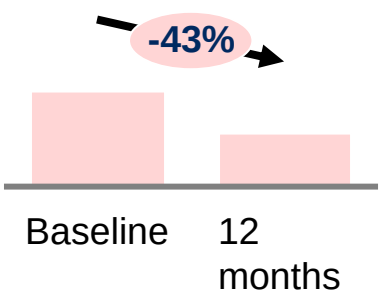
Percent of diabetes patients with HbA1C >9



Reduced healthcare utilization[1]

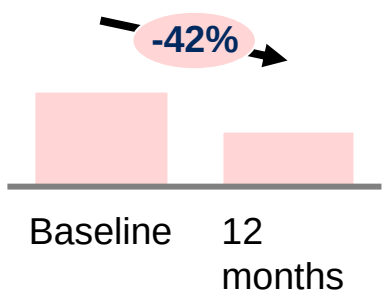
Emergency dept visits

Total ED visits



Hospitalizations

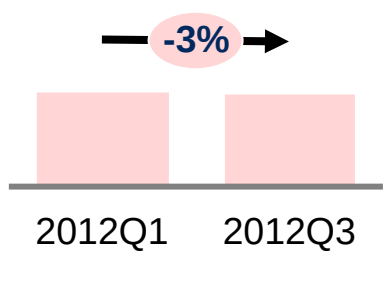
Total hospital admissions



Cost savings

Pioneer ACO cost savings

Percent reduction in costs



- **14 out of 32** ACOs managed to generate cost savings in the first three quarters
- Beacon LLC ranks **7th out of 32** participants by reduction in cost

1 Results exclude patients loss to follow-up (16.3% of patients of total enrolled patients at six months; another ~22% at 12 months). Primary reasons for loss: death, unable to contact patient, patient discharged from practice for compliance issues, patient in skilled nursing facility, patient unable to comply with protocol

SOURCE: Eastern Maine Healthcare Systems' Annual Report, 2012, Office of the National Coordinator for Health Information Technology: Bangor Beacon Community

Contents

- Pioneer ACO (Beacon Health)
- **Medicare Advantage (ChenMed, CareMore, KP)**
- CareFirst patient-centred medical home (PCMH)
- Valencia (Alzira/Ribera Salud)
- Knappschaft
- Other ACO innovation models

Medicare Advantage: Summary (1/2)

1 Context

- Since 1965, Medicare has provided health care coverage for US senior citizens (65+). It is available in two main forms:
  - "Traditional" **fee-for-service model (FFS)** where the beneficiary is covered directly by the state Medicare programme
  - Medicare Advantage (MA) **capitation-based model** where private insurers are partially subsidised by government to provide health care cover for Medicare eligible people, and consumers have a free choice of plan (or can opt for traditional Medicare)
- MA is not explicitly designed to reimburse integrated care (versus other types of care), but creates incentives for integration through transfer of risk to the insurer/provider

2 Population and services

- ~25% of Medicare-eligible population (65+ years) enrol in MA plans (11m in 2010)
- MA insurance plans cover:
  - Hospital services (IP/OP)
  - Primary care
  - Mental health
  - Residential and hospice care, and home care[1]
  - Prescribed medicines[1]
  - Supplementary services[1]
- Co-pays, premiums and deductibles vary by plan and eligibility status

3 Payment approach

- Annual bidding process among payers conducted at regional level
- Bidders submit a base capitation rate[2] which is compared to a regional benchmark (prior year's rate + inflation) and then either fully or partially subsidised:
  - If > benchmark, customer pays delta as premium
  - If < benchmark, CMS and insurer share delta 25:75
- Capitation is adjusted by:
  - Individual patient-level risk score
  - Plan quality score
  - Regional efficiency cap

4 Gain/loss sharing

- Provider retains profits - subject to proposed profitability rebates
- Provider can purchase re-insurance to protect against losses
- System (CMS) retains 25% of delta between regional capitation benchmark and capitation bid if bid is lower than regional benchmark rate

5 Contractual framework

- Bidding process is annual
- An insurer offering an MA plan may contract with an independent physician association (e.g. ChenMed) to deliver care on a risk-based contract. There are three broad models:
  - Indicative capitated budget for limited spectrum of services
  - Indicative capitated budget for broad spectrum of services
  - Capitation with full budgetary transfer

1 Subject to limitations which vary by plan
2 For an individual with 1.0 risk score
SOURCE: team analysis

Medicare Advantage: Summary (2/2)

6 Insurer landscape

- Insurers offer a range of different Medicare Advantage plans:
  - Integrated delivery networks and HMOs, e.g. Kaiser Permanente, Geisinger
  - Preferred provider organisations (PPO) e.g. Blue Cross Blue Shield
  - Private fee-for-service providers: e.g. Humana, United Health
- Although bidding process takes place at county-level most insurers are national players offering similar products across multiple regions

7 Care delivery models

- MA has led to the emergence of one-stop-shop integrated care providers motivated by the potential to profit from more efficient care delivery
- Some providers are focused on out-of-hospital care including outpatients and full diagnostics:
  - ChenMed
  - CareMore
- Other providers offer a fully integrated service across all care settings:
  - Kaiser Permanente
- Other providers cover all settings of care but patients can may also use other secondary care providers:
  - Geisinger

8 Transition

- When bidding introduced in 2006, MA rates were set at premium to FFS spend to attract players to the market
- By 2009, MA costs were 12-14%[1] above Medicare FFS
- From 2011, cost containment measures have been introduced aiming to establish cost-parity between MA and FFS Medicare:
  - Inflation increase reduced to 0.8% in 2010, 0% in 2011; but returned to historic averages (3-3.5%) by 2014
  - Capitation rates adjusted relative to county quartile FFS costs
  - Rebates for profitability proposed

9 Enablers

- Many providers (ChenMed, CareMore, Kaiser, Geisinger) employ a common set of enablers:
  - Integrated Electronic Health Record, information system and analytics
  - Rigorous performance management
  - Regular and thorough peer review and audit
  - Evidence-based protocols

10 Impact

- ChenMed: 38.2% lower hospital bed days, 2011; 18% lower hospitalization rate and 17% lower readmissions rates compared to national averages for patient group (annual, year not reported); average Net Promoter Score of 92 in 2011 (30% of patients surveyed each day) [2]
- CareMore: Total member costs 18% below national average for patient cohort; hospitalization rate 24% and length of stay 38% below national averages; amputation rate for people with diabetes 60% below national average[3]. All measures for 2011 (one year).
- Note on savings: these are measured to relative Medicare FFS costs, but savings are retained by the provider (not returned to CMS)

1 On a risk-adjusted basis this is estimated at 4% (but note the incentive to over-code for risk in MA plans)
2 *Health Affairs*, 32, no.6 (2013):1078-1082; ChenMed website; Concierge medicine for the poorest, Forbes, 23/02/12
3 AHRQ Innovations Exchange; Health Affairs 28(5), 2009

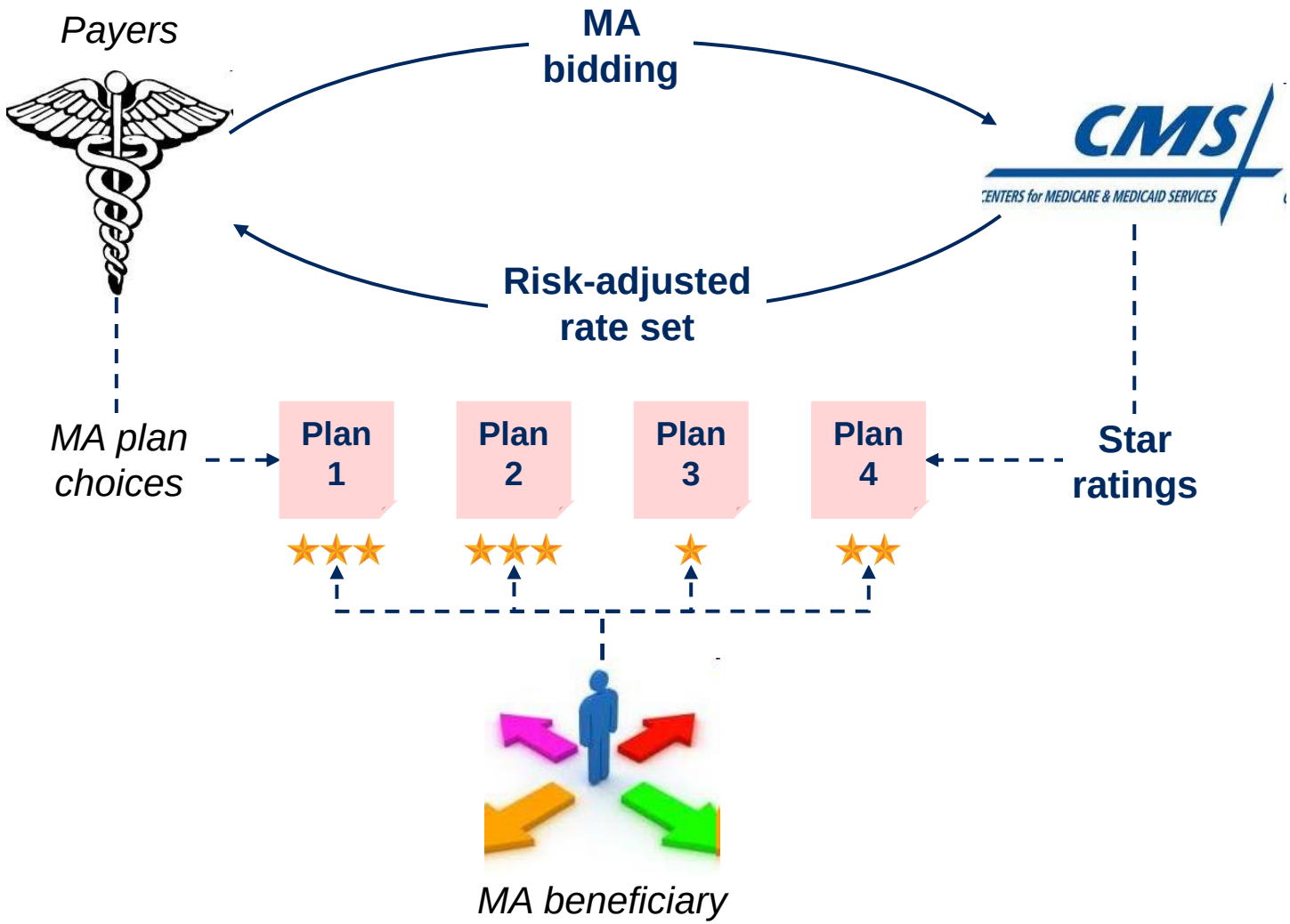
The Medicare Advantage programme delivers publicly-subsidised, privately-managed and delivered health care for people aged 65+ years

		What	Who	Coverage	Cost
Traditional Medicare	Part A	"Hospital insurance" and limited nursing services[1]	65+	Full coverage after deductible co-pays	Free if you have paid Medicare tax for >10 years
	Part B	FFS plan for outpatient and mental health services[2]	65+	~80% of approved cost for most services	Monthly premium of $54, plus annual deductible, coinsurance
	Part D	Pharmacy benefit	65+	Varies by plan	Varies by plan; average of $32 per month
	Medigap	A-L supple-ments to fill A and B gaps	Anyone enrolled in Medicare A and B	Deductibles, co-payments, co-insurance, and some additional benefits	Varies by plan
Medicare Advantage	Medicare Advantage	Government subsidised, privately sold insurance	Anyone enrolled in Medicare A and B	Must be equal Parts A and B; many plans offer additional benefits	Beneficiary continues to pay Part B premiums; additional fees, if any, vary by plan

1 Includes limited coverage for nursing homes, home-health-agency care, hospice care, inpatient psychiatric care, and blood transfusion
2 Includes doctors' services (not routine physical exams), lab fees, medical equipment, and some prescription drugs

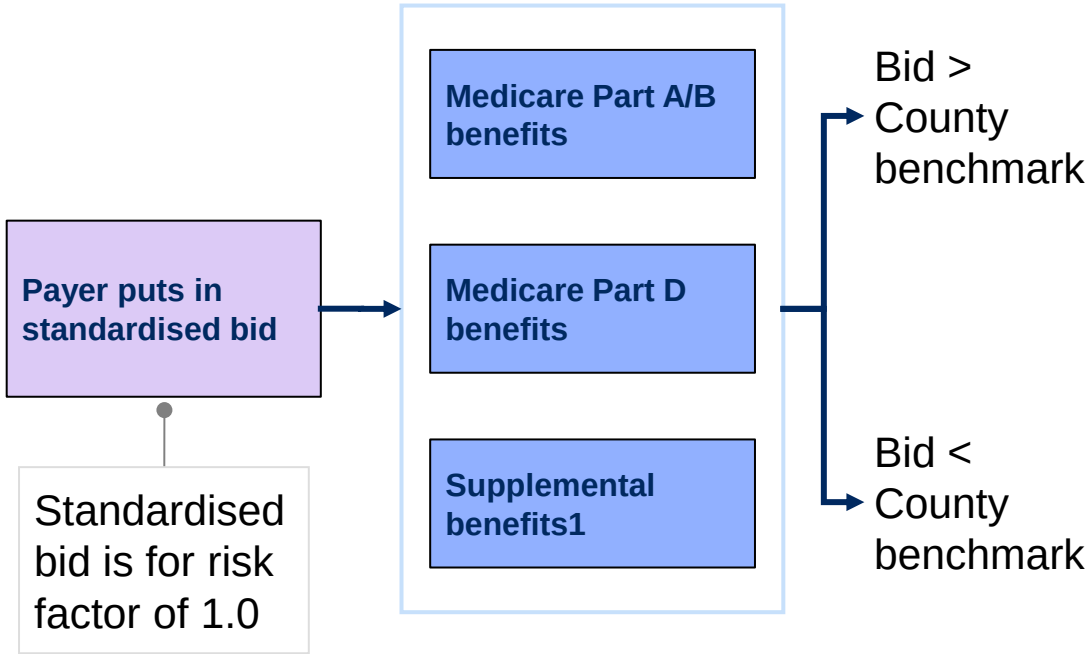
Source: AARP

Overview of Medicare Advantage bidding, rate setting, and quality ratings processes



Source: CMS; CHCS: Medicare Advantage State Plan

The mechanics of the bidding process



Description

- CMS pays the benchmark
- Difference between bid and benchmark is paid by the beneficiaries in terms of premiums

- CMS splits the savings with the plan (savings = benchmark ⊖ bid)
- 25% of the savings is retained by CMS; rest is “rebate” which can only be used to expand benefits or reduce enrollee costs/premiums

1 Examples include dental, vision

Source: CMS Web site; AHRQ Web site

The bidding mechanism has led to average MA fees which are consistently 12-14%[1] higher than traditional Medicare FFS costs

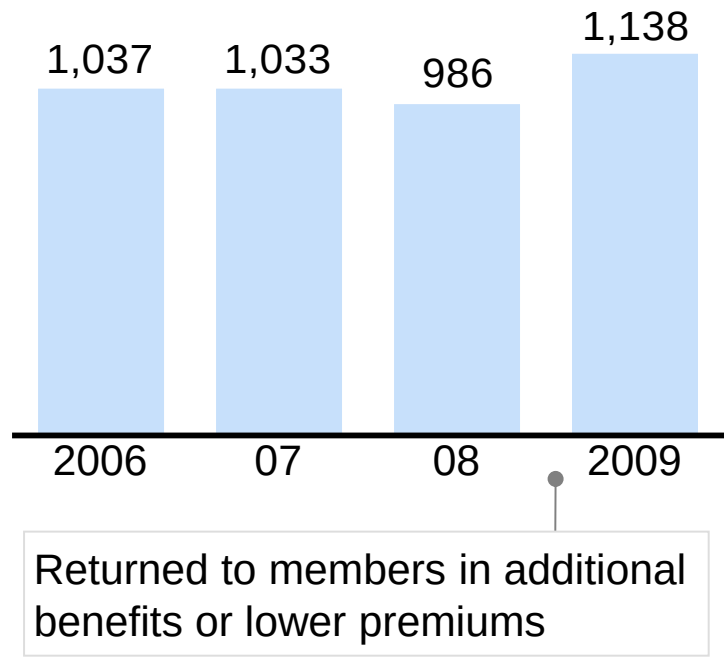
Current bidding methodology

- County-level benchmarks based on prior year's MA county-payment rate, increased by projected national growth rate in per capita Medicare spending
  - Initial benchmarks set at a premium to Medicare FFS to attract private plans to the market
  - Rural areas receive higher payment to promote network growth
- If plan's bid is higher than benchmark, enrollees pay difference in the form of monthly premium
- If plan's bid is lower, plan receives 75% rebate, all of which must be returned to enrollee in the form of additional benefits or reduced premiums

Comparative reimbursement levels

Average extra payment per Medicare Advantage member versus traditional FFS Medicare

$ per member per year



1 Commonwealth Fund analysis suggests that MA costs may exceed traditional MA costs by only 4% when fully adjusted for risk (but note that MA schemes have an incentive to over-code for risk)

Source: George Washington University for the Commonwealth Fund; MedPAC Payment Basics

CMS payments are adjusted for risk using demographic data and predicted health status

Basics of risk adjustment

- CMS Hierarchical Condition Category (CMS-HCC) uses both demographics and beneficiaries' predicted health status to determine the risk factor
- Demographic parameters have less weight. Include
  - Age
  - Sex
  - Medicaid coverage
  - Disability eligibility status
  - Institutional status[1]
- CMS-HCC uses a predictive model, 70 disease categories (long-term), and 3,100 diagnosis codes to determine the risk factor

Example of how risk adjustment works

Example: *A 75-year old male who lives on his own in Douglas County and who was originally entitled to Medicaid then became eligible for Medicare due to disability. long-term conditions include diabetes with complications and CHF*

	PMPM cost
Total county rate	$691.7
County rescaling factor	1.0431
Rescaled county rate	**$721.5**
Beneficiary risk score	
▪ *75-year old in community*	*0.57*
▪ *Medicaid male, aged*	*0.18*
▪ *Originally disabled*	*0.14*
▪ *HCC:15 diabetes*	*0.39*
▪ *HCC: 80 heart failure*	*0.41*
▪ *Disease-interaction factor*	*0.25*
Total beneficiary risk-adjustment score	**1.97**
Net risk-adjusted payment	**$1,421.5**

1 Refers to whether a person has been diagnosed and approved as eligible for long term care services (e.g. residential care)

Source: CMS Web site; AHRQ Web site

The CMS-HCC risk adjustment method aims to eliminate the shortcomings of previous methods

Objectives of the CMS-HCC model

- Promote fair payments to MCOs that reward efficiency and care for the chronically ill by redirecting money to them and away from the MCOs that cherry pick the healthy patient population

Variables used in the CMS-HCC model

- Demographic factors: Age, sex, working status, Medicaid coverage, disability eligibility status, and institutional status
- Predicted health status based on diagnoses that appear in Medicare claims the prior year
- For new enrollees who did not have 12 months of Part B eligibility in the preceding calendar year, rates are based on age, sex, Medicaid status, and original reason for Medicare entitlement (disability or age); not on diagnoses

CMS auditing process

- CMS conducts coding, not clinical audits
  - CMS requires that the physician has established the diagnosis in the medical record and the coders have recorded in compliance with ICD-9-CM rules
  - Clinical verification via diagnosis tests will not be required

Shortcomings of previous models used

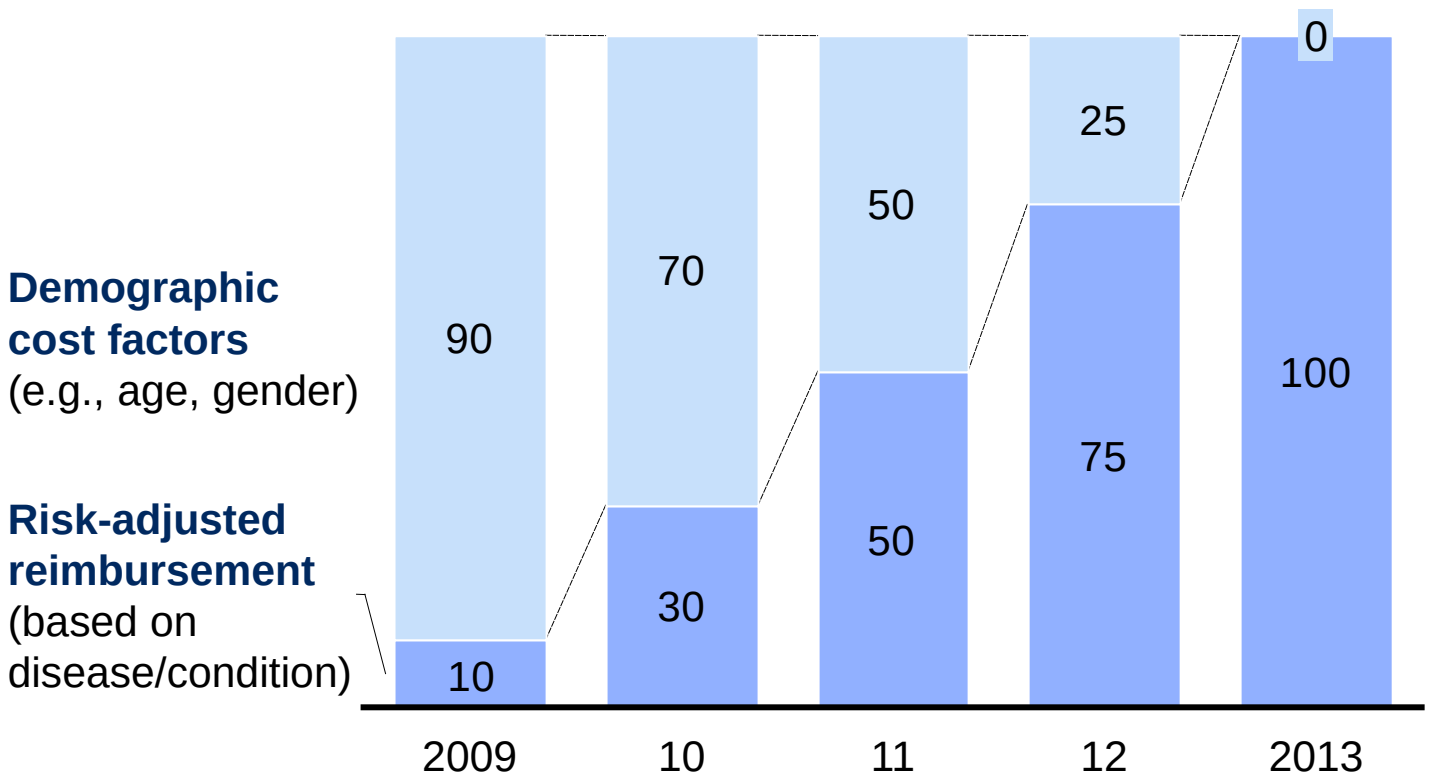
- Capitation payments tied to FFS, set against the average per capita cost (AAPCC)
  - Research showed that Medicare program enrollees were healthier than FFS enrollees and AAPCC did not account for the favourable selection
- PIP-DCG model as a health-based payment adjuster
  - Relied only on illnesses that resulted in inpatient admissions not accounting for MCOs that reduce admissions, which may end up with lower payments
- DCG-HCC model precursor to today's model
  - Burdensome data-collection need
  - Tended to "underpredict" for the most expensive/often hospitalised beneficiaries

Source: *Risk Adjustment of Medicare Capitation Payments Using the CMS-HCC Model*, G. Pope, et al; *Medicare Advantage Rate Setting and Risk Adjustment: A Primer for States*

From 2009 to 2013, the MA risk adjustment method transitioned from a demographic to a disease basis

Adjustment-factor mix to determine Medicare Advantage reimbursement rate

%



Source: CMS; team analysis

Risk-adjusted MA capitation rates can results in very high individual rates

Example calculation of monthly capitation rate for MA plan, based on beneficiary risks, 2006

Example: 70-year-old female with diabetes with renal manifestation (not renal failure), CHF, and major depression; considered disabled, though not originally disabled; not on Medicaid; living in the community in Autauga, AL

Health risk factor

	Female, 70 years	0.773
	DM with renal	0.764
	CHF	0.417
	Depression	0.431
+	DM and CHF	0.253
	Total factor	**2.638**

Health risk model rate

	Part A rate	342.11
+	Part B rate	367.22
×	Rescaling factor	1.0493399
×	Total factor	2.638
	Total	**$1,952.42**

Demographic model rate

	Part A rate	342.11
×	Part A factor	0.7
		+
	Part B rate	367.22
×	Part B factor	0.85
	Total	**$551.62**

2006 monthly payment
75% of $1,952.42 + 25% of $551.62 = Total monthly blend payment of **$1,602.22**

Annual capitation rates can easily exceed $20k/beneficiary

Source: CMS 2006 Medicare Advantage rate books; team analysis

CMS assigns a star rating to each MA payer to help consumers make informed decisions

Criteria/measures that serve input …

- CMS assists beneficiaries to make the "best choice" by providing them with star ratings for each plan
- Star ratings are determined using following data inputs
  - CMS data on quality and member satisfaction
  - Medicare HEDIS scores
  - CAHPS (Consumer Assessment of Health Care Providers and Systems)[1]
  - HOS (health of seniors)
- Individual measures are also adjusted for patient characteristics

… to the CMS star ratings

Excellent

Very good

Good

Fair

Poor

- Each MA plan is assigned a star rating based on its respective scores on the input criteria. 5 stars represent the highest quality plan
- Average star rating for the MA plans is 3.27
- FFS plans are likely to be missing data and hence typically do not have star ratings

1 Standardised surveys of patients' experiences with ambulatory and facility-level care

Source: CMS Web site; AHRQ Web site

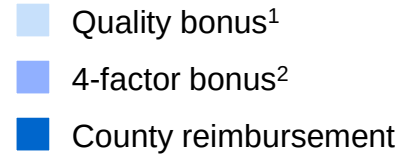
Quality star ratings are also used to determine reimbursement bonuses for MA plans

		Quality for bonus	Proposed additional reimbursement
★★★★★	Excellent	✓	▪ 1.3% in 2012 ▪ 3% in 2013 ▪ 5% beyond 2013
★★★★	Very Good	✓	
★★★	Good	✗	
★★	Fair	✗	
★	Poor	✗	

- Plans in qualifying counties will also have an opportunity to receive double bonus
  - "Qualifying counties" have 25% or more MA penetration and have an FFS rate lower than the national FFS per capita rate
- High performers will also get rebates, CMS to provide additional benefits (e.g., a 4.5-star plan will receive 70% rebate compared with only 50% for a 3-star plan)

Source: Star Rating and MA reform, Gorman Health Group; CMS Web site; PPACA Reform Bill

The value of the quality rating will increase incrementally to 2016



MA plan reimbursement levels for an example county

% of FFS

2009

112

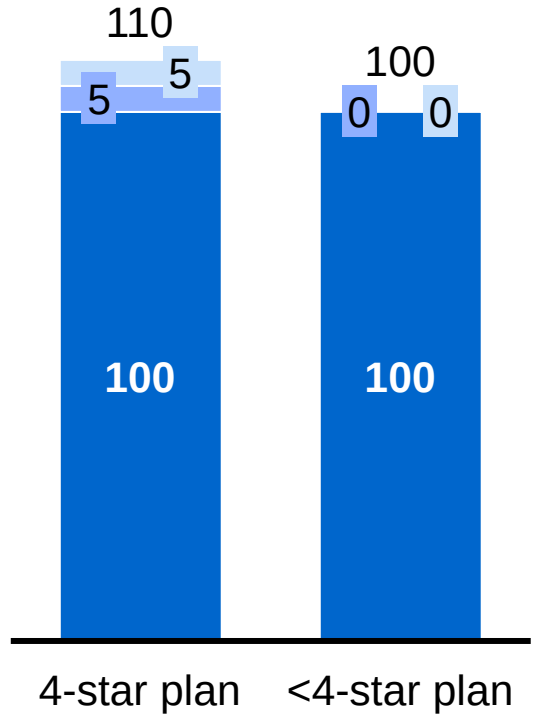
All plans

Reform quality changes

Plans ranked high quality (4+ stars) by CMS on the basis of member satisfaction, customer service, physician practice, and other criteria receive additional 5% reimbursement

Some counties qualify for an additional 5% quality bonus based on MA penetration, "urban floor," and FFS cost vs. national average

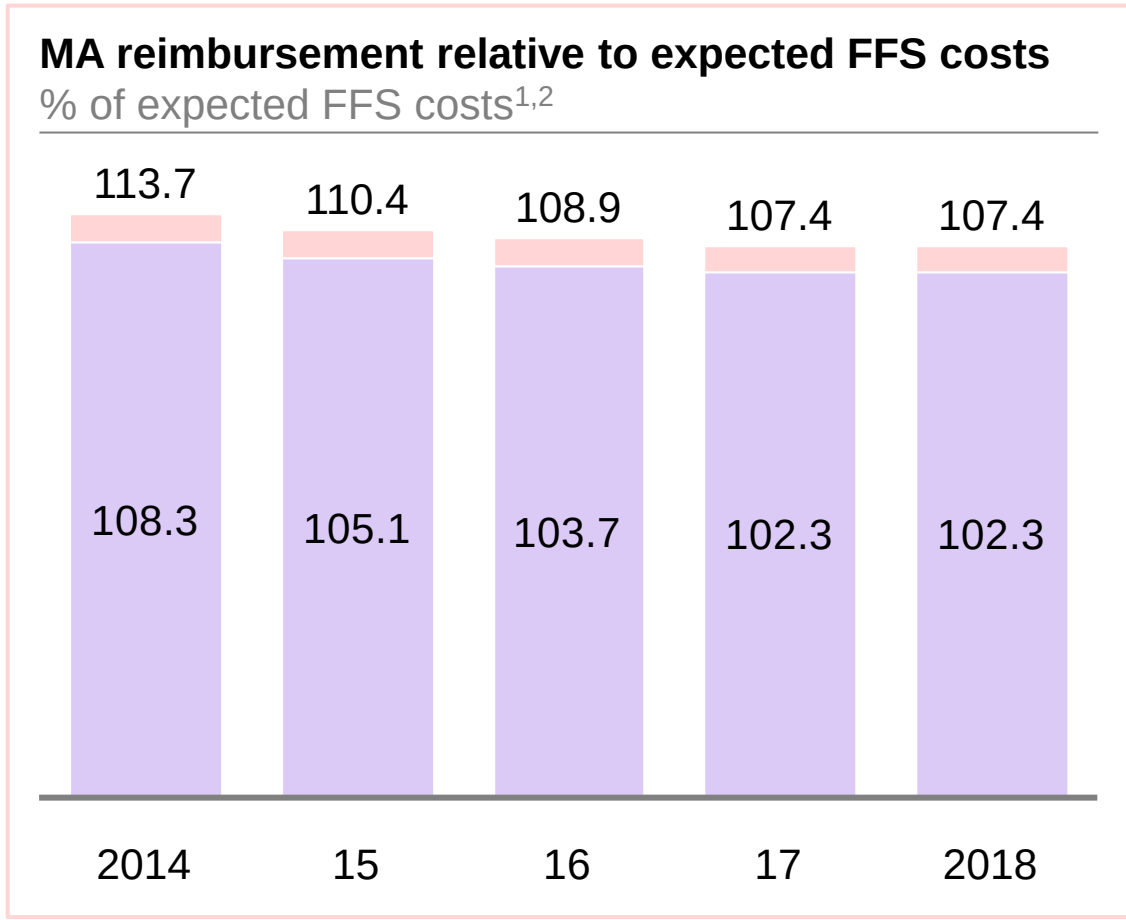
2016



1 Quality bonus given for plans awarded 4+ CMS stars (stars based on member satisfaction, customer service, physician, member practice, etc.)
2 4-factor bonus criteria: (1) 4-star plan; (2) MA penetration 25%+ in county; (3) designated urban-floor county in 2004; (4) lower than national avg. FFS cost
Note: "Urban floor" is a Medicare Advantage capitation payment premium for enrollees living in urban areas of >250,000 population.

Source: CMS MA rate books; Reform Bill; CMS Web site; team estimates; Kaiser's "Quality ratings of MA plans"

CMS expects a gradual transition towards greater cost-parity between MA and traditional FFS Medicare



1 MA enrollment estimated per county based on team analysis
2 Based on continued CMS assumption at the time of rate setting that Congress will override SGR-mandated physician-fee reductions

SOURCE: CMS Final Announcement of MA CY 2014 Capitation Rates and Payment Policies; team analysis

Contents

- Pioneer ACO (Beacon Health)
- Medicare Advantage (ChenMed, CareMore, KP)
- **CareFirst patient-centred medical home (PCMH)**
- Valencia (Alzira/Ribera Salud)
- Knappschaft
- Other ACO innovation models

CareFirst patient centred medical home (PCMH): Summary (1/2)

❶ Context

- CareFirst is a large, non-profit health insurer covering 3.4 million people in the mid-Atlantic region of Maryland, DC and NV
- **The patient-centred medical home (PCMH) model** – and the related wellness-rewarding insurance plan for consumers, Healthy Blue - was introduced in 2011 and is open to all CareFirst members but the operational focus is on patients with multiple and/or complex long term conditions and those at high risk of developing complex long term conditions
- The PCMH model was introduced in order "to bend the curve" in growth of health care costs in the long term. It aims to provide a framework and incentives for group practices of GPs to take responsibility for the total health care costs of their registered patients

❷ Population and services

- CareFirst serves a general population of 3.4m with a $5.6bn spend in 2010
- The PCMH model focused on two risk-stratified patient cohorts:
  - People with multiple or complex long-term conditions (8% of population)
  - People at risk of developing long term conditions (20% of the population)

❸ Payment structure

- Payment includes elements of capitation (indicative budget), FFS and incentives
- PCMHs receive an indicative capitated budget which is the basis from which to measure gains/losses, based on:
  - Expected costs – defined by individual patient-level claims history for last 2yrs
  - Patient risk score (the Illness Burden algorithm)
  - Market trend (inflation)
- PCMHs are paid FFS (including fees for IC activities[1]) but the FFS rate varies by performance

❹ Gain/loss sharing

- FFS rates can vary by up to 90% (typically 20-60%) according to:
  - Panel size – optimal is defined as ≥3,000 patients
  - Size and duration of savings achieved (vs indicative budget)
  - Quality score
  - Full compliance with programme requirements
- Stop-loss protection covers 80% of total patient costs when these exceed $75,000 per patient per year

❺ Contractual framework

- Contracts can be terminated with three months' notice
- Indicative budget is calculated annually
- Patient attribution is re-calculated monthly
- Outcome Incentive Awards are defined set annually but measure performance over a longer term, with highest premiums only available for providers generating savings every year for three years

1 Including creating a care plan ($200) and care plan maintenance ($100)

SOURCE: PCMH Program: Program description and guidelines, CareFirst, 2011

CareFirst patient centred medical home (PCMH): Summary (2/2)

6 Insurer landscape

- CareFirst is the insurer, though the PCMH manages the indicative budget
- GP participation is voluntary but those enrolling most meet requirements to receive participation fee (12% premium on FFS rates)
- Patient allocation to PCMH:
  - Patient is offered a free choice of GP/PCMH
  - If no choice is made (30% of members do not have a designated GP), attribution is automated based on GP seen most often in previous 24m (updated monthly)
  - If a patient changes GP, they shift PCMH automatically

7 Care delivery models

- Each PCMH is clinician-led, consisting of 5-19 GPs, which is considered the optimal size for:
  - Joint accountability
  - Sharing knowledge and experience
  - Sufficient scale to justify investment in care coordination resources
  - Confidence in quality scoring (dilution of random variation)
- Virtual (i.e. not co-located) PCMHs permitted
- PCMHs expected to provide a tailored care plan (template provided), overseen by GP, Care Coordinator and community care team, for patients in risk bands 2 and 3

8 Transition

- PCMH and related 'Healthy Blue' product (for consumers) were introduced in early 2011
- This program is the first phase of a multi-year project to identify and address the root causes of suboptimal care quality and cost growth
- CareFirst has stated that it plans to further develop consumer incentives and potentially introduce episode-based payments for selected care pathways

9 Enablers

- Integrated, longitudinal patient record containing information from all care settings and providers and available to the PCMH
- Incentives and engagement for patients
- Joint accountability at PCMH level

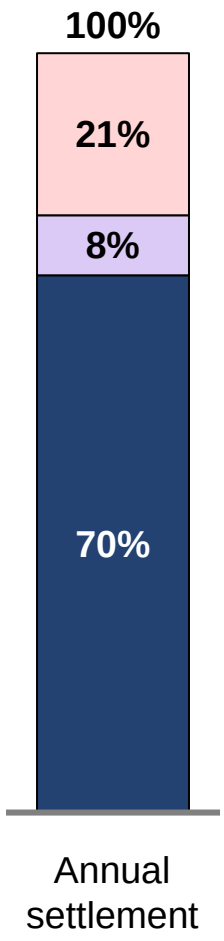
10 Impact

- 4.2% reduction in per capita total health care costs (versus expected) – for PCMHs participating for ≥6 months
- $40m savings in 2011 (first operational year)

SOURCE: PCMH Program: Program description and guidelines, CareFirst, 2011

Overall payment structure for a CareFirst PCMH

ILLUSTRATIVE



PCMH outcome incentive award
- See next page for details and calculation
- Variable year-on-year and PCMH-by-PCMH

PCMH participation payment
- 12% of base fees (standard rate)

Base fees
- Fee-for-service model
- Additional care coordination billing codes available exclusively to PCMHs:
  - Care plan preparation[1]- $200
  - Care plan review - $100
- New billing codes are supplementary to pre-existing office visit and care coordination fees

1 Standard templates are available for all common long term conditions and common co-morbidity profiles, which the GP tailors to the individual patient

SOURCE: PCMH Program: Program description and guidelines, CareFirst, 2011

The Outcome Incentive Award (OIA) is dependent on 4 elements: pre-conditions met, savings level, quality score and size/sustainability modifiers

Translating OIAs to $ income:

Outcome Incentive Award points translate to the % premium on the basic fee-for-service rate: e.g. 7 OIA points equate to a 7% premium.

Example Outcome Incentive Award structure for a Band 1 PCMH in Year 1

Percentage point fee increase

Quality score \ Savings level	10%	8%	6%	4%	2%
80	67	53	40	27	13
60	56	45	34	23	11
40	46	37	28	18	9
20	36	29	22	14	7

Savings level
- Actual costs of care – expected costs of care
- Expected costs of care calculated at patient level based on historic claims adjusted for:
  - Illness burden score
  - Time in/out of PCMH
  - Regional market trend (inflation factor)[1]
- Savings flow across years

Quality score (out of 100)
- Engagement and care planning (30 pts)
- AHRQ-defined appropriate use metrics (20 pts)
- Effectiveness –HEDIS process/outcomes indicators for long term conditions (20 pts)
- Patient access and satisfaction scores (20 pts)
- Structural capabilities – e.g. NCQA PCMH certification; EMR; e-prescribing (10 pts)

Pre-requisites
- Minimum score of 15/30 on engagement and care planning:
  - Scheduling time with eligible patients (15%)
  - % of eligible patients seen within time limits (40%)
  - Quality of care plan (15%)
  - Care coordination (15%)
  - Active follow-up (15%)
- Savings achieved vs indicative budget (expected costs of care)

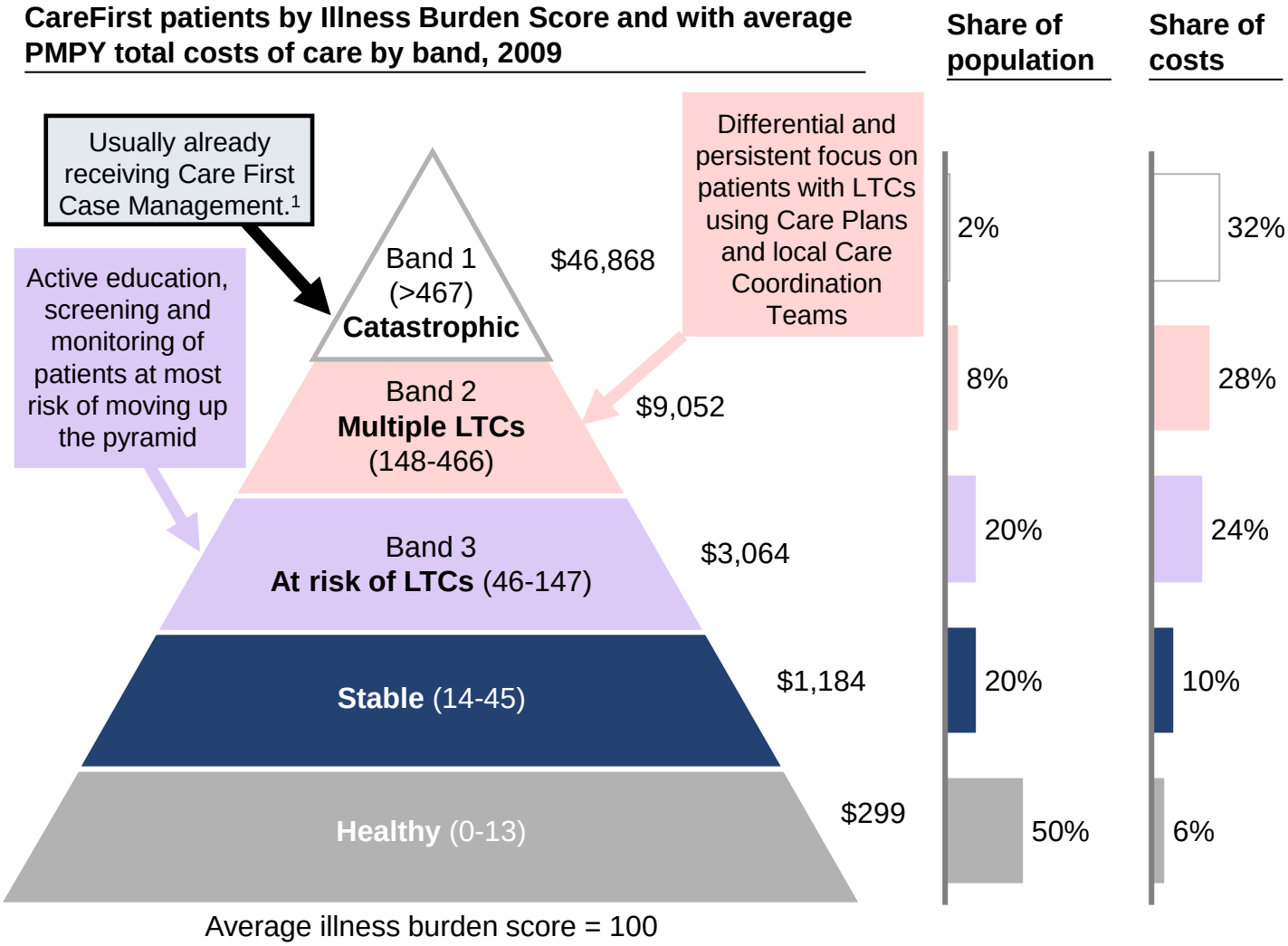
Modifiers
- Size of patient panel – fee increases with patient panel sizes:
  - Band1: ≥3,000
  - Band 2: 2,000 - 2,999
  - Band 3: 1,000 - 1,999
  - Band 4: ≤999
- Sustainability – fee increases for each year of sustained savings:
  - Year 1
  - Year 2
  - Year 3

1 Bending of cost curve only occurs when the weight of PCMHs achieving savings is sufficient to impact the regional market trend

SOURCE: PCMH Program: Program description and guidelines, CareFirst, 2011

Risk adjustments and exclusions

CareFirst patients by Illness Burden Score and with average PMPY total costs of care by band, 2009



Uses of the Illness Burden of Score:

- Input to algorithm predicting 'expected costs of care' from which savings are calculated
- Identifies patients in need of a 'Care Plan' – completion of which forms part of the engagement and quality score of the PCMH
- Score recalculated monthly and shared with PCMH to identify patients in need of anticipatory, coordinated care

Exclusions:

- Stop loss protection for PMPY costs >$75,000 plus 20% (>$75,000)[2]

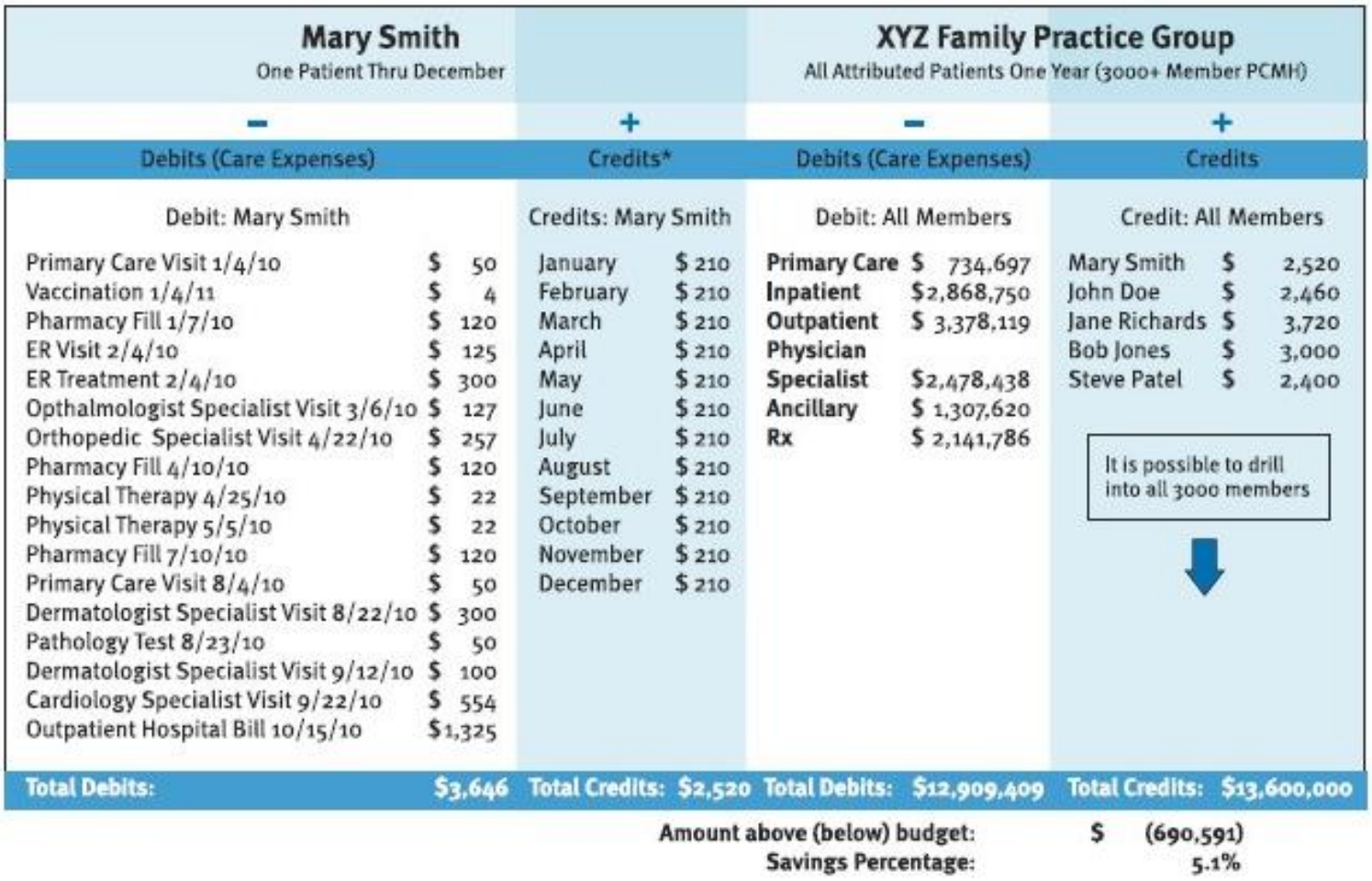
LTC = long term condition

1. This group includes patients suffering from end-stage, complex cancers and renal disease, major trauma or neonatal intensive care.
2. Ongoing 20% is designed to keep GPs actively engaged in the care coordination for their sickest patients

SOURCE: Patient-centred Medical Home Program: Program description and guidelines, CareFirst, 2011

The monthly indicative budget report shows expected versus actual costs

ILLUSTRATIVE (SCREEN SHOT)



Mary Smith
One Patient Thru December

XYZ Family Practice Group
All Attributed Patients One Year (3000+ Member PCMH)

− Debits (Care Expenses)		+ Credits*		− Debits (Care Expenses)		+ Credits	
Debit: Mary Smith		Credits: Mary Smith		Debit: All Members		Credit: All Members	
Primary Care Visit 1/4/10	$ 50	January	$ 210	Primary Care	$ 734,697	Mary Smith	$ 2,520
Vaccination 1/4/11	$ 4	February	$ 210	Inpatient	$2,868,750	John Doe	$ 2,460
Pharmacy Fill 1/7/10	$ 120	March	$ 210	Outpatient	$ 3,378,119	Jane Richards	$ 3,720
ER Visit 2/4/10	$ 125	April	$ 210	Physician		Bob Jones	$ 3,000
ER Treatment 2/4/10	$ 300	May	$ 210	Specialist	$2,478,438	Steve Patel	$ 2,400
Opthalmologist Specialist Visit 3/6/10	$ 127	June	$ 210	Ancillary	$ 1,307,620		
Orthopedic Specialist Visit 4/22/10	$ 257	July	$ 210	Rx	$ 2,141,786		
Pharmacy Fill 4/10/10	$ 120	August	$ 210				
Physical Therapy 4/25/10	$ 22	September	$ 210				
Physical Therapy 5/5/10	$ 22	October	$ 210				
Pharmacy Fill 7/10/10	$ 120	November	$ 210				
Primary Care Visit 8/4/10	$ 50	December	$ 210				
Dermatologist Specialist Visit 8/22/10	$ 300						
Pathology Test 8/23/10	$ 50						
Dermatologist Specialist Visit 9/12/10	$ 100						
Cardiology Specialist Visit 9/22/10	$ 554						
Outpatient Hospital Bill 10/15/10	$1,325						
Total Debits:	**$3,646**	**Total Credits:**	**$2,520**	**Total Debits:**	**$12,909,409**	**Total Credits:**	**$13,600,000**

It is possible to drill into all 3000 members

Amount above (below) budget: **$ (690,591)**
Savings Percentage: **5.1%**

SOURCE: PCMH Program: Program description and guidelines, CareFirst, 2011

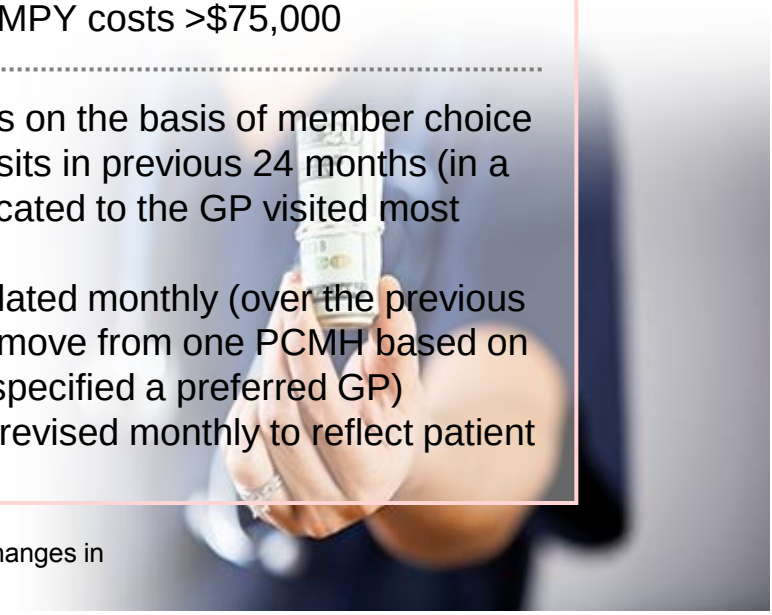
Mechanisms to mitigate volatility

Panel size

- Optimal Medical Panel size is encouraged by:
  - Minimum 5 full-time GP requirement
  - Maximum size of 19 GPs – if larger, GPs are advised to break up into groups of 5-15 GPs
  - Solo-GP or small practices are can create critical mass by merging into Virtual Panels, formed as voluntary associations by contract
  - Incentives are tiered to reward larger patient rosters, with maximum rewards for PCMHs with ≥3,000 patients[1]
- Stop loss clause protects PCMH from shock claims - payer absorbs 80% of costs when PMPY costs >$75,000

Member attribution

- Members are attributed to GPs on the basis of member choice or – if no choice made - GP visits in previous 24 months (in a tie situation, the patient is allocated to the GP visited most recently)
- Member attribution is re-calculated monthly (over the previous 24 months) and patients may move from one PCMH based on their activity (if they have not specified a preferred GP)
- PCMH indicative budgets are revised monthly to reflect patient movements



1 Panels of ≥3,000 patients are preferred because this achieves actuarial credibility where changes in costs are most likely to reflect actual change and not random variation.

SOURCE: PCMH Program: Program description and guidelines, CareFirst, 2011

Accountability and distribution of incentives

Who is accountable

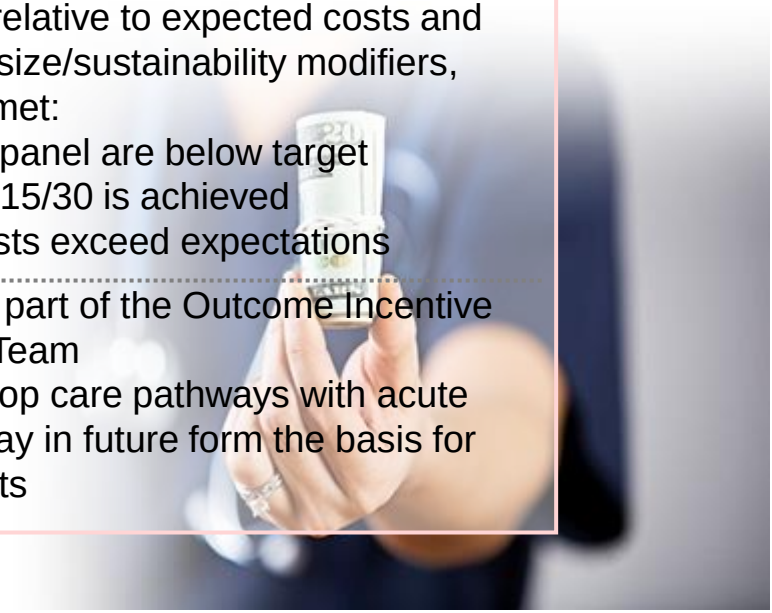
- Each PCMH forms a Medical Panel or Virtual Medical Panel (multi-site) of 5–19 GPs accountable for a roster of CareFirst members
- Eligible GPs must be full-time: Family Practice, Adult Internal Medicine, General Practice, Paediatrics, Geriatrics, Doctors of Osteopathy or Nurse Practitioners
- Panel size is designed to create a credible cohort of CareFirst patients but small enough to ensure each GP is visible and has a meaningful impact

How are they accountable?

- The PCMH is paid an enhanced FFS determined by matrix position of (a) savings achieved relative to expected costs and (b) composite quality score, and size/sustainability modifiers, provided two pre-conditions are met:
  - Total costs of care for patient panel are below target
  - Patient engagement score of 15/30 is achieved
- Payer retains accountability if costs exceed expectations

How are incentives distributed?

- The PCMH may elect to pass on part of the Outcome Incentive Award to the Care Coordination Team
- PCMHs are encouraged to develop care pathways with acute and specialist providers which may in future form the basis for bundled, episode-based payments

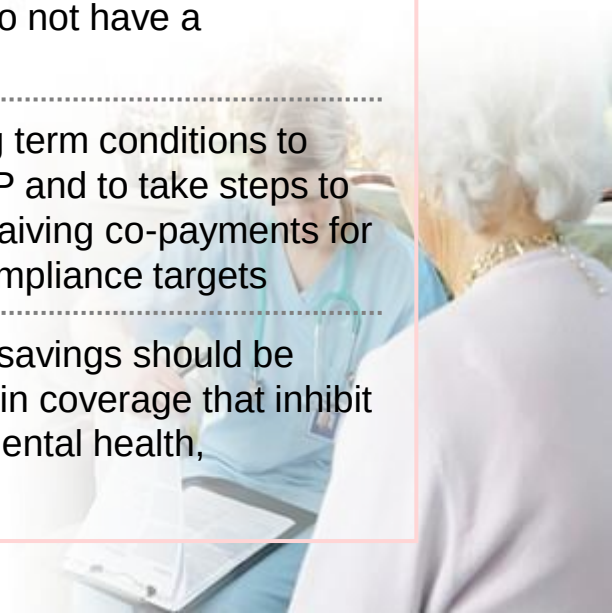


SOURCE: PCMH Program: Program description and guidelines, CareFirst, 2011

Guiding principles for 'Healthy Blue' patient plan

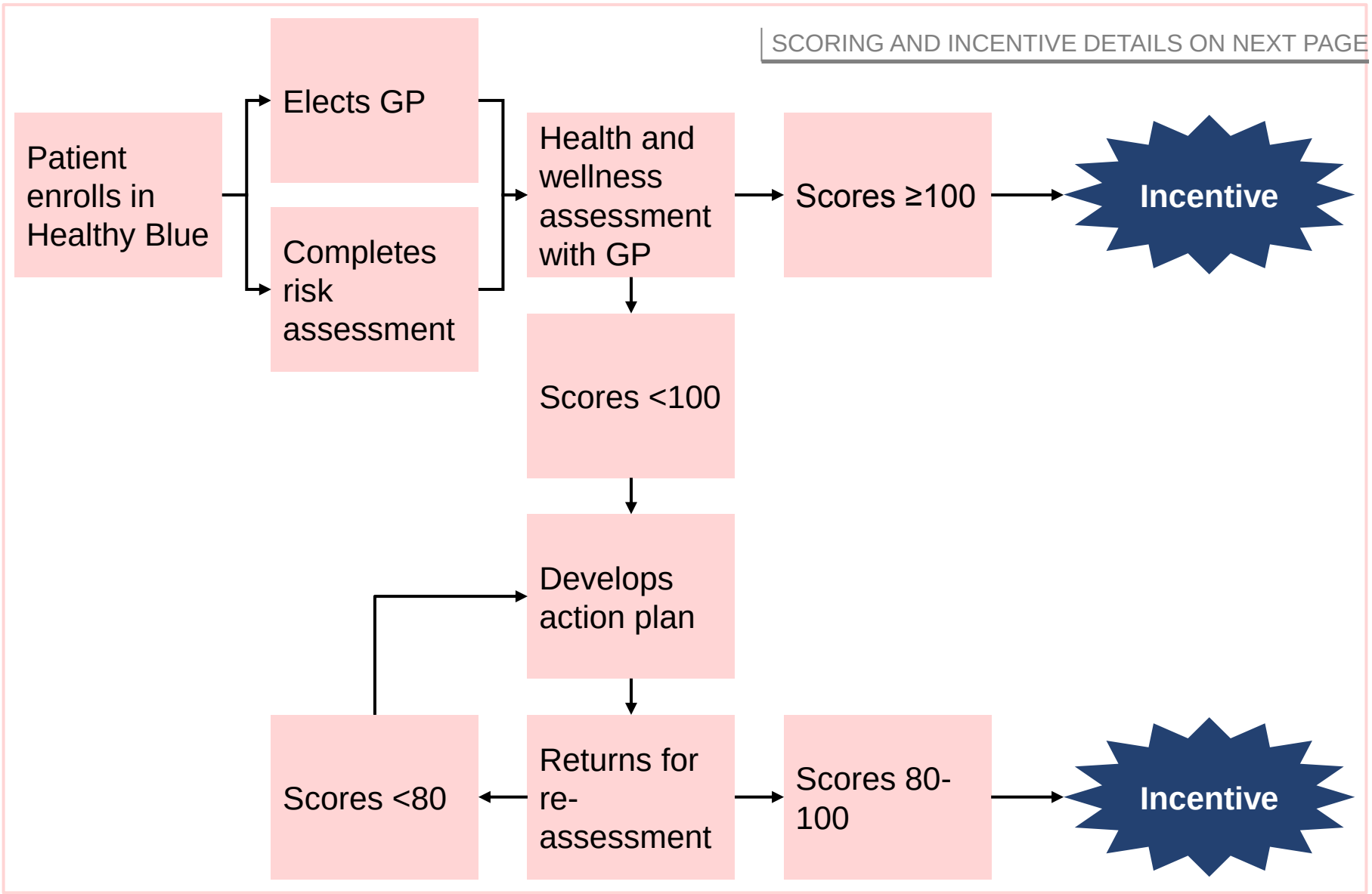
Core principles of the Healthy Blue program for members:

Health risk appraisal	▪ Annual baseline health risk appraisal linked to financial rewards for behavioural change and achievement of healthy lifestyle targets
Access to primary care	▪ No co-payments, deductibles or other cost barriers to primary care services including screening, preventative health services and medicines for the management of long term conditions
Sustained primary care relationships	▪ Members receive meaningful incentives to form strong, sustained relationships with a single GP of their choice: currently ~30% of CareFirst members do not have a designated GP
Compliance with Care Plan	▪ Financial incentives for people with long term conditions to follow Care Plans developed by their GP and to take steps to reduce their health risks: e.g. through waiving co-payments for specialist services for those meeting compliance targets
Complete benefit plan	▪ Benefit plans is comprehensive and no savings should be achieved by curtailing or creating holes in coverage that inhibit implementation of the Care Plan, e.g. mental health, prescriptions



SOURCE: Patient-centred Medical Home Program: Program description and guidelines, CareFirst, 2011

Patient incentive process



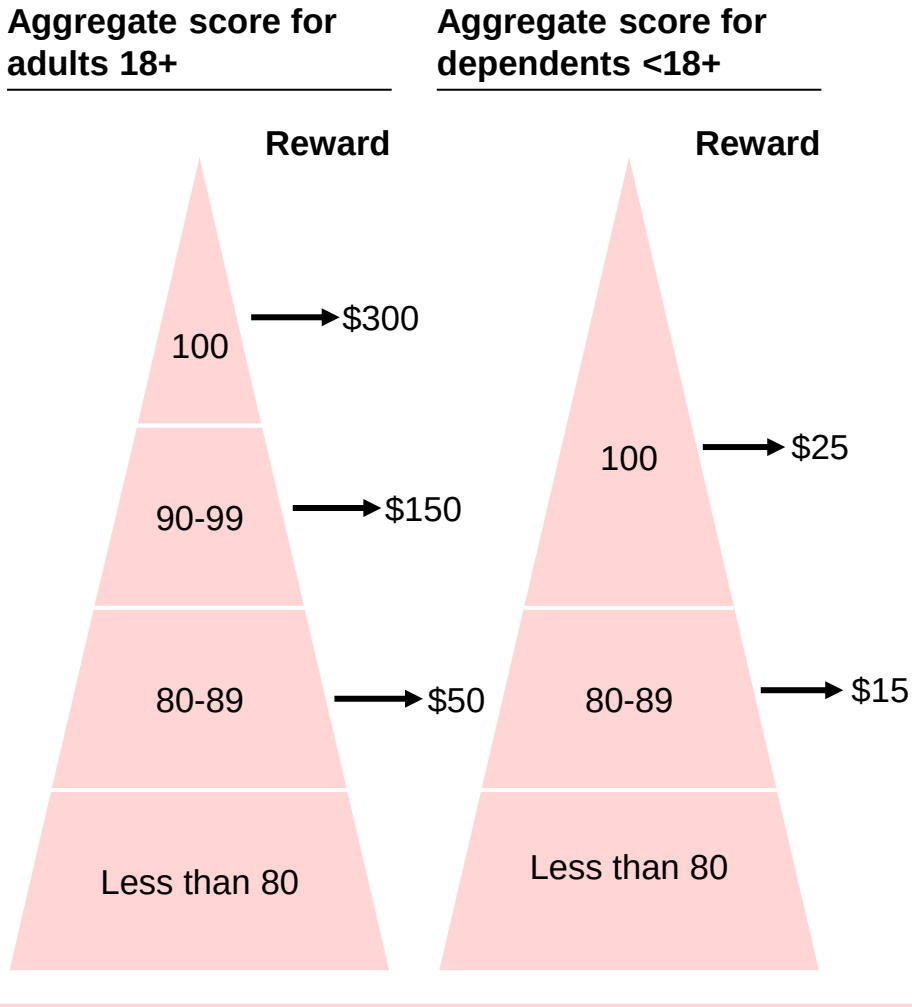
SOURCE: PCMH Program: Program description and guidelines, CareFirst, 2011

Patient incentives – scoring and rewards

Patient behaviour change scoring system

Health factor	Adult 18+	Child <18
Smoking status	30 points	N/A
Hypertension		
▪ Less than 120/80	20 points	N/A
▪ Less than 140/90	10 points	N/A
Influenza immunization	**20 points**	**60 points**
Cholesterol		
▪ Acceptable LDL cholesterol per guidelines	15 points	N/A
▪ LDL less than <160	5 points	N/A
Obesity (BMI)		
▪ Adult: Between 19 and 25 ▪ Child: within Acceptable ranges based on age and gender	15 points	40 points
▪ Adult: Between 26 and 30 ▪ Child: Reduced weight by 5%	5 points	20 points
Potential Aggregate Score	**100 points**	**100 points**

Level of financial reward available



Note: Priorities among effective clinical preventive services: Results of a systematic review and analysis Michael V. Maclosek, Ashley B. Coffield, Nichol M. Edwards, Thomas J. Flottemesch, Michael J. Goodman, Leif I. Solberg
American Journal of Preventive Medicine – July 2006 (Vol. 31, Issue 1, Pages 52-61

SOURCE: PCMH Program: Program description and guidelines, CareFirst, 2011

CareFirst – re-cap of core elements

Medical Care Panels	▪ GPs should organise into Medical Care Panels (the panel is the "Medical Home") of at least 5-15 GPs to share experience and to create patient cohorts of sufficient size to justify investment in care coordination resources and to create confidence in composite quality scoring
Patient assignment to Medical Care Panel	▪ CareFirst members will be assigned by Medical Care Panels based on patient choice or prior 2 years claims history if no active choice of GP has been made ▪ If the patient has not designated a GP and has not visited a GP in 2 years no attribution will be made
Patient risk stratification	▪ Individual patients are assigned an Illness Burden score (see previous page) using a Diagnostic Cost Grouper and these are aggregated to provide a cohort pyramid at Medical Home level
Indicative global capitation budget	▪ An indicative "global capitation" budget is calculated for each Medical Home based on the claims history of the patients in the panel multiplied by the overall medical trend factor ▪ As patients incur costs through the year, these are debited from the indicative budget
Referral management	▪ CareFirst provides Medical Homes with information on specialist service costs and quality ▪ Medical Homes are expected to create their own specialist networks and partners, to agree care pathways and, in time, these are expected to form the basis for bundled payments reimbursement systems
Care Plans and Care Teams	▪ GPs should create Care Plans for all patients in Band 2 and some in Band 3 (see page 7) using tailored templates covering diabetes, asthma, COPD, CAD, CHF, hypertension, neck & back pain, osteoarthritis and childhood obesity ▪ Local Care Coordinators/Care Coordination Teams will be assigned to each Medical Home to support Care Plans
Electronic Health Records	▪ CareFirst will maintain a single, longitudinal electronic Member Health Record containing information from all care settings and providers and available to the Medical Home
Quality measurement	▪ Quality measurement and scoring is based on 5 categories: (1) Engagement with patients in need of Care Plans, (2) Appropriate use of services (ER, admissions, readmissions, diagnostics), (3) Effectiveness of care (HEDIS), (4) Patient access to primary care services, (5) Structural capabilities
Incentives	▪ Outcome Incentive Awards available to Medical Homes based on savings achieved (compared to indicative budget) and completion of all program requirements
Participation rules	▪ GP participation in the PCMH model is voluntary but those enrolling in the program are required to follow the regulations and processes set out in the program in order to be eligible for the participation fee

Contents

- Pioneer ACO (Beacon Health)
- Medicare Advantage (ChenMed, CareMore, KP)
- CareFirst patient-centred medical home (PCMH)
- **Valencia (Alzira/Ribera Salud)**
- Knappschaft
- Other ACO innovation models

Alzira/Ribera, Valencia: Summary (1/2)

1 Context

- In 1997, the national government (in Spain) passed legislation allowing privately-owned entities to take on health management and administration for publicly-funded health services
- In 1999, the regional health authority in Valencia, created the first tender for delivery of health services for the district of Alzira/Ribera (populations of 240,000), with the aim providing private financing for a hospital (there was no hospital within the region previously). This was won by a consortium called UTE (*Unión Temporal de Empresas*)
- The program was based on the principles of decentralization, integrated primary and acute care, and provider competition, and was funded via a capitation-based budget

2 Population and services

- UTE is responsible for a general population of 240,000 people in the Alzira/Ribera district
- Initially, UTE covered hospital care only, but primary care was added in 2003, and now covers all health services except:
  - Ex-hospital prescribing
  - Appliances/prostheses
  - Oxygen therapy
  - Medical transport
- Since 1999, the Alzira model has been rolled out in 4 further districts in Valencia, covering ~650,000 people, and 2 districts in Madrid

3 Payment structure

- UTE receives annual capitated budget (€603/capita in 2010), set by Valencia MoH
- Annual increases set by:
  - CPI index 1999-2003
  - Regional health inflation applied since 2003[1]
- UTE provides care and:
  - Pays HRG tariff for care delivered by other providers (patient has free choice of provider)
  - Receives 80% of HRG tariff for out-of-area patients treated[2]
- Quality is monitored by the *Comisionado*[3]

4 Gain/loss sharing

- UTE is responsible for the full downside risk of overspend
- Gains are limited to a maximum profit margin of 7.5% (excess must be returned to the Ministry of Health)
- In practice, UTE reinvests most profits and margins rarely exceed 1-2%

5 Contractual framework

- The initial contract term was 10 years; the contract was renegotiated in 2003 and extended for a further 15 years (to 2018)
- Renegotiated terms included:
  - Inflationary index changed from CPI to regional health spend
  - Coverage extended to all health services (to prevent cost shifting)
- UTE invested €68m in a new hospital which will revert to Ministry of Health ownership at end of full contract term (building and equipment)

1 Regional health inflation index considerably higher than CPI
2 Provision introduced to discourage over-supply
3 The *Comisionado* is appointed by the MoH but based in the hospital and tasked with monitoring quality, with the power to impose sanctions

SOURCE: Euro Observer, Health Policy Bulletin, 12(1), 2010; King's Fund case study; Adeslas presentation (April 7, 2008); Ribera health department 11 presentation (June 9, 2008);

Alzira/Ribera, Valencia: Summary (2/2)

6 Insurer landscape

- UTE is a consortium made up of:
  - Adeslas (51%) – the largest private health insurer in Spain
  - Ribera Salud (45%) – a local building society
  - Lubasa (4%) – the building contractor

7 Care delivery models

- The GP acts as gate-keeper, for secondary care referrals, though patients have a free choice of acute provider (money follows the patient)
- A specialist physician is assigned to each primary care centre to implement clinical guidelines and pathways with GPs and advise on ways to reduce referrals
- The contract has led to the expansion of diagnostics and OP services in primary care settings, and integrated care pathways across all settings of care

8 Transition

- The Alzira/Ribera model evolved in stages (as outlined on previous page) but with a long-term view from the outset (initial contract duration 10 years) to make the PFI element viable (€68m new hospital)
- Since Alzira in 1999, the model has been rolled out to 5 of 21 districts in Valencia:
  - Torrevieja in 2003
  - Denia in 2004
  - Manises in 2006
  - Crevillent in 2007
- It has also been implemented in two districts in Madrid:
  - Valdemoro in 2005
  - Torrejon in 2009

9 Enablers

- Managerial responsibility and empowerment of providers
- Use of performance-based incentives
- Partnership with experienced (private) company that is well-suited to financing and managing large-scale projects and development of central IT system including patient records

10 Impact

- 25% reduction in costs in districts with outsourced management (sustained over three years)
- 76% increase in hospital productivity (comparison of operating theatre utilisation over one year)
- 91% patient satisfaction rates (reported annually)

SOURCE: team analysis

Poor health system performance prompted Valencia to promote integrated care, patient choice, and bring in the private sector

Deficiencies in the Spanish health system before 1999

Budget deficit

- Public finance deficits – the budget did not cover middle-term and long-term needs:
  - Despite a political promise to build a hospital in Alzira in 1982, there was insufficient funding

Quality lower than government's expectations

- Insufficient medical care for chronically ill population

Inefficient use of public resources

- Lack of efficiency, flexibility, and participation of medical staff in hospital management (Abril Commission, 1991)

Key enablers

- Process of regionalization and decentralization completed[1]
- Aligned political situation[2]
- Changes in legal framework allowing involvement of private sector[3]

Transformation process in the Valencia region since 1999

- Integrated acute and ambulatory sectors
- Introduced capitation financing system in all 21 health districts of the region
- Allowed competition between health districts by introducing free hospital choice and cross-regional invoicing system
- Outsourced health system management in five out of 21 health districts to private consortia
- Early signs of success, e.g.:
  - Health districts with privatised health systems had lower costs, higher productivity, more flexibility, and superior operational efficiency
  - Satisfaction with performance quality

Specific motivations for change

- Improve quality and efficiency of public healthcare
- Limit public spending on healthcare

Principles of the new approach

- Management decentralization
- Integration of different healthcare sectors
- Competition between health districts

1 Political process where responsibility for publicly-funded health system was devolved to regional governments (Comunidades Autónomas)
2 Same political party governing both national and regional government (Partido Popular)
3 Major legislation changes (1994, 1997, and 2003) allowed the private sector to deliver public health services as long as they remain free and provide universal and integrated care

SOURCE: HealthPolicyMonitor, Observatory; WHO Bulletin, December 2009; team analysis

Risk is transferred to providers through capitation financing, creating strong incentives for management in primary care

Provider structural archetypes

Ownership

Competition

Degree of management autonomy

Concept of integrated care

Population by different health needs

Well/at risk	Acutely ill	Post-acute
Compulsory prevention programs	Primary care	Post-acute care, incl home care
	Outpatient specialist care	
	Hospital care, incl emergency	▪ One teaching hospital with 300 beds ▪ Four integrated healthcare centres ▪ 46 primary health centres
	Ambulances	
	Outpatient pharmaceuticals	
	Prostheses and oxygen therapy	

- Global budget allocated to a range of competencies embracing (almost) all levels of care based on capitation formula
- Focus on primary care is ensured by incentives
- Some types of care remain outside of capitation[1]

Policies implemented to facilitate medical integration

- **Medical link:** Designation of a consultant physician to each health centre, working with the same patients as the GP – his role is to implement clinical guidelines with the local GPs, resolve medical problems in the health centres, and reduce the number of inappropriate hospital referrals
- **Integrated primary care centres:** Expansion of some health centres with on-site X-ray services, accident and emergency departments, and medical specialist outpatient clinics to bring medical services closer to patients
- **Integrated medical care pathways:** To streamline the management of health problems from primary prevention to palliative care, including acute care, rehabilitation, and long-term care
- **Integrated information systems:** Implementation of a fully integrated computerised medical history system, including nursing and medical notes, tests and imaging, and allowing interaction between medical and administrative areas

- New working methods are required to facilitate truly integrated delivery of healthcare services
- Integrated patient medical dossiers as main enabler

1 See above: ex-hospital prescribing, ambulance and medical transport, prostheses/appliances and oxygen therapy

SOURCE: Observatory, 2009

Key features of the Management Concession Model in Health Districts of the Valencia region

- Hospital de Manises
- Hospital de La Ribera
- Hospital de Denia
- Hospital de Elx-Crevillent
- Hospital de Torrevieja

- Payment per person about 603 Euros (in 2010), 70-75% of average cost per patient of public provision (exclusions such as ambulances and primary pharmacy)
- "The money follows the patient", transfer solution for moving patients (100% invoice of outbound patients vs. 85% of inbound patients).
- 7.5% profitability by law for the concession
- Transfer of risk: expenses become fixed for Valencia Government

Integration of service providers supports resolution in primary care

Provider structural archetypes

- **Ownership**
- **Competition**
- **Degree of management autonomy**

	Primary care		Hospital	Integration benefits
Management	Health centre coordinators	⟷	Managers	▪ Single, unified management
Care delivery	Family doctors	⟷	Specialists	▪ Increased GP resolution capacity ▪ Less travel for patients
	Ambulatory care pathway	⟷	Acute care pathway	▪ Standardised care processes and quality across settings
Technology	Clinical records	⟷	Clinical records	▪ Better control ▪ Faster resolution ▪ Single patient record ▪ Quicker and easier for patient
	Lab test requests	⟷	Online results	
	Radiology referral	⟷	Digital images and online reports	
	Other diagnostics	⟷	Online images and reports	
	Referral requests	⟷	Specialist consultations	▪ GP referrals down by 9.7% ▪ Paeds referrals down by 6.7%

Valencia region demonstrates smart use of limited competition between regions and hospitals

Provider structural archetypes

Ownership

Competition

Degree of management autonomy

Before transition – reduced overall access to healthcare

- Citizens in Valencia could not access different healthcare delivery units within the region, only those where they were registered

After transition – free choice of hospital

- "Money follows the patient" – access to all facilities in own or other health districts
- Alzira Hospital results – 10%-20% of patients come from surrounding health districts

Incentives for providers to facilitate competition

- Profit of an individual hospital correlates to the choice of each patient to visit that hospital:
  - For treatment of a patient outside of the own health district – cash-in amounting to 85% of HRG
  - If a patient from the own health district visits an universal hospital or any health centre outside – cash-out amounting to 100% of HRG

Enablers on the IT side

- Invoicing system introduced between health districts to pay for the transferred patients
- Swipe card concept – each inhabitant gets a card for 10 years:
  - Tracking of all visits to medical facilities
  - Assignment of priority in a waiting list by triage nurse in a hospital
  - Updating and review-ing of patient record during consultation
  - Also used for drug prescription and dispensing

SOURCE: Ribera Salud

Valencia has sought to harness private sector capabilities in 5 of 21 subregions, offering 15-20 year concessions

Year Award
Year Operation

Provider structural archetypes

Ownership

Competition

Degree of management autonomy

1997 1999
Alzira (population approx. 235,000)
- First tender to build and run a hospital in Ribera under PPP contract

2003 2006
Torrevieja (population approx. 110,000)
- Commissioning of integrated care to a private partner

2006 2008/9
Manises, Crevillente (population approx. 140,000 each)
- Commissioning of integrated care to private partners

Alzira I model: hospital care only → **Alzira II model: integrated care (primary and hospital)**

2003 2003
Alzira (population approx. 235,000)
- Hospital care is extended by management of care outside of hospital

2004 2008
Denia (population approx. 160,000)
- Commissioning of integrated care to private partners

Key dimensions of modification

Population coverage		
1999: 235,000 inhabitants in Alzira	2003: 345,000 inhabitants in Alzira and Torrevieja	2009: five health districts cover 20% of population in the Valencia region
Tender model		
Construction of a hospital and subsequent hospital management	2003: construction of a hospital and subsequent management of the entire health system	2004: management of the entire health system – without hospital construction

SOURCE: HealthPolicyMonitor, Observatory; expert interviews

Independent audit and management tools, such as regular inspections and balanced scorecards, ensure high quality of care

Provider structural archetypes

Ownership

Competition

Degree of management autonomy

Local government
Defines services to be covered and sets guidelines and controls in the public health system

Direct control

Inspection and control through the local government's commissioner (comisionado)
- Reports to Valencia's Minister of Health
- Works full time in a hospital
- Duties:
  - Manage the patient claim service
  - Manage propositions of patients from other health districts
  - Order patient transfers to other health districts
  - Control surveys
  - Obtain activity statistics
  - Monitor service quality

Indirect control

Targets set by the local government
- Defined in a bid
- Examples – waiting time, total number of surgeries, surgery cancellation rate, etc.
- Balanced scorecard used as a monitoring tool

Provider
Committed to achieve government's targets

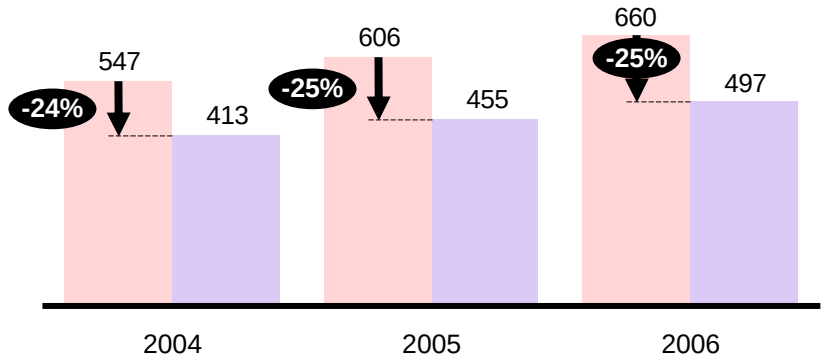
SOURCE: Ribera Salud

Cost savings have reached 25% and higher productivity is manifested in shorter ALOS and more efficient facility utilization

ALZIRA

Costs

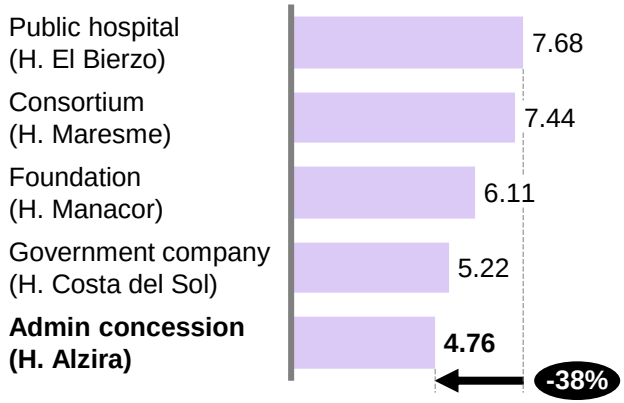
Per capita costs, in €
For comparable services



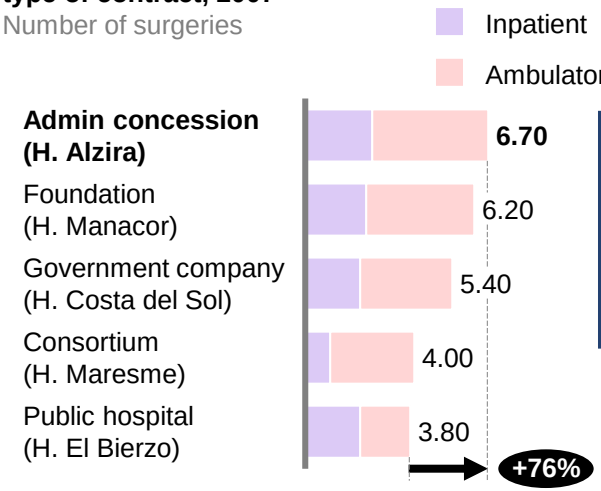
Lower per capita reimbursement is a precondition of the "concession" model, i.e., starting point rather than outcome

Productivity

Average length of stay by hospital legal type of contract, 2007
Days



Surgeries per OR[1] per day by hospital legal type of contract, 2007
Number of surgeries



The "administrative concession" model is proven to be most productive of all PPP models currently applied in Spain

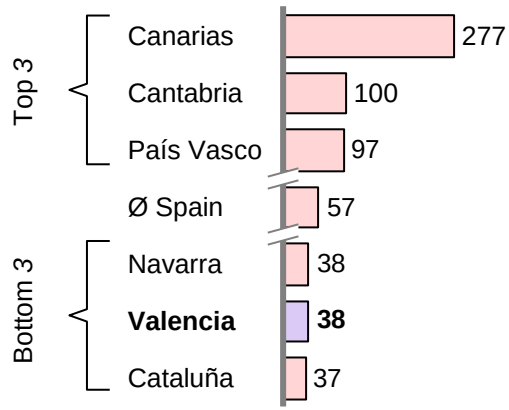
1 Operating room

SOURCE: Adeslas presentation (April 7, 2008); Ribera health department 11 presentation (June 9, 2008)

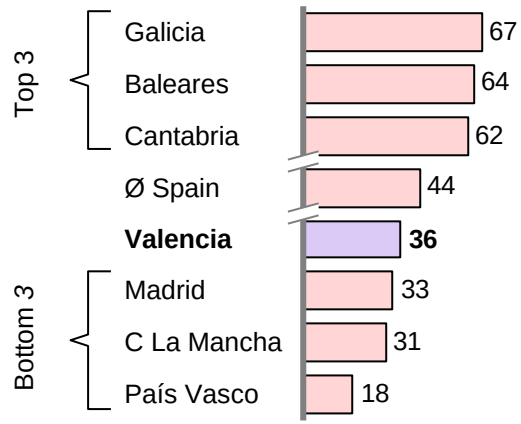
Waiting times have declined and are now among the lowest in Spain: primary care and the role of GPs have been strengthened

Access to healthcare

Average waiting time to see a specialist, February 2008
Days after making an appointment



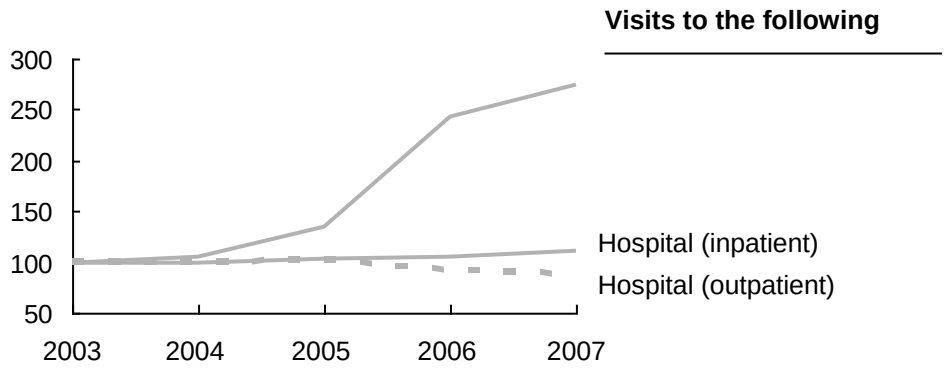
Average waiting time for a diagnostic test, February 2008
Days after making an appointment



Better organised service lines and internal processes in hospitals and health centres allow reduction in waiting time

Utilization of resources

Utilization of medical services in Alzira health district
Indexed, 2003 = 100



Referral behaviour protocols in primary care lead to strengthening of GP role and less referrals to specialized care

SOURCE: Adeslas presentation (April 7, 2008); Ribera health department 11 presentation (June 9, 2008)

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Knappschaft: Summary (1/2)

❶ Context

- Knappschaft's Prosper programme started in 1999, developed in response to legislative changes (in Germany) which provided a regulatory framework for integrated care contracts
- The aim is to improve patient outcomes and payer/provider financial performance by focusing on quality and efficiency
- The program covers ~250,000 patients enrolled across 8 networks served by 2,100 physicians and 19 hospital sites (~7,000 beds)

❷ Population and services

- The 8 Prosper programs cover 10-65,000 people each and were developed in areas where the density of Knappschaft members and providers were highest
- Choice of the Prosper network offers patients all standard benefits plus defined clinical pathways within the network

❸ Payment structure

- Sickness funds receive an individualised capitation-based payment for each enrollee, based on prospective risk profile (expected costs in following year for age/gender/morbidity)
- Quality of integrated care networks is monitored through KPIs, information transparency and peer pressure, but not explicitly linked to reimbursement

❹ Gain/loss sharing

- Net extra-budgetary surplus delivered by each integrated care networks are shared between:
  - Integrated care networks
  - Knappschaft
  - Patients (bonus scheme)
- Network physicians compensated for their individual contributions to a network surplus

❺ Contractual framework

- Official registering of participating physicians
- Participating physicians are obliged to:
  - Take part in annual care-related trainings
  - Adhere to clinical pathways
  - Keep track of quality indicators
  - Use network practice software
- Incentives for patients:
  - Exemption from 10 Euro practice fee
  - No co-pay for first 10 days in a network hospital

SOURCE: team analysis

Knappschaft: Summary (2/2)

6 Insurer landscape

- Knappschaft is 1 of 130 sickness funds in Germany but has its highest market shares in regions were mining was traditionally the main business

7 Care delivery models

- Flexible network model comprising hospitals, GPs, rehab facilities and social-medical services forming a group around a hub Knappschaft hospital
- Clinical pathways and protocols co-developed by both levels of care
- Enhanced IT with focus on data transparency and security

8 Transition

- Programme started in 1999 responding to new legislation which provided a regulatory framework for integrated care contracts between provider organisations
- From 1999-2009, Prosper integrated care networks costs were measured compared to a pre-defined reference group (to measure savings delivered) which was successful for the first few years but created problems at/after 5 years (as reference group no longer as comparable)
- In 2009, reference control group replaced by prospective risk calculation

9 Enablers

- Unique situation that Knappschaft owns hospitals
- Very regional focus
- High market share in specific German regions as Knappschaft was traditionally the payer for miners
- Through experience with miners, Knappschaft and the Prosper network became experts for COPD and other mining-related diseases

10 Impact

- 8-12% average savings for Prosper integrated care program compared to control group sustained over multiple years (7 years)
- 15% saving on drug spend

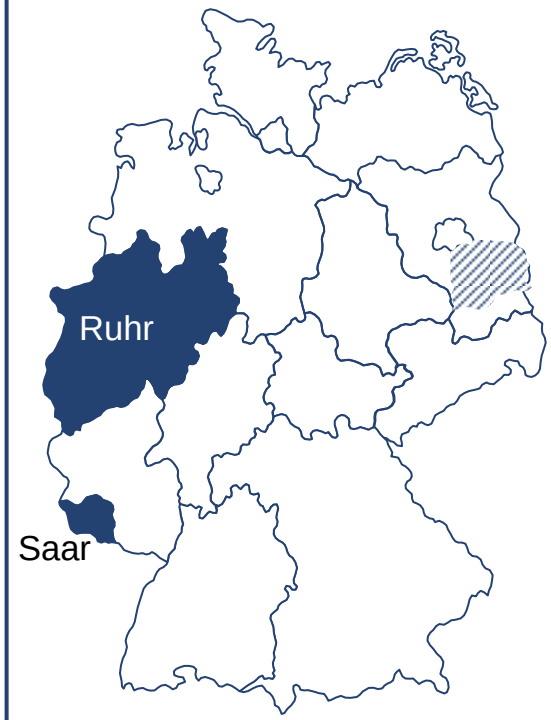
SOURCE: team analysis

The first Knappschaft Prosper programmes were located in the Rurh region

prosper
Gesund im Verbund

	People insured # registrations	Physicians Contracts signed	Specialists Contracts signed
prosper Bottrop ***since 1999***	~22,600	52	27
prosper Saar ***since 2001***	~30,800	161	124
proGesund Recklinghausen ***since 2002***	~45,000	191	119
prosper Gelsen-kirchen/Gladbeck ***since 2006***	~22,500	184	163
prosper Lausitz ***since 2008***	~5.000	45	50

6 Knappschaft hospitals: 2,502 beds
5 holding organizations: 3,498 beds



SOURCE: Prosper website; expert interviews

Mechanisms of risk pooling between sickness funds have evolved over the last ten years

			Correlation between allocation and costs[1]
1994	Introduction of the Risk Structure Equalization scheme (RSA)	▪ Risk is based on – Age – Gender – Eligibility for sickness benefit ▪ Costs considered are all obligatory Payer payments	7
2002	Additional differentiation for high cost insurants	▪ For insurants with health care costs above 40,000 Deutsche Marks the 60% of the amount above 40,000 Deutsche Marks is compensated by the funds	
2003	Additional consideration of participation in Disease Management Programs (DMP)	▪ For insurants who enroll in a DMP, the morbidity risk is calculated separately, which results in much higher payments	
2009	A new morbidity-adjusted equalization scheme was launched	▪ Risk now is based on – Age – Gender – Eligibility for disability benefits – Morbidity (based on 80 diseases) of previous year ▪ Costs considered are costs for mandatory services only (93 percent of total costs) ▪ Allocations for sickness benefits are calculated separately because they are were related to income than to morbidity	25

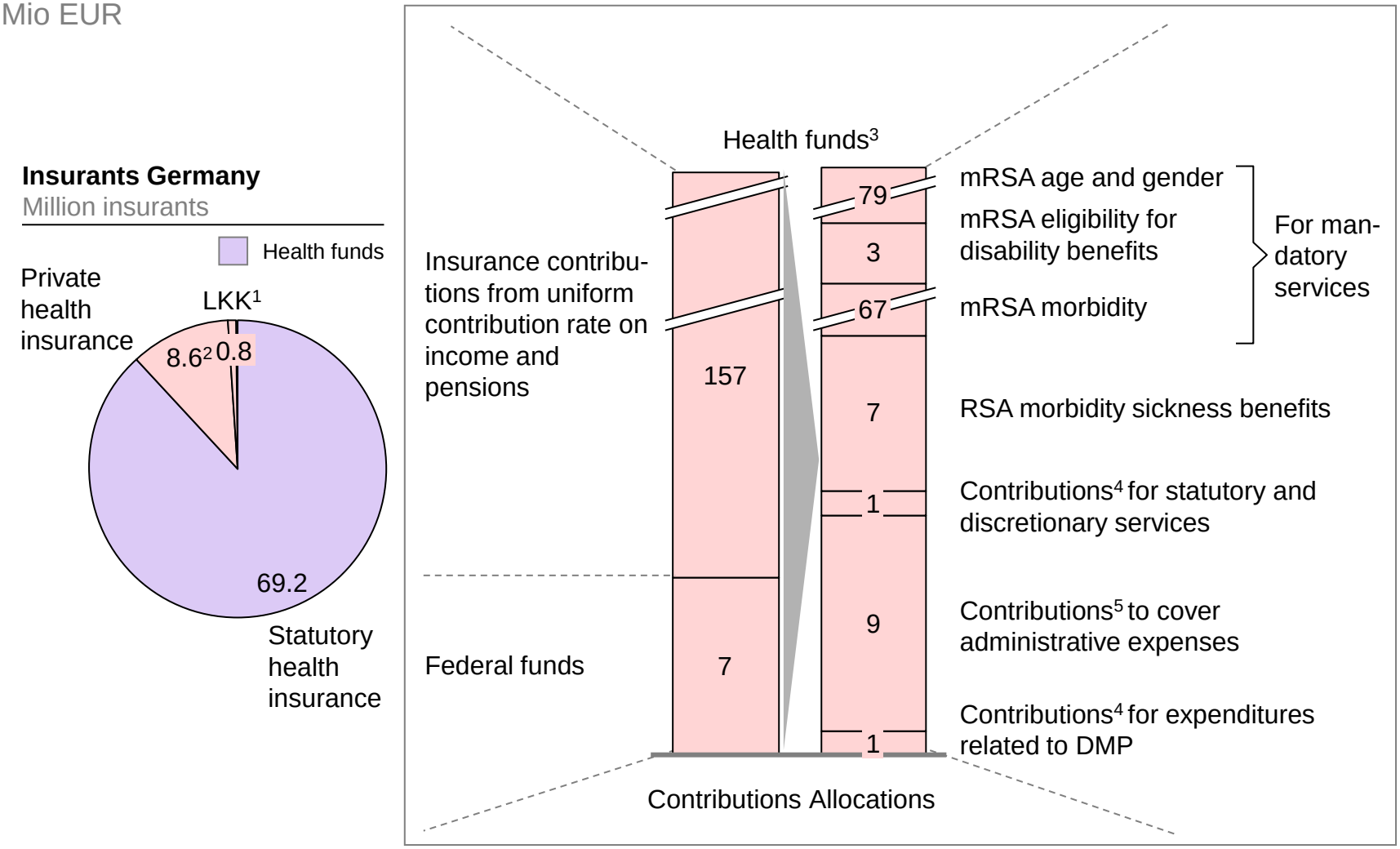
1 On single insurant basis. If you aggregate by age groups e.g., you will have a much higher R squared (which does not mean, that this is better, it is just another performance indicator). The correlation between allocation and cost is the correlation between predicted costs and real costs in the same year, measured as R squared. This describes the "goodness of fit" of the model.

SOURCE: Bundesversicherungsamt (BVA); team analysis

The Risk Structure Equalization scheme (RSA) is used to allocate contribution sources to insurers

2009

in Mio EUR



1 Special health insurance for persons employed in agriculture 2 Number from 2008 3 Result is negative in first year
4 Per capita 5 50 percent per capita, 50 percent related to RSA contributions

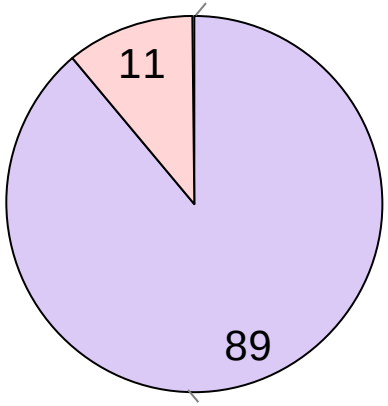
SOURCE: team analysis

Since 2009, the most important part of the risk equalization mechanism is the morbidity-adjusted allocation for mandatory services

Health funds volume

Percent

NUMBERS FROM 2009



- 47% distributed based on 40 age-gender groups (AGG)
- 2% distributed based on 6 age-gender groups for persons with eligibility for sickness benefits (EMG)
- 40% distributed based on 106 hierarchical morbidity groups (HMG)

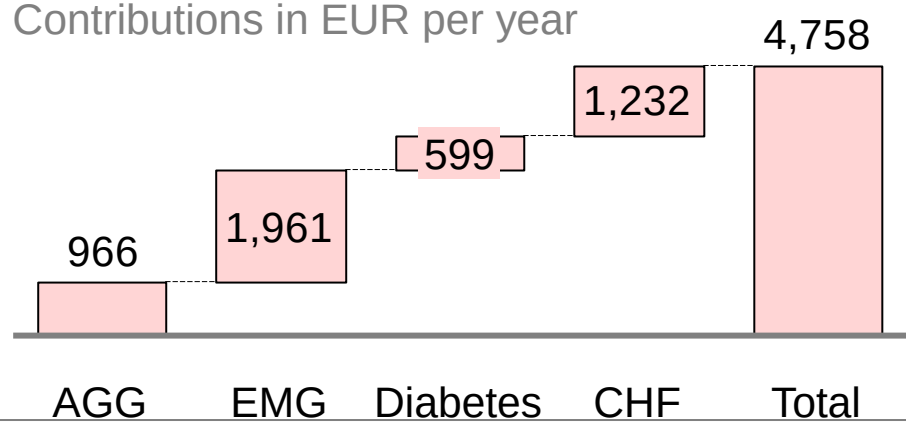
For each insurant the insurance gets

- 1 contribution based on AGG
- If applicable, 1 contribution based on EMG
- No, 1 or more contributions based on HMG

Example[1]

Man, 54 years old, disabled, with diabetes and congestive heart failure

Contributions in EUR per year



1 In addition, there are contributions of EUR 18 for statutory and discretionary services and EUR 195 for administrative costs

SOURCE: team analysis

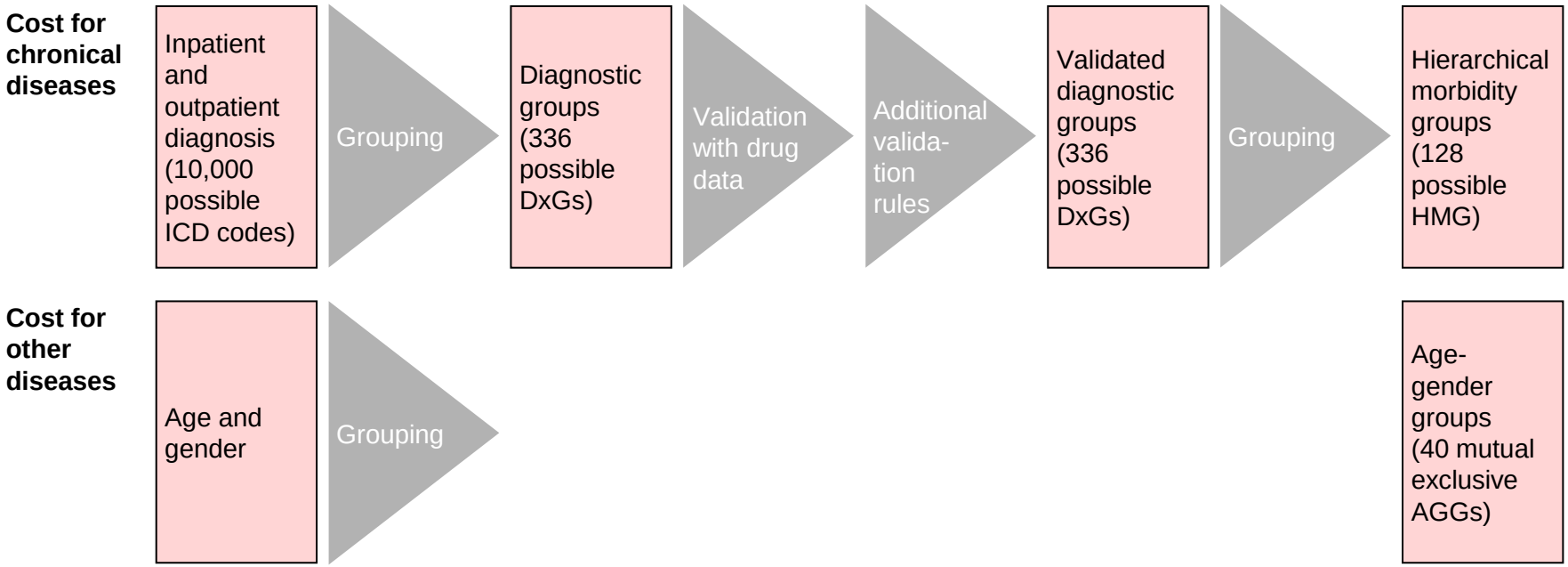
The morbidity adjustment mechanism originates in a model from DxCG and is developed continuously

Model	*RxGroups and IPHCC*	German morbidity adjusted RSA
Morbidity information considered	Inpatient diagnosis and medical treatment	Inpatient diagnosis, outpatient diagnosis validated by medical treatment
Developed by	DxCG, Boston, US	Scientific advisory committee

Yearly adjustments based on experiences of BVA and suggestions of the insurances

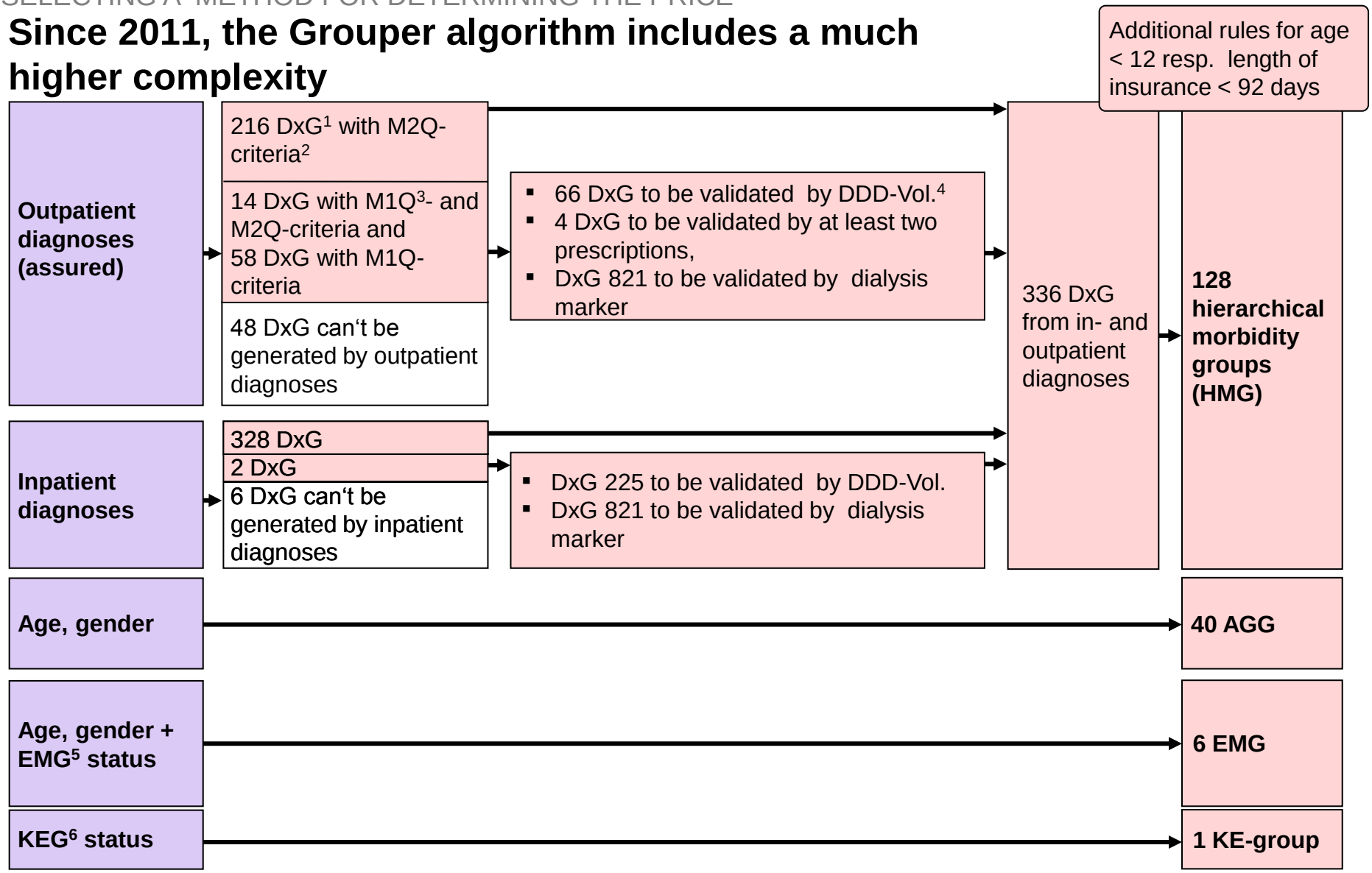
SOURCE: team analysis

The basic grouping algorithm uses diagnosis and prescribed drugs to assign morbidity groups



SOURCE: team analysis

Since 2011, the Grouper algorithm includes a much higher complexity



1 Diagnostic Groups according to DxCG logic
2 Corresponding disease has to be diagnosed in at least two quarters of the year
3 Diagnosis and at least one corresponding prescription in the same quarter
4 Prescripted drug volume in daily defined doses
5 Insurants who are eligible for sickness benefits
6 Insurants who pay first and than get partly reimbursement by the insurance

SOURCE: team analysis

While other allocation groups are differentiated by age, this is not the case for HMG[1]

Morbidity adjusted risk allocation scheme

Age-gender-groups (AGG)

20 groups per gender

female	age
AGG01	0
AGG02	1 - 5
AGG03	6 - 12
AGG04	13 – 17
…	…

male	age
AGG21	0
AGG22	1 - 5
AGG23	6 - 12
AGG24	13 – 17
…	…

Eligibility for sickness benefits groups (EMG)

3 groups per gender

female	age
EMG1	bis 45
EMG2	46 - 55
EMG3	56 - 65

male	age
EMG4	bis 45
EMG5	46 - 55
EMG6	56 - 65

Hierarchical morbidity groups (HMG)

128 groups

HMG001	HIV/Aids
HMG002	sepsis/ shock
HMG003	Non viral infections
…	
	…

KEG for insurants with partly reimbursement

1 group

Groups for insurants with right of sickness benefits (KG)

1 group per

- **year (age)**
- **gender**
- **EMR state**

Groups for insurants who live outside Germany (AusAGG[3])

20 groups analogous to AGG

1 A few HMG are linked to age 2 Only for age between 35 and 65
3 The medical data is not available for these insurants, so there is a separate calculation method

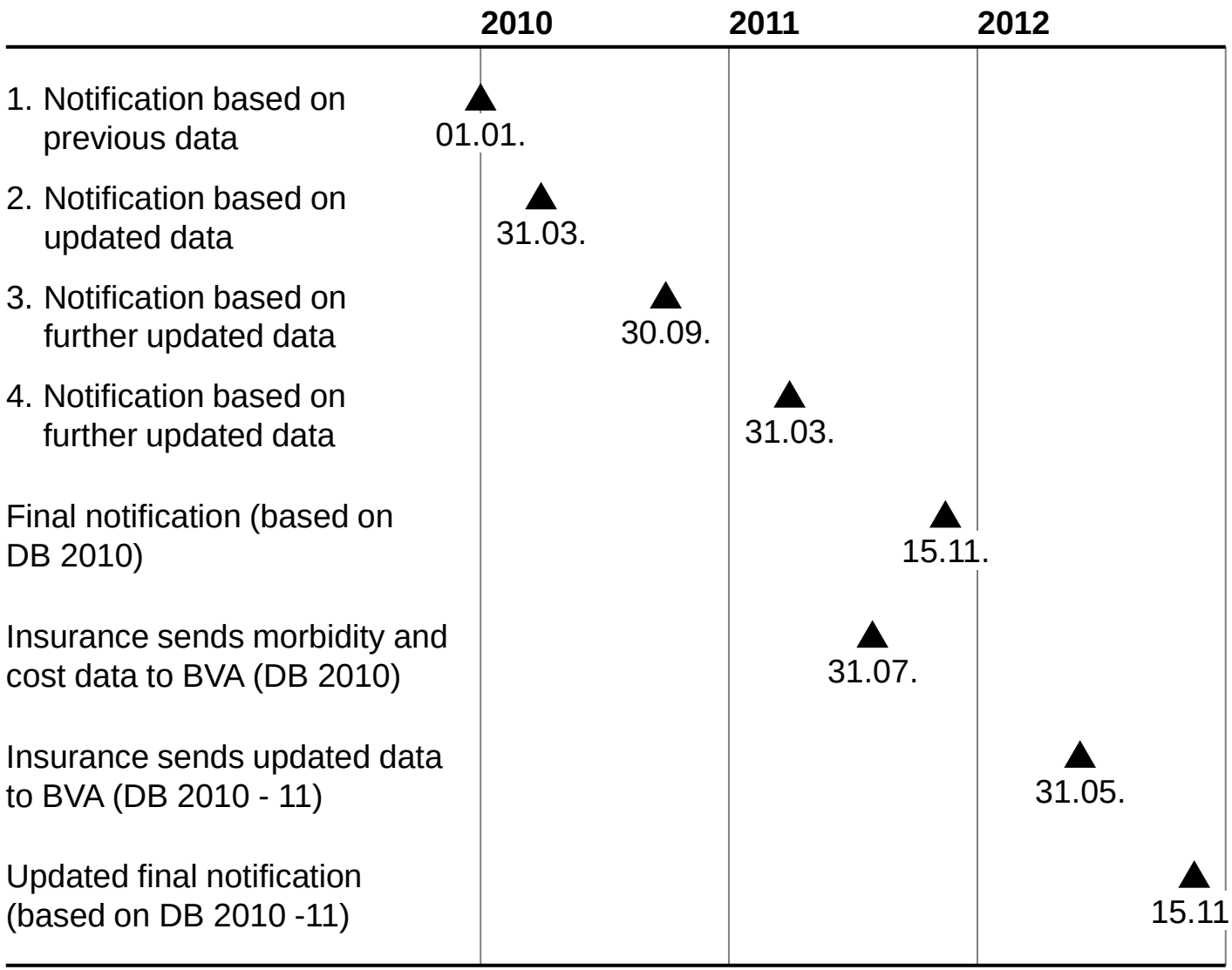
SOURCE: team analysis

The allocation calculation process stretches over 2 years plus additional corrections in further years

EXAMPLE 2010

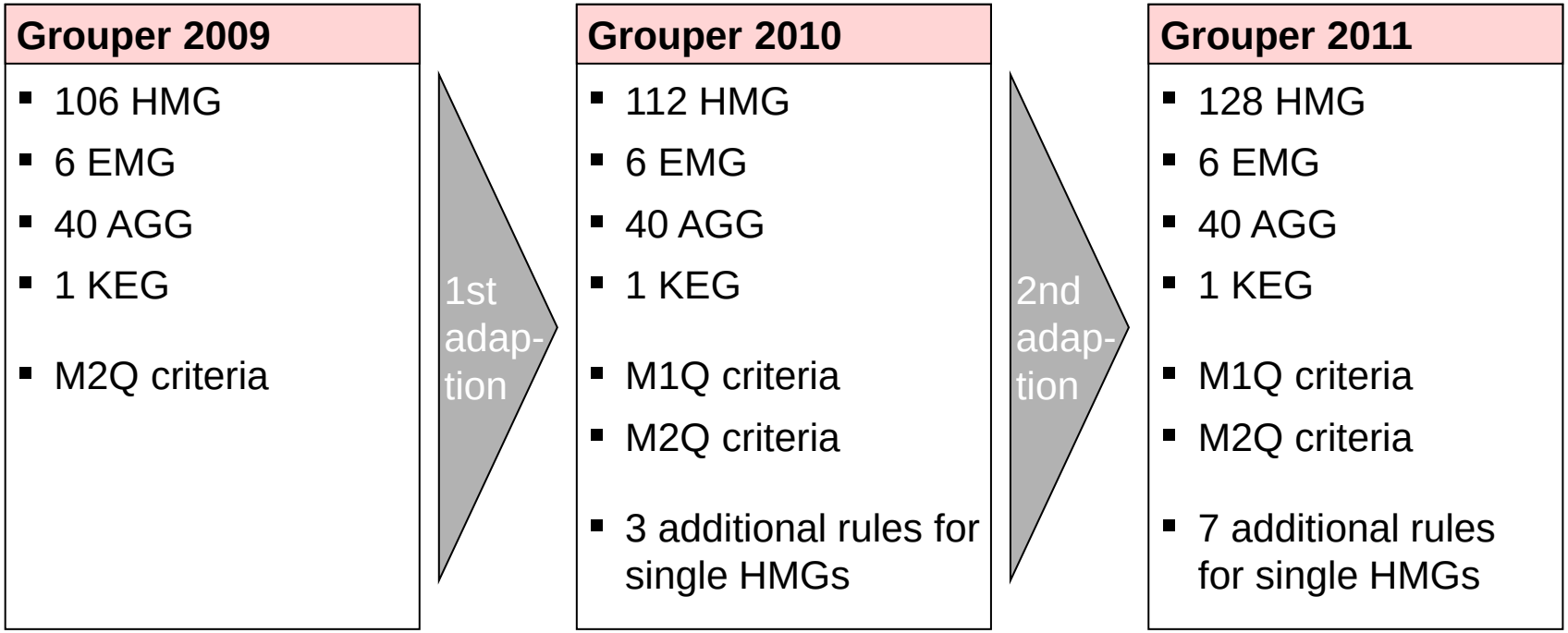
Database for year 2010 (DB 2010)

Age, gender, EMG-status	2010
Costs	2010
Diagnosis	2009
Drugs prescribed	2009



SOURCE: team analysis

There is a process of adaption which will last a couple of years – Grouper



Both adaptions led to changes for the HMGs considered. Some were eliminated, others now defined. The above numbers only reflect the net changes.
In addition there are further changes of the algorithm itself

SOURCE: team analysis

There is a process of adaption which lasts a couple of years – Down payments

Requirement

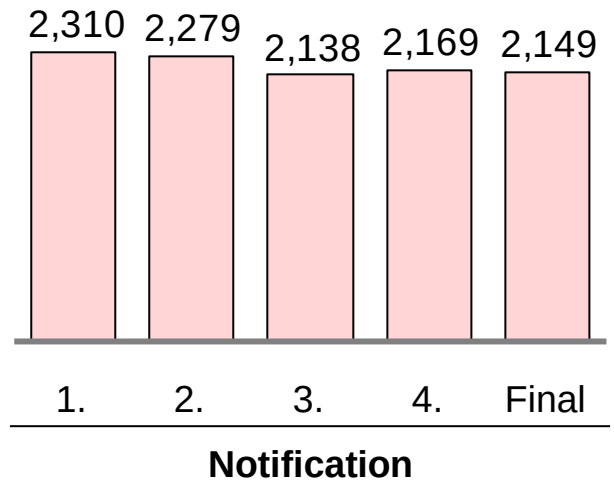
- The final allocation sum is calculated 11 months after the allocation year
- To guarantee liquidity for the insurances down payments have to be made, which should be the same total amount as the (yet unknown) final payments

Process

- The BVA (German independent federal agency for statutory insurances) establishes prediction models based on newest data
- These models calculate down payments per month
- The down payments fluctuate and there are still relevant differences to the final payment (2009)
- The prediction models are refined by the BVA in an ongoing process

Example 2009, client case

Predicted allocation sum, 2009
EUR millions



SOURCE: team analysis

The algorithm is used to calculate the morbidity adjustment

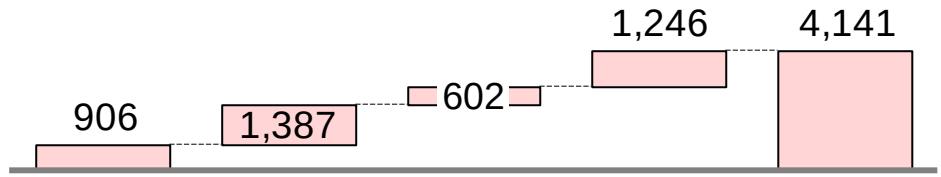
Prescriptions → Validate outpatient diagnosis

Outpatient diagnosis → Generate morbidity premiums

Inpatient diagnosis → Generate morbidity premiums

Age, gender → Generate base premium

Status RiE[2] Status CR[3] → Generate additional premiums



Base premium, ages 55 - 59, male (AGG32)	Reduction in earning capacity, ages 56 - 65 (EMG6)	Diabetes with no compli-cations (HMG019)	Heart failure (HMG080)	Total compen-sation

Premiums

An insured (58 years, male, reduction in earning capacity, diagnoses: diabetes with no complications and heart failure) receives

- Age- and gender-related base premium
- **Plus** an age- and gender-related premium for reduction in earning capacities
- **Plus** age-dependent premiums for 2 HMGs

Premium amounts are calculated by regression

1 EUR values based on team calculation 2 Insurants with reduced capacity in earning due to permanent illness or handicap
3 Insurants who first pay the bill and then get repayment by the insurance

The German legislator determined that there should be no more than 80 diseases considered within the RSA

German law

- Only a few details were fixed in German law conserving the morbidity adjustment
- One was the restric-tion on maximum 80 diseases to be considered
- These diseases should be "chronic with high costs" or "grave"

German federal agency for statutory insurances (BVA)

- The BVA first had to define the terms
  - "Disease"
  - "Chronic with high cost"
  - "Grave"
- Based on a representative sample of German insurants a list of diseases was fixed
- These diseases were then partly split in several HMGs, some of them represent different severities

Disease selection criteria

- "Disease" is based on a modified DxCG algorithm, which groups ICD-diagnosis-codes into 781 DxGroups
- "Chronic" means: 50% of the insurants with a disease (DxG) have it documented in at least 2 quarters of a year
- Disease (DxG) causes "high costs" if the standardised, windsorised, and annualised average costs of the affected insurants are above the 70th percentile of the cost distribution
- "Grave" means "high costs" plus hospitality rate > 5%
- The list of DxGroups is aggregated into a diseases list, which is reduced by plausibility proof

SOURCE: team analysis

Allocation amount per age/morbidity group is calculated by prospective regression

$$\text{Health costs, 2009} = W_{AGG001} \times AGG001 + W_{AGG002} \times AGG002 +$$
$$+ W_{EMG001} \times EMG_{001} + W_{EMG002} \times EMG_{002} + \ldots$$
$$+ W_{HMG001} \times HMG_{001} + W_{HMG002} \times HMG_{002} + \ldots$$
$$+ W_{KEG} \times KEG,$$

for each insurant, W = weight[1]

- The values of all AGG_i, EMG_i, HMG_i, KEG are 0 or 1
- One insurant
  - has 1 AGG_i with value 1,
  - can have maximum 1 EMG_i with value 1
  - and no, 1 or more HMG_i with value 1
- The health costs are annualised
- The diagnosis and drugs, which define the morbidity groups (HMG), are from 2008 (prospective method)
- Regression method is linear, weighted least square
- Groups with 0 or negative weights are eliminated and the regression is done again

1 Which gives the allocation amount

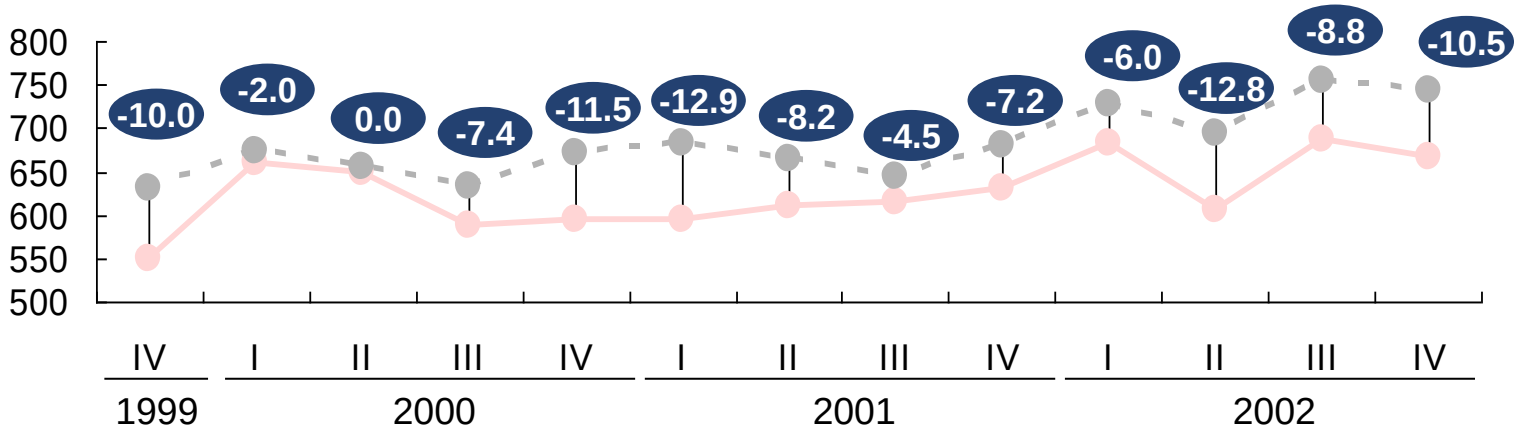
SOURCE: team analysis

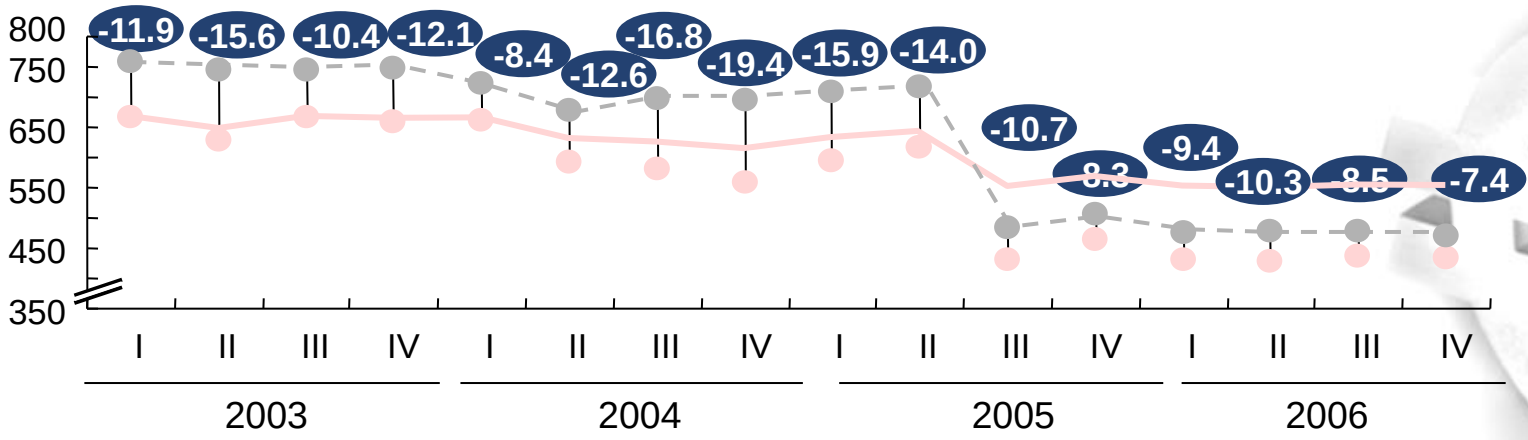
Costs of care have been consistently lower for Prosper integrated care networks compared to comparators

Reference group
People insured in network
Percent

Network surplus for Prosper Bottrop compared to control group

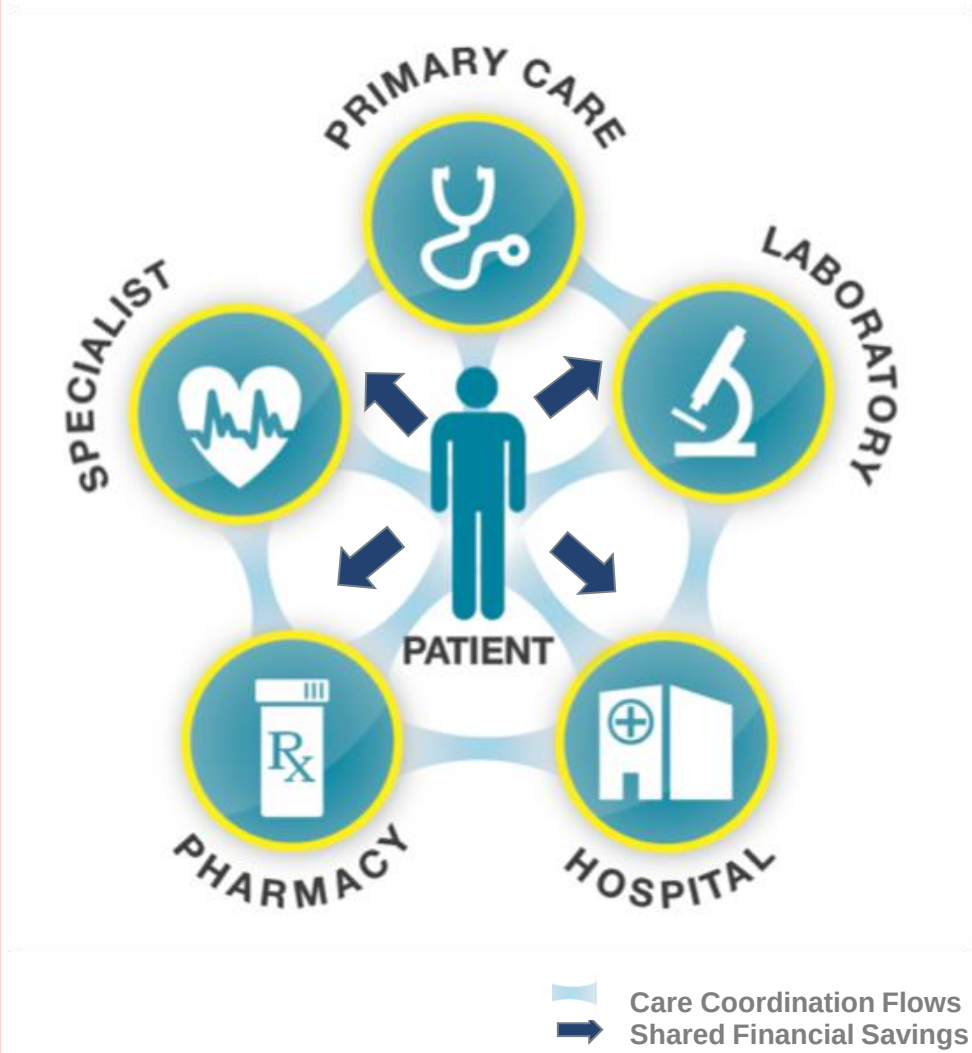
Quarterly spend, € per person insured





Contents

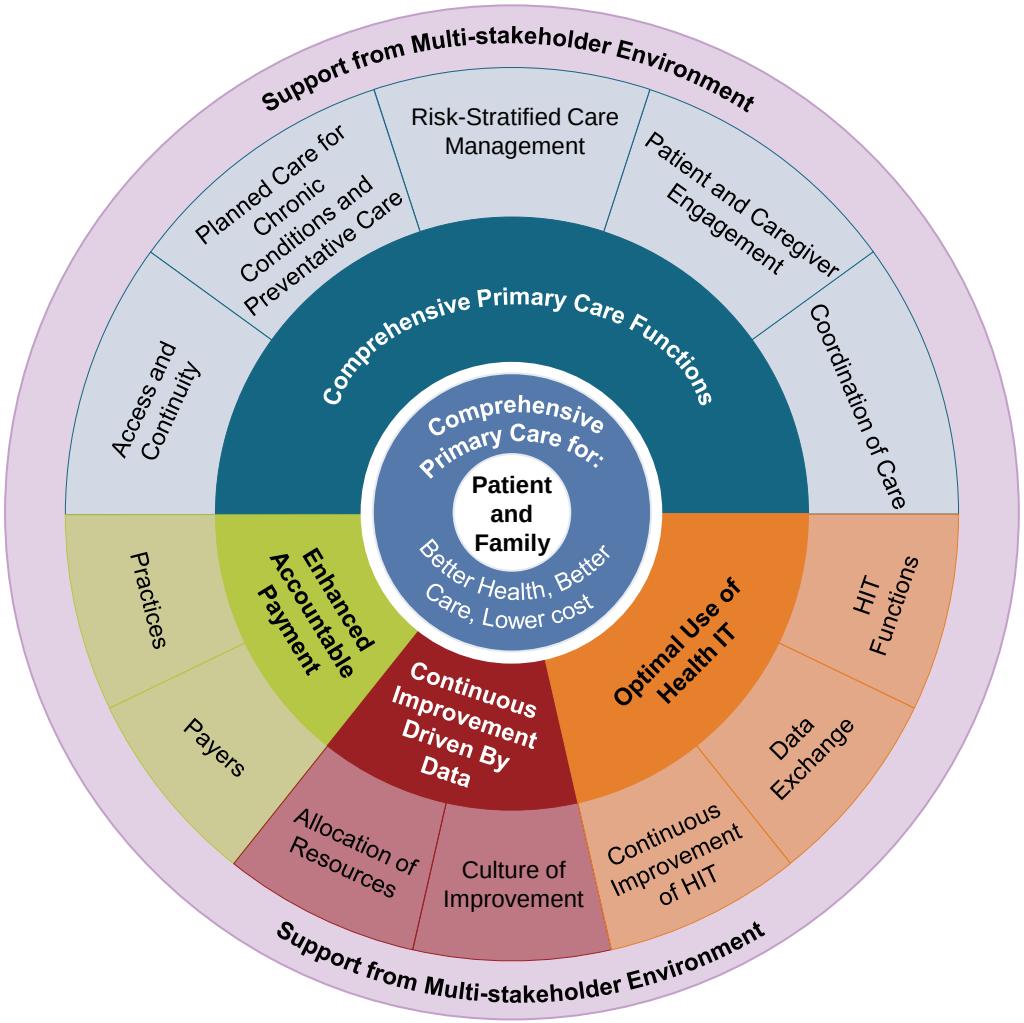
ACO group delivery models use shared payments to incentivise improved coordination of care



- Accountable Care Organisations (ACOs) are groups of healthcare professionals who come together to coordinate patient care
- ACO models aim to deliver seamless, coordinated care. ACO models include:
  - Medicare Shared Saving Program
  - Advanced Payment ACO Model
  - Pioneer ACO Model
- Participants are performance managed on 33 quality measures and key saving targets
- Providers are able to share achieved savings based on performance set financial savings

SOURCE: Medicare Shared Savings Program, February 2012

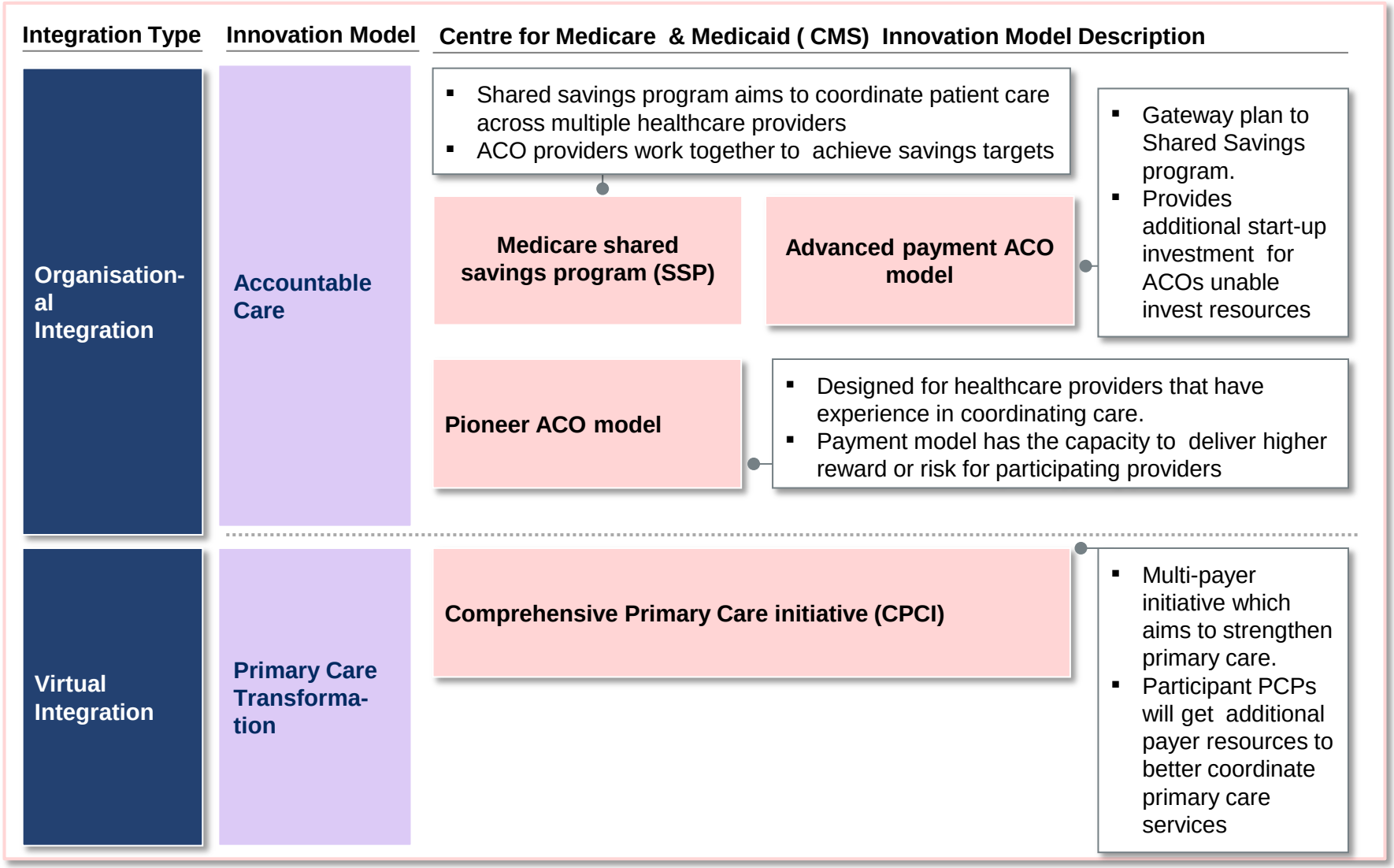
Comprehensive Primary Care Initiative is a multi-payer programme which aims to strengthen coordination of primary care



- Comprehensive Primary Care Initiative (CPCI) is a multi-payer initiative that aims to help primary care practices (PCPs) deliver:
  - High quality ,
  - Better Coordinated
  - Patient Centred Care
- Participant primary care practices were given resources to better coordinate care to ensure they
  - Delivered preventative care
  - Managed care for patients with high health needs
  - Ensure access to care
  - Engage patients & carers
- Working closely with commercial and state insurance plans, Medicare offered bonuses to primary care doctors who better coordinated care

SOURCE: CMS Comprehensive Primary Care Initiative, 2012

Each of the CMS delivery models uses varying degrees integration to facilitate improved care coordination



Medicare Shared Savings Program

Context & Goal

- In 2010, President Obama signed the Affordable Care Act (ACA) in order to make healthcare affordable & accessible
- A key part of the Act required CMS to establish a Medicare Shared Saving programme by January 2012
- Using Accountable Care Organisations [1] as the main vehicle of delivery, the Shared Saving programme (SSP) aimed to:
  - Reduce fragmentation of Medicare healthcare services by improving coordination of care
  - Promote increased patient accountability for Medicare fee-for-service beneficiaries
  - Encourage investment into the redesigning care processes and enhance quality and efficiency of service delivery

Measurement of success

- ACOs will be performance managed on quality measures and good financial performance. 33 quality indicators are arranged in 4 domains3
  - Patient / Care Giver Experience
  - Care Coordination/ Patient Safety
  - Preventative Health
  - At Risk Population e.g. Diabetes, Cardiac Ischemic Disease
- Providers can receive between 50 to 60 % of shared savings, depending on the type of risk model adopted (one way vs. two way)
- Financial savings will have to be demonstrated if:
  - Assigned population expenditures are below established benchmarks and expenditure exceed minimum savings rates

Payment Mechanisms

- ACO service providers are eligible to receive up to 50 to 60% of shared savings targets, on condition that they :
  - Successfully satisfy quality performance standards, and
  - Reduce healthcare expenditure
- Providers participating in the SSP programme receive traditional Medicare fee-for-service payment

Facts about uptake

- December 2011 – 32 ACOs
- July 2012 –90 ACOs
- January 2013 - 100+ ACOs

Participation criteria

- ACOs should have a clear coordination process across care
- ACOs should be willing to become accountable for the quality, cost and overall care of Medicare beneficiaries
- Provider eligibility is restricted to
  - ACO professionals operating in group practice arrangements
  - Network of practices /ACO professionals I
  - Partnerships/ joint vent. between hospitals & ACO profess.
  - Hospitals employing ACO professionals

Facts about impact

- Average ACO start-up investment and four-year operating costs is estimated to be $451 million
- Net federal ACO savings are estimated to be $370 million by 2015

Note: 1. Accountable Care Organizations refer to a group of physicians, hospitals and other suppliers of services that will work together to provide Coordinate care to Medicare beneficiaries
2.Each domain will receive equal weighting at 25%

SOURCE: Medicare Shared Savings Program: Accountable Care Organizations Final Rule, 2011 & Medicare Shared Savings Program, 2012

Advance Payment Accountable Care Organisation Model

Context & Goal

- The Shared Savings Programme was developed by the CMS to improve co-ordination of care delivery
- Estimations predict the start-up investment costs for participating ACOs could reach $157 mil[1]
- During the consultation process, some providers expressed concerns about the lack of ready access to capital to invest in enhancing delivery
- The Advance Payment model will facilitate participation in the Shared Savings Program by providing additional start-up resources to smaller ACOs
- The budgeted $170 million will go towards :
  - Installation or upgrade of information technology systems
  - Workforce expansion to meet increased level of demand

Measurement of success

- Spend plans were submitted upon application and approved by the CMS Innovation Centre
- The plans therefore create a set of pre-agreed standards which must be adhered to, including:
  - Cost of procurement, activities and hiring
  - Feasible time-frame for these costs within the first 18 months of the agreement
  - Outline of how investments will aid in financial and population care management
  - Outline of how investments will build upon existing experience and infrastructure

Payment Mechanisms

- The initiative utilises a three-part payment model :
  - An upfront fixed payment
  - An upfront variable payment based on the historical number of beneficiaries
  - A monthly payment based on the size of the ACO/ historical number of beneficiaries
- CMS will recoup these payments from participating ACOs' shared savings

Facts about uptake

- April 2012- 5 ACOs
- July 2012- 20 ACOs
- January 2013- 35 ACOs

Participation criteria

- Eligibility criteria:
  - Total annual revenue less than $50 million AND inpatient facilities only
  - Total annual revenue less than $80 million AND all inpatient facilities provided by critical access hospitals or Medicare low-volume rural hospitals
  - Entry into the Shared Savings Programme in April/July 2012
- Exclusion criteria:
  - ACO is co-owned with a health plan

Facts about impact

- The payment model should facilitate small rural and physician-based organisations participating in the Shared Savings Programme

Note: 1. The estimated range is $29-157mil for the anticipated range of 50-270 ACOs. Annual on-going costs for the 4-year program are estimated at $63-342 million

SOURCE: CMS website, AAFP ACO Final Rule;

Pioneer Accountable Care Organisations Model Program

Context & Goal

- The CMS Innovation Centre was created by the 2010 Affordable Care Act as means test new models of healthcare payment
- The Pioneer ACO model was launched as a separate & distinct program from Medicare Shared Saving Programme & other ACO initiatives
- More specifically the Pioneer model was/has:
  - Designed for providers with experience in operating in ACO or similar arrangements, and therefore
  - Higher levels of shared savings and losses in comparison with Medicare SSP
  - Capacity to transition from fee-for-service to capitation financing models of providers meet savings target

Measurement of success

- Pioneer participants are performance managed on the same quality measures as the Medicare SSP.- 33 quality indicators are arranged across 4 domains3
  - Patient / Care Giver Experience
  - Care Coordination/ Patient Safety
  - Preventative Health
  - At Risk Population e.g. Diabetes, Cardiac Ischemic Disease
- Financial savings will have to be demonstrated if:
  - Assigned population expenditures are below established benchmarks and expenditure exceed minimum savings rates

Payment Mechanisms

- The Pioneer model payments arrangements result in higher levels of reward and risk for participating provider
- ACOs that have shown savings over during this time, are eligible to move to a population-based payment model
- Population based payment is paid to ACO on a per beneficiary per month

Facts about uptake

- December 2011 – 32 ACOs
- July 2012 –90 ACOs
- January 2013 - 100+ ACOs

Participation criteria

- Provider eligibility is restricted to:
  - ACO professionals operating in group practice arrangements
  - Network of practices /ACO professionals I
  - Partnerships/ joint vent. between hospitals & ACO profess.
  - Hospitals employing ACO professionals
- Participants have to demonstrate that they have 15k beneficiaries
- Pioneer ACOs had to demonstrate at least 50% its primary care providers adopted Electronic Records once enrolled

Facts about impact

- Average ACO start-up investment and four-year operating costs is estimated to be $451 million
- Net federal ACO savings are estimated to be $370 million by 2015

Note: 1. Shared savings targets are determined using CMS patient expenditure peer groups

SOURCE: Medicare Shared Savings Program: Accountable Care Organizations Final Rule, 2011 & Medicare Shared Savings Program, 2012

iv Comprehensive Primary Care Initiative

Context & Goal

- Primary Care Transformation is a key objective outlined in the Affordable care Act
- Improvements in primary care delivery have historically been hampered by fragmentation within the sector
- The CPC Initiative aims to achieve better integration and co-ordination of patient care by using a collaborative approach between private and public healthcare payers
- Key incentives include:
  - Resources to aid in the co-ordination of care for their Medicare patients
  - Bonus payments to physicians demonstrating better care for patients insured in both commercial and State health plans

Measurement of success

- Milestones for end of year 2013 were included in the terms and conditions upon application. These included:
  - Detailed care management plans for patients identified as being high-risk
  - 24/7 access to a clinician with real-time access to patients' medical records
  - The provision of quarterly reports detailing at least one quality and one utilisation measure from a pre-approved list
  - The identification of a priority condition, test or decision that would benefit from shared-decision making and make a decision aid available to appropriate patients
  - Meet the Stage 1 requirements of Meaningful Use, Medicare's electronic health record incentive program
- Failure to comply may result in termination from the project

Payment Mechanisms

- The initiative utilises a two-part payment model :
- Monthly care management fees for Medicare beneficiaries: $20 per beneficiary/per month in the first two years, reducing to $15 in years 3 and 4 1
- Shared savings in Medicare FFS: After two years all participants will be invited to share in a portion of total Medicare savings

Facts about uptake

- October 2011 - Initiative announced
- August 2012 - 500 participating primary care practices announced after selection process
- August 2013 - 497 primary care practices representing:
  - 2,347 providers and 315,000 Medicare beneficiaries

Participation criteria

- Markets selected required an array of different payers , strong willingness to participate and geographical diversity [2]
- States were excluded if there were already part of the Multi-payer Advanced Primary Care Practice demonstration
- Practices were selected upon numerous considerations including :
  - Agreement to provide the extended package of services
  - Use of healthcare information technology
  - Ability to demonstrate recognition of advanced models of primary care delivery

Facts about impact

- Substantial savings are expected from the initiative, as implicated by the shared savings scheme
- The impact is currently unknown although the CMS claims the results of the 4-year programme will inform future approaches to transforming primary care

Note: 1. Payments are risk-adjusted and range from $8-$40. Payments stated represent the expected monthly average.
2. Locations chosen were: Arkansas, Colorado, New Jersey, Oregon and specified regions in New York, Ohio/Kentucky, Oklahoma

SOURCE: CMS website, CPCI factsheet; CPCI FAQ page, CPC Practice Solicitation

Abbreviations guide

AAPCC	against average per capita cost (US)
AGG	age gender group (Germany)
ACO	Accountable Care Organization (US)
AHRQ	Agency for Healthcare Research and Quality (US)
BBC	Bangor Beacon Community (US)
BP	blood pressure
BVA	Federal Agency for Statutory Insurance (Germany)
CAD	coronary artery disease
CAHPS	Consumer Assessment of Health Care Providers and Systems (US)
CHF	congestive heart failure
CMS	Centers for Medicare & Medicaid Services (US)
COPD	chronic obstructive pulmonary disease
CPCI	Comprehensive Primary Care Initiative (US)
CPI	consumer price index
DCG	diagnostic cost group
DxG	diagnostic group
DM	diabetes mellitus
DMP	disease management programme
ED	Emergency Department
EHR/EMR	electronic health/medical record
EMG	particular insurance status (Germany)
FFS	fee-for-service
FQHC	Federally Qualified Health Center (US)
GP	General Practitioner
HbA1c	glycated haemoglobin (used as a measure of diabetes control)
HCC	hierarchical condition category (US)
HEDIS	Health Care Effectiveness Data and Information Set (US)
HHS	Health and Human Services (US)
HIE	Health Information Exchange (US)
HIT	health information technology
HMO	health maintenance organization
HOS	health of seniors (US)
HRG	Healthcare Resource Group (aka DRG)
IP	Inpatient
KEG	particular insurance status (Germany)
KPI	key performance indicator
LTC	long term care
MA	Medicare Advantage (US)
MCO	managed-care organization (US)
MSR	Minimum Savings Rate (US)
NCQA	National Committee for Quality Assurance (US)
ONC	Office of the National Coordinator (US)
OP	outpatient
PCMH	Patient Centered Medical Home (US)
PCP	Primary Care Physician (US)
PI	performance improvement
PPO	preferred-provider organization (US)
PPP	public private partnership
PMPM	per member per month (US)
PMPY	per member per year (US)
RSA	risk equalisation scheme (Germany)
UTE	consortium (Spain)