



# CHILMARK BRIEF

**Profile: Health Catalyst**

# ABOUT: The Brief

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The following Brief on Clinical Analytics for Population Health (CAPH) vendor Health Catalyst has been extracted from our 2013 CAPH Market Trends Report. This report will be published annually to provide all stakeholders with up-to-date information and knowledge on the most important trends in this rapidly evolving market.

Healthcare organizations of all sizes are transitioning to new models of reimbursement, models where analytics that leverage clinical data will play a pivotal role in an organization's ability to operate and manage risk of the patient's within their community. However, despite rapidly increasing demand for clinical analytics solutions, the market remains quite immature. Such immaturity creates significant challenges for those seeking a CAPH solution to meet their needs – this report provides clarity.

In addition to detailed analysis of future market trends, the report provides the most comprehensive profiles on the 14 leading CAPH vendors in the market today including ranking of their product and service capabilities and market presence.

For more information, please visit: [www.ChilmarkResearch.com/research/reports](http://www.ChilmarkResearch.com/research/reports)

# Health Catalyst Profile

<b>Overall</b>	<hr/>	<b>A-</b>
<b>Product</b>	<hr/>	<b>B+</b>
<b>Marketing &amp; Services</b>	<hr/>	<b>A-</b>

**Company** Headquarters: Salt Lake City, UT  
 Website: www.healthcatalyst.com  
 2012 CAPH Revenue: \$12-\$14 million (est.)

Year Founded: 2008  
 Ownership: Private

**Classification** Clinical best of breed: platform-centric

**Top Three Differentiators:**

1. Agile data warehouse
2. Services and change management expertise
3. Extensive number of clinical apps

<b>Product</b>	<b>Product Innovation</b>	<hr/>	<b>A-</b>
	<b>Product Execution</b>	<hr/>	<b>B-</b>
Products: Infrastructure for EDW, more than a hundred Source Data Marts & Subject Area Data Marts			
Dominant Deployment Model: On site installation			

**Top Three Most Used Features:**

1. Data warehousing methodology
2. Interactive Data Exploration through Subject Area Data Marts and Cohort Finder
3. Instant Data Entry Application (IDEA) – a data abstraction tool that integrates data into the warehouse and eliminates “spreadmarts” and MS Access Databases

**Product Criteria Rankings**

Criteria	
Clinical Data Capture	● Clinical Data in Deployments
	◐ Number of EHR Interfaces
	◑ Advanced Structured Data Capture
	○ Unstructured Data
Identify & Manage	● Quality Measures & Care Gaps
	○ Predictive Analytics & Risk Management
Outreach & Engagement	○ Patient Engagement
	◑ Provider Engagement & Alerts
UI	● UI & Data Visualization

Health Catalyst is a 5 year old, venture backed data warehousing startup. The company was created to commercialize a unique approach to data warehousing that the co-founders developed over a decade while working at Intermountain. This architecture is now trademarked as the Adaptive Late Binding Bus Architecture™.

At Intermountain, Catalyst’s founders experienced failed implementations and vast amounts of wasted time in their data warehousing efforts. They discovered that the data they were mapping into data models was being bound to vocabulary and business rules that frequently changed — and that in general healthcare data was simply too volatile to enable the creation of data warehouses in the traditional ways.

The Catalyst approach solves this problem through the principle of Late Binding, where data is bound to vocabulary and business rules as late as possible, and only when a use-case requires it. Original source systems are brought into the Catalyst warehouse minimally transformed, allowing old analytics software to continue to run and analysts to keep their jobs. Then, at the client site, subject area data marts are built out in an agile fashion, use-case by use-case, by clinician users and Catalyst informaticists working together closely.

Aside from providing infrastructure, Catalyst has developed a very complete set of apps – close to 100. Most of these apps are subject area data marts plus QlikView visualizations that overlay them. For example, there is a Brain Injury app and a Women and Children - C-Section app.

Catalyst’s PHM offering starts with the disease registry apps. These registries house the care gaps and generate reports for in-control and out-of-control patients. Through provider attribution models, the registries send data out to physicians or a care manager working with physicians on a regular basis.

In terms of care gap definition, Catalyst takes the approach of aggregating evidenced-based content from the British Medical Journal with other quality measures, e.g. Joint Commission and Leapfrog, HEDIS, etc., to create care gaps that are evidence-centric, rather than quality measure-centric. For purely external reporting, Catalyst offers HEDIS based quality measures.

Health Catalyst has notably provided support for co-morbidity management, important for PHM as co-morbid patients are high risk and represent the highest risk for readmission. In general co-morbidity management is not included in most vendor offerings as there is such scant clinical evidence in the public domain around co-morbidities; clinical trials almost always focus on a single disease.

In implementing co-morbidity management functionality, Catalyst relies on the Charleson Co-morbidity Index to score patients within the *Co-Morbidity Analyzer* app. The *Population Health Management* app also stratifies the population and identifies care gaps through a proprietary chronic condition scoring system.

One co-morbidities use-case that is currently being used by clients focuses on readmissions. A user views the Readmissions dashboard and Co-Morbidity Analyzer app to view real-time readmission rates and see, for example, that the likelihood of readmission increases dramatically with > 2 co-morbidities.

Catalyst remains very much a clinical-centric vendor, and while the company has always taken in medical billing data, the company is just starting to take in adjudicated claims from several at-risk clients. Likewise, Catalyst’s predictive analytics and risk management offerings are nearly nonexistent. Catalyst does use the Charleson co-morbidity index to predict 10 year mortality, though this scoring cannot be called predictive analytics in the sense of the term today. Other weaknesses include the company’s non-existent patient engagement capabilities and absolutely no work being done on front-end EHR integration to enable desired actions within the clinician workflow.

In general, Health Catalyst’s main product differentiators are the number of apps offered and its highly modularized approach to data warehousing implementations – enabled through the company’s late binding architecture. Through this product vision, clients focus first on use-cases that are important to them and enjoy quick wins during implementations.

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**Marketing**

**& Services**

**Market Vision**

**A**

**Market Execution**

**A-**

Primary Market: Large Hospitals/IDNs

Secondary Market: Small Hospitals

Pricing Model: License/Subscription/Hybrid

Flagship Customers: Allina Health, Texas Children’s, Stanford Hospital & Clinics, Providence Health & Services

Market Criteria Rankings	Services Criteria Rankings
● Brand Recognition	● Time to Initial Business Value
● CAPH Market Acceptance	● Change Management
● Installed Base Upsell Opportunity	● Client Self Serve
● Market Entry	

Health Catalyst is currently enjoying considerable momentum, from both the investor and customer side. The company is sitting on a \$41 million honey pot and recent investors include Kaiser Permanente Ventures and Indiana University Health. The company now counts “81 customers, 62 live installs, 19 getting going and a full sales pipeline”. All recent news is good news, including news that the Catalyst Indiana University Health data warehouse was implemented in 90 days, a new contract with Providence to deploy a system-wide data warehouse, and the recent astronomic win of Partners Healthcare over IBM, Oracle, and Epic.

Regarding CAPH markets, Health Catalyst clients and prospects are sophisticated enough to desire a health-care data warehouse, and have typically not been pulled to implement Catalyst via a PHM-only need. While all clients use Catalyst registries for PHM at some level, clients have traditionally pursued Catalyst implementations from a waste elimination perspective. Initial clients wanted to optimize around an episodes-of-care, and so Catalyst’s Pareto Analysis<sup>1</sup> used episodic costs (APR-DRGs) in order to define “waste”. A recent development is that a few new at-risk clients with adjudicated claims and cost-based accounting systems are now pushing Catalyst towards managing risk and lowering global costs.

The market seems to understand that Catalyst achieves business value quickly. What is the company’s secret sauce? The late binding approach doesn’t have IP, is fairly simple to understand, and if healthcare customers continue to respond so strongly, IBM and Oracle will have no problem adopting late binding for healthcare data down the line.

In essence, Health Catalyst found themselves at the right time, and the right place for approaching healthcare clients with a new, incremental way of building out data warehouses. Early clients were not technological innovators – they didn’t want to upfront the price of an EDW (The company’s pricing model mirrors its implementation approach: a small initial contract, and further payments after certain milestones are reached), or radically change the way they operated overnight. These clients also responded to a smorgasbord of apps to choose from that aligned with their clinical-centric needs.

Clients also experience a pleasant side effect of Catalyst’s approach – integrating non-employed physicians into enterprise decision-making – resulting in coveted physician engagement and alignment. On the flip side, implementations heavily depend on clinician participation and time must be spent coaxing the reluctant.

Unlike Catalyst competitors who are using late binding approaches, Catalyst does not attempt to conceal highly technical terms borrowed from software programming (Late Binding) and hardware design (Bus Architecture), and have been actively marketing themselves on their trademarked term: Adaptive Late Binding Bus Architecture.

Catalyst needs to work on clarifying this message and positioning their brand for the long term. This will be especially important as they move down-stream, but will also apply to providers with many experienced data warehousing/BI professionals who might be confused by the terminology. In addition, Catalyst marketing efforts concerning PHM is non-existent and the company’s brand name doesn’t yet compete with the big guns of data warehousing, nor very well known analytics app vendors.

Regardless, Health Catalyst is enjoying the challenges of success. Clients and 3rd parties eager to develop their own apps are pulling the company in the direction of a platform/ecosystem play. New clients want to implement 50 use-cases at once rather than 5, obliterating the notion of late binding. Downstream, smaller hospitals are not being served.

The company is entertaining a handful of strategies going forward in order to meet these demands. They are partnering with a few clients for app development, and are in discussions with potential services vendor partners who might be trusted to learn the “Catalyst Way”. In addition the company will release an Amazon EC2 data warehousing appliance for the downstream market. The challenge will be in meeting market demand and scaling outside of services-intensive engagements without losing the Catalyst special sauce.

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<sup>1</sup> At the start of each client engagement, Catalyst focuses on waste reduction by using its Key Process Analysis Pareto Application to find the care process families with the largest variation around cost and clinical outcomes.



# ABOUT: Chilmark Research

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Everything we do at Chilmark Research is based on our conviction that IT can transform healthcare, if deployed, adopted, and used effectively. Decision makers need to understand what is at stake, who will use the technology, and in what capacity. None of this is straightforward in today's environment of government initiatives, outcomes-based payment models, and provider consolidation. Chilmark Research delves into immature markets and presents clear, forward-thinking analysis enabling healthcare providers to make informed strategic decisions. Areas of current research focus include among others: Clinical Analytics for Population Health, Health Information Exchanges, Cloud-computing Models for Healthcare, Employer Adoption Trends for Health & Wellness Apps, Adoption of mHealth Technology and IT solutions to address patient/consumer engagement.

Founded in 2007, Chilmark Research has quickly gained a reputation for high quality research on the ever-changing healthcare IT market. Using a pragmatic, evidence-based research methodology with a strong emphasis on primary research, Chilmark Research structures its research reports to serve the needs of technology adopters, consultants, investors and technology vendors. In addition to reports for the general market, Chilmark Research performs research for clients based on their specific needs.

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