The Rise of Just-in-Time Health Information Systems

Big Health Data

Personalized Content

Real-Time Analytics

Auto Info Delivery

July 2013

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enspektos™

Alert: Dr. Google's Days May Be Numbered

Move Over Online Health Search . . . The Age of Automated Health Content Customization and Personalization is Here

We'll Show You Why This Matters and How This is Being Achieved

Today's Webinar is Especially Timely

Apps That Know What You Want, Before You Do

By CLAIRE CAIN MILLER
Published: July 29, 2013 | Comment

SAN FRANCISCO — In Hollywood, there are umbrella holders. Outside corner offices, there are people who know exactly how much cream to pour in the boss's coffee. In British castles, royals have their valets.

And then there is Silicon Valley, where mind-reading personal assistants come in the form of a cellphone app.

A range of start-ups and big companies like Google are working on what is known as predictive search — new tools that act as robotic personal assistants, anticipating what you need before you ask for it. Glance at your phone in the morning, for instance, and see an alert that you need to leave early for your next meeting because of traffic, even though you never told your phone you had a meeting, or where it was.

How does the phone know? Because an application has read your e-mail, scanned your calendar, tracked your location, parsed traffic patterns and figured out you need

New York Times, July 29, 2013

We've Developed a Report That Explains This Trend in Detail

(More on This Later)

digihealth pulse **Insight Report**

The Rise of Just-in-Time Health Information Systems

Research Streams: Technology Adoption; Recalled Content Influence
Published: July 2013

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Before We Begin, a Few Words of Explanation & Thanks

Who is Behind All This?

We are a **digital health innovation consultancy**

Our mission: Help you use digital technologies to persuade patients, providers, caregivers and others to take action around health and wellness

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Who is Behind All This?

We Achieve Our Mission By:

- Revealing the shape and scope
of the **digital health future**

- Uncovering how digital health content (Web/social)
influences health awareness, perceptions and behavior

What's enmoebius bronze?

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A **Member Supported** Digital Health Market
Intelligence and Advisory Service Powered by Enspektos

Key enmoebius bronze Features:

- **A focus on the big picture**: How do digital health
trends fit together and why does technology matter?

For example, how will the combination of Big Data, mobile,
sensors, analytics and the social Web influence how we
find and consume health content in the future?

(Stay tuned for the answer.)

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What's enmoebius bronze?

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Key enmoebius bronze Features:

- **A fixation on the future**: How will technology transform health and how can you prepare for and excel in this fast-changing landscape?

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What's enmoebius bronze?

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Key enmoebius bronze Features:

- **Unique technological assets**: Our technology platform **enmoebius** enables us to illustrate the link between digital health content consumption and **behavior change** *and* **reveal what's coming** in the health technology landscape.

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enmoebius bronze Research

digihealth pulse is a Research Initiative (Powered by enmoebius)
Focusing on Active Digital Health Consumers
(Early Health Tech Adopters)

enmoebius bronze Subscribers Have Access
to high-impact digihealth pulse Research Outputs:

- Digital health content's **influence on behavior**
  (Web/social media and more)

- The **future** of the digital health technology landscape

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A Word of Thanks to SXSW

SXSW MARCH 8–12 2013
INTERACTIVE
AUSTIN TX

We Deeply Appreciate the Support of Our Partner SXSW
(They Helped Spread the Word About This Webinar)

The South by South West (SXSW) Interactive Festival Features
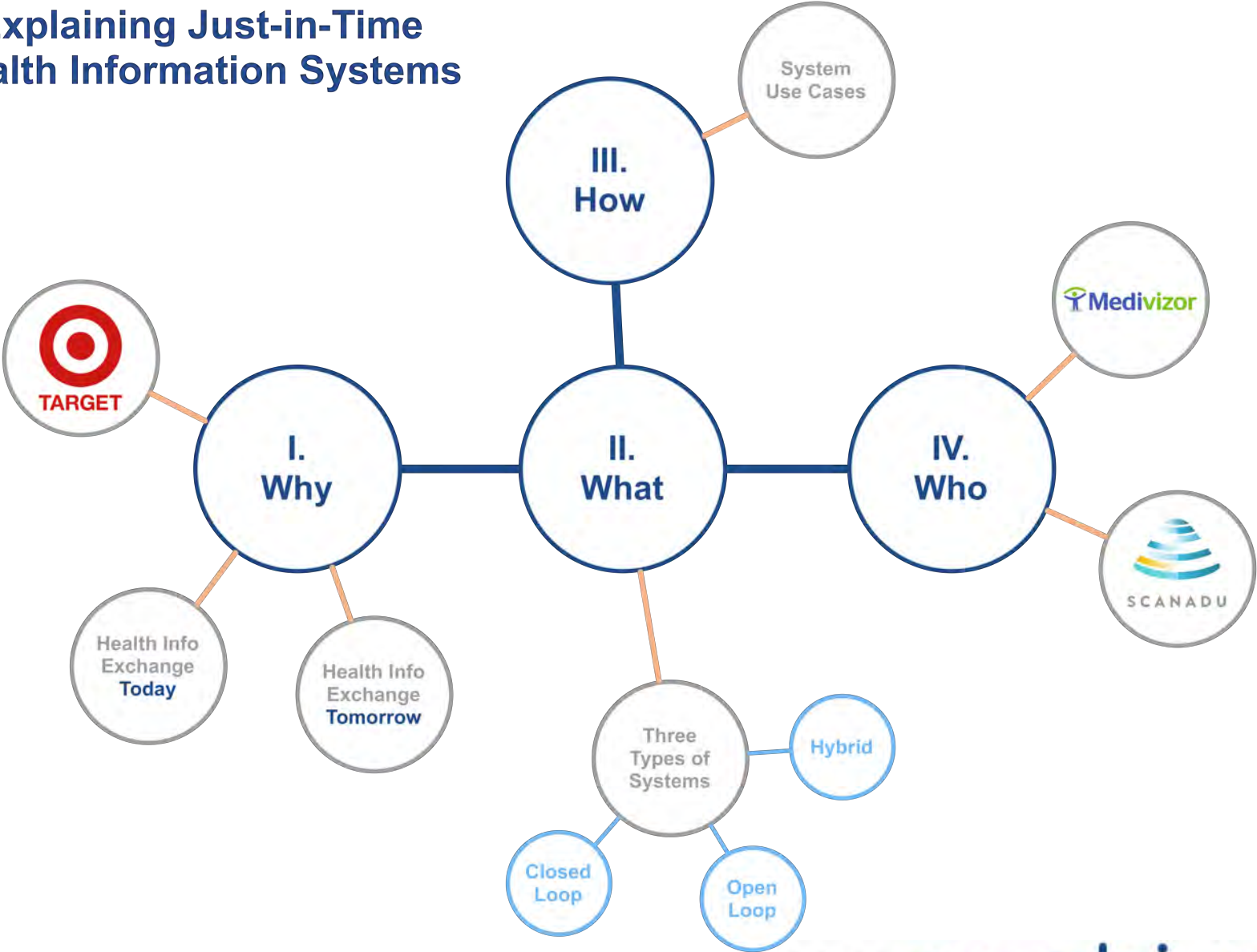High-Impact Talks About the Digital Health Future

Learn More: www.sxsw.com
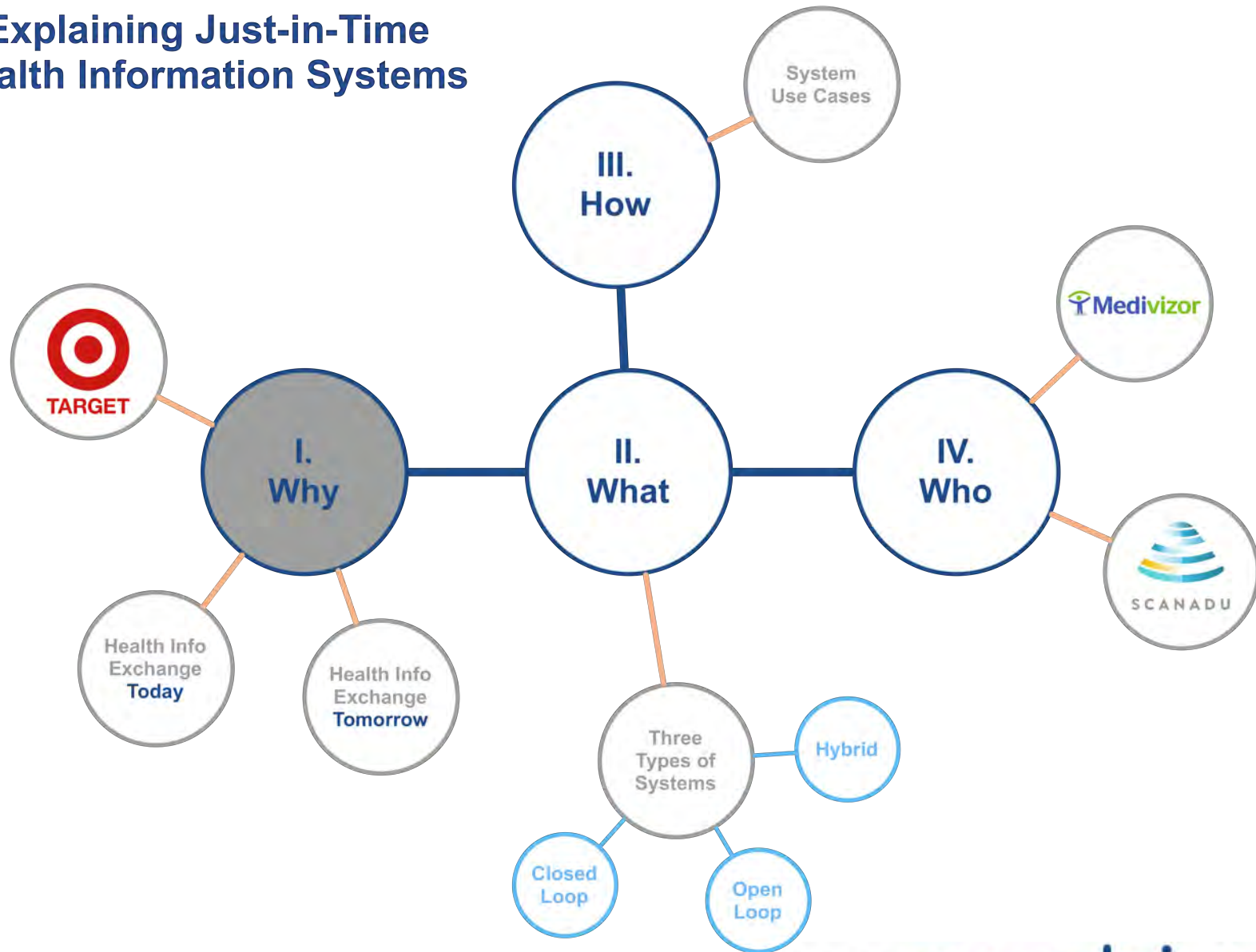
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Now, the Main Event

Our Path Forward

Explaining Just-in-Time Health Information Systems

Why These Systems Are Important

**Explaining Just-in-Time
Health Information Systems**

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Target and the Pregnant Teen

How Target Figured Out A Teen Girl Was Pregnant Before Her Father Did

319 comments, 169 called-out   + Comment Now   + Follow Comments

Every time you go shopping, you share intimate details about your consumption patterns with retailers. And many of those retailers are studying those details to figure out what you like, what you need, and which coupons are most likely to make you happy. Target, for example, has figured out how to data-mine its way into your womb, to figure out whether you have a baby on the way long before you need to start buying diapers.

Charles Duhigg outlines in the New York Times how Target tries to hook parents-to-be at that crucial moment before they turn into

Target has got you in its aim

Source: Forbes

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Target and the Pregnant Teen

Target Has Figured Out How to Produce **Personalized** Marketing Content and Optimize its Delivery for Maximum Impact (Such as Right Before a Baby's Due Date)

- **How?**: Target's Big Data Analytics Capabilities Help it to Understand and Predict Human Behavior

- **What Has Target Achieved?**: Target Has Built a Robust *Just-in-Time Information System*

Why This Matters for Health

Like Target, Some Pioneering Health Organizations Have Developed Capabilities That Enable Them to **Produce Personalized Content, Predict Its Effectiveness and Deliver it (Sometimes) Before it is Needed**

You Heard it Here First: Just-in-Time Information Systems Have Arrived in Health

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The World is Changing . . .

How We Get Health Information Today

Face to Face

The World is Changing . . .

How We Get Health Information Today

Via Digital (Web/Mobile) Health Search

The World is Changing . . .

How We Get Health Information **Today**

By Chance

**(Most of the Time We Stumble Upon it During
Our Journeys Across the Web and Social Media)**

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. . . Here's What it Will Look Like

How We'll Get Health Information **Tomorrow**

Passively, *Without* Having to Search

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. . . Here's What it Will Look Like

How We'll Get Health Information **Tomorrow**

Automatically Personalized and Relevant: We'll Do Less Manual Sifting

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. . . Here's What it Will Look Like

How We'll Get Health Information Tomorrow

Source: CNN

Just-in-Time: Sometimes We'll Receive Health Info _Before_ We Know We Need It

Reality Check: How Do We Know This Trend is Real?

**The Digital Health Firms Building
The Future Have Confirmed It**

SCANADU

**"We're absolutely moving from a world
where people must sort and filter
health information themselves to one
where content is personalized
and passively delivered."**

**-Dr. Alan Greene,
Chief Medical Officer, Scanadu**

**Scanadu is Developing Consumer-Friendly Sensing Devices
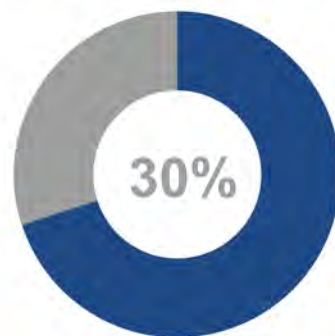and a Personalized, Just-in-Time Health Information Ecosystem**

(More on Scanadu Later)

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Reality Check: Do People Really Want Personalization?

Yes. One-Third of Active Digital Health Consumers Want Personalized Content

Personalized Health Content Important to Many Active Digital Health Consumers

30%

30% of Active Digital Health Consumers Say it is Very Important to Receive Health Content That's Personalized for Them or Their Families

N: 398 Active Digital Health Consumers Surveyed Sept. 2012
Question: How important is it for you receive health information that's personalized for you and your family (focused on health conditions or medical concerns you have) as opposed to general medical information you can find on sites like Google?
Answer: 5-point scale - 1 = Not Important; 5 = Very Important; Percentage of Respondents Who Selected "5" or Very Important Shown Above
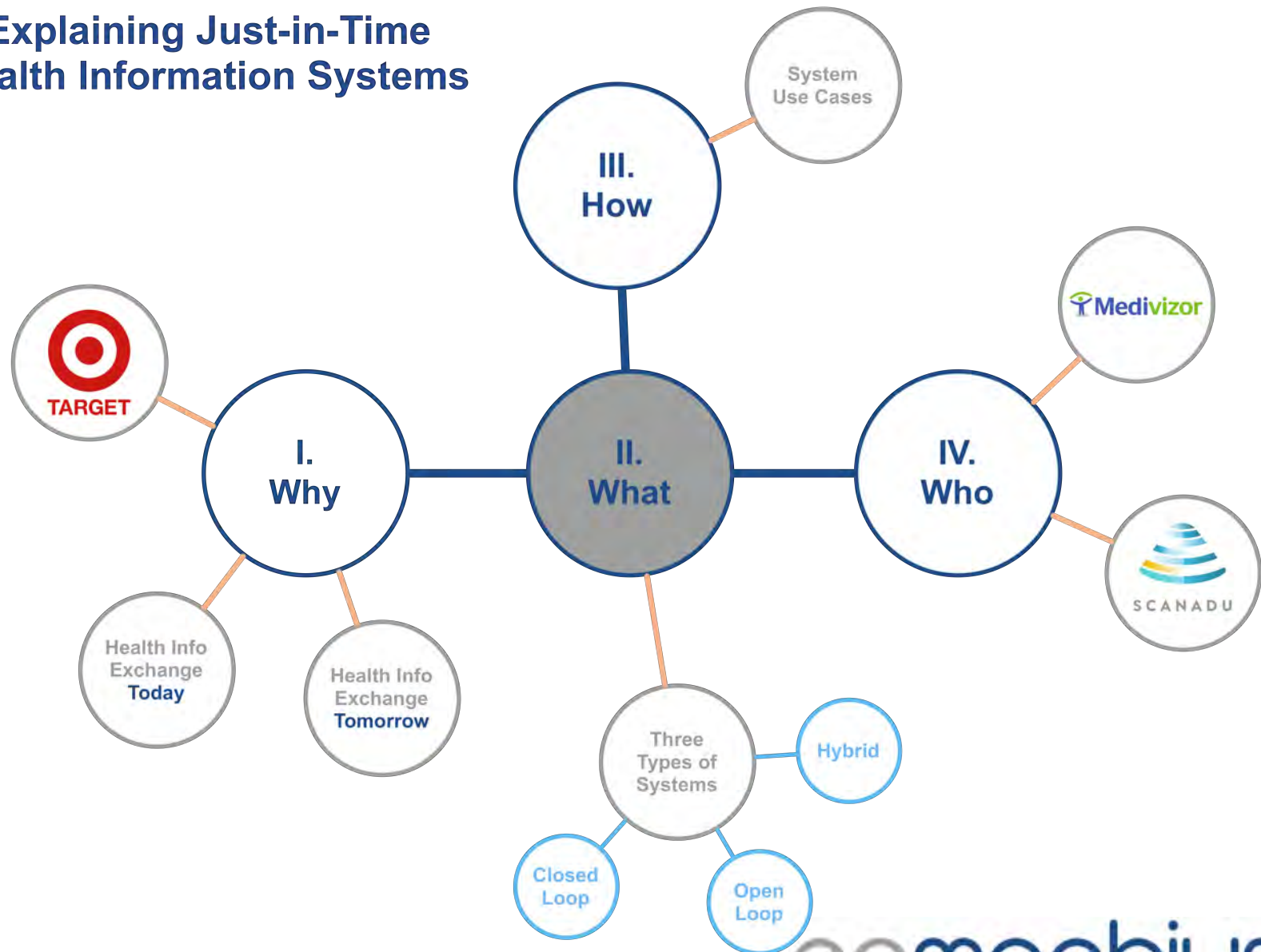
Source: Enspektos, LLC, 2013

There is a Ready-Made Audience for Health Content Personalization Across Consumer Types

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What Are These Systems?

**Explaining Just-in-Time
Health Information Systems**

Defining Just-in-Time Health Information Systems

Just-in-Time Health Information Systems Defined

"[A] combination of technologies, devices, data and information that deliver personalized, relevant content to consumers, health providers and others. This information [can be passively delivered] to consumers and [may not] require them to proactively seek it out."

-Fard Johnmar, Founder & President, Enspektos, LLC

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Key System Features

Feature
Passive Content Delivery
Customization and Personalization
Data Driven Content Filtering and Production

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Three Types of Systems: Closed Loop

Closed Loop: Characterized by the use of highly sensitive data (from consumers, electronic medical records and more) to **develop and filter content contained in dynamic or static content libraries**.

Content is delivered to consumers on-demand, at pre-determined intervals or in real-time.

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Three Types of Systems: Open Loop

Open Loop: Characterized by the use of **personal preference, biometric and other types of data** collected **from consumers** via sensing devices, surveys and other methods.

Personal data is used to filter and recontextualize **content from the open Web**, which is then delivered to consumers at pre-scheduled intervals, in real-time, or on-demand.

Three Types of Systems: Hybrid

Hybrid: These **combine** features from open and closed loop systems. Consumers receive personalized information contained in databases **and** from the open Web.

(In the future, most just-in-time systems will be of the hybrid variety.)

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Report Has More Detail on Open Loop, Closed Loop and Hybrid Systems
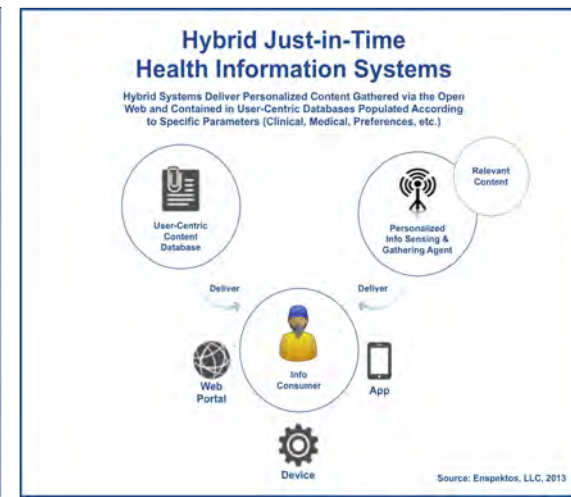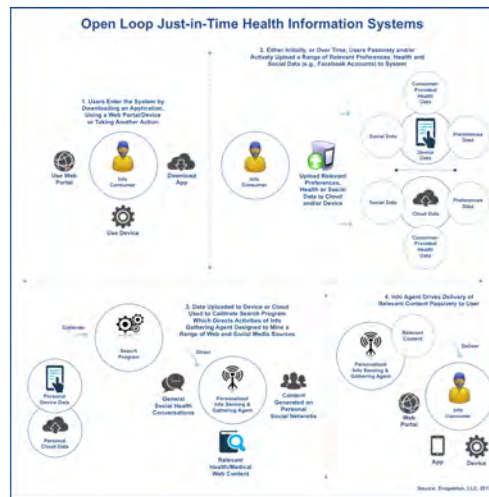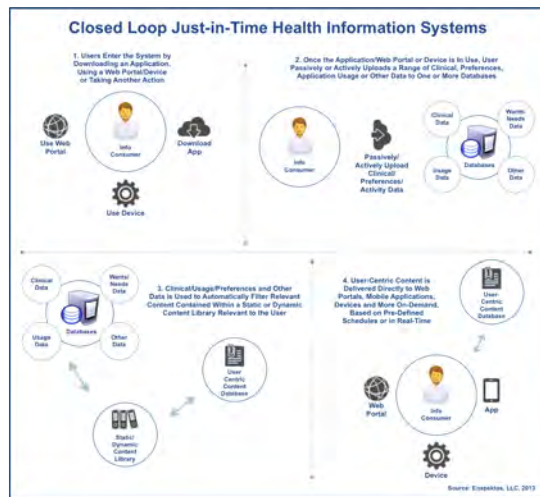
Report contains infographics with information on the design and features of these systems and much more.

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How Might These Systems Be Used?

**Explaining Just-in-Time
Health Information Systems**
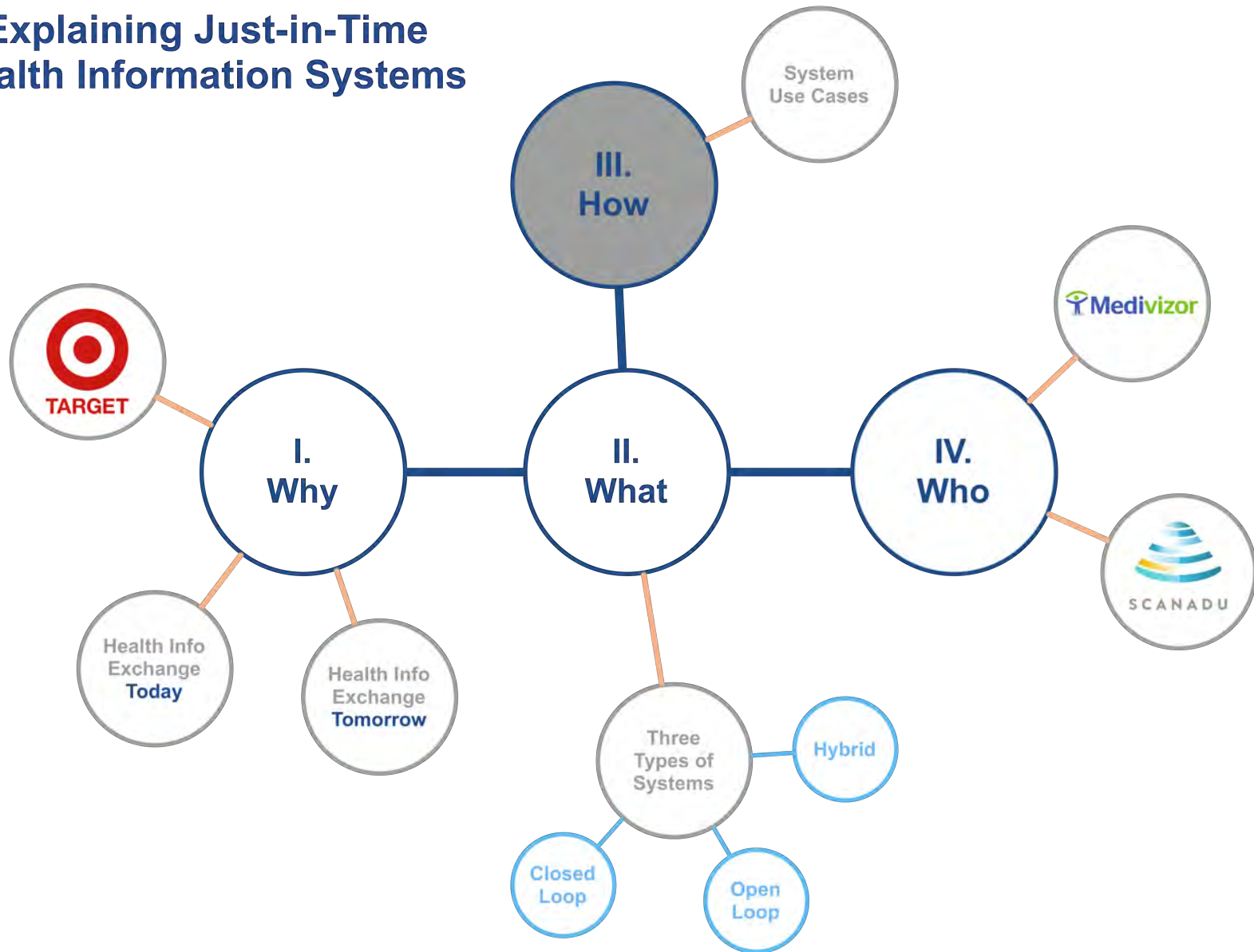
System Use Cases (Current and Potential)

Use Case
Marketing
Digital Corporate Wellness
Digital Education and Support
Consumer Wellness
Public Health (Potential Use Case)

Dynamic CRMs

**Biometric Data
Powered Health Coaches**

Dr. Google No More

Scan, Log and Learn

**Personalized Disease Alerts
and Epidemic Forecasts**

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Who is Developing these Systems?

**Explaining Just-in-Time
Health Information Systems**
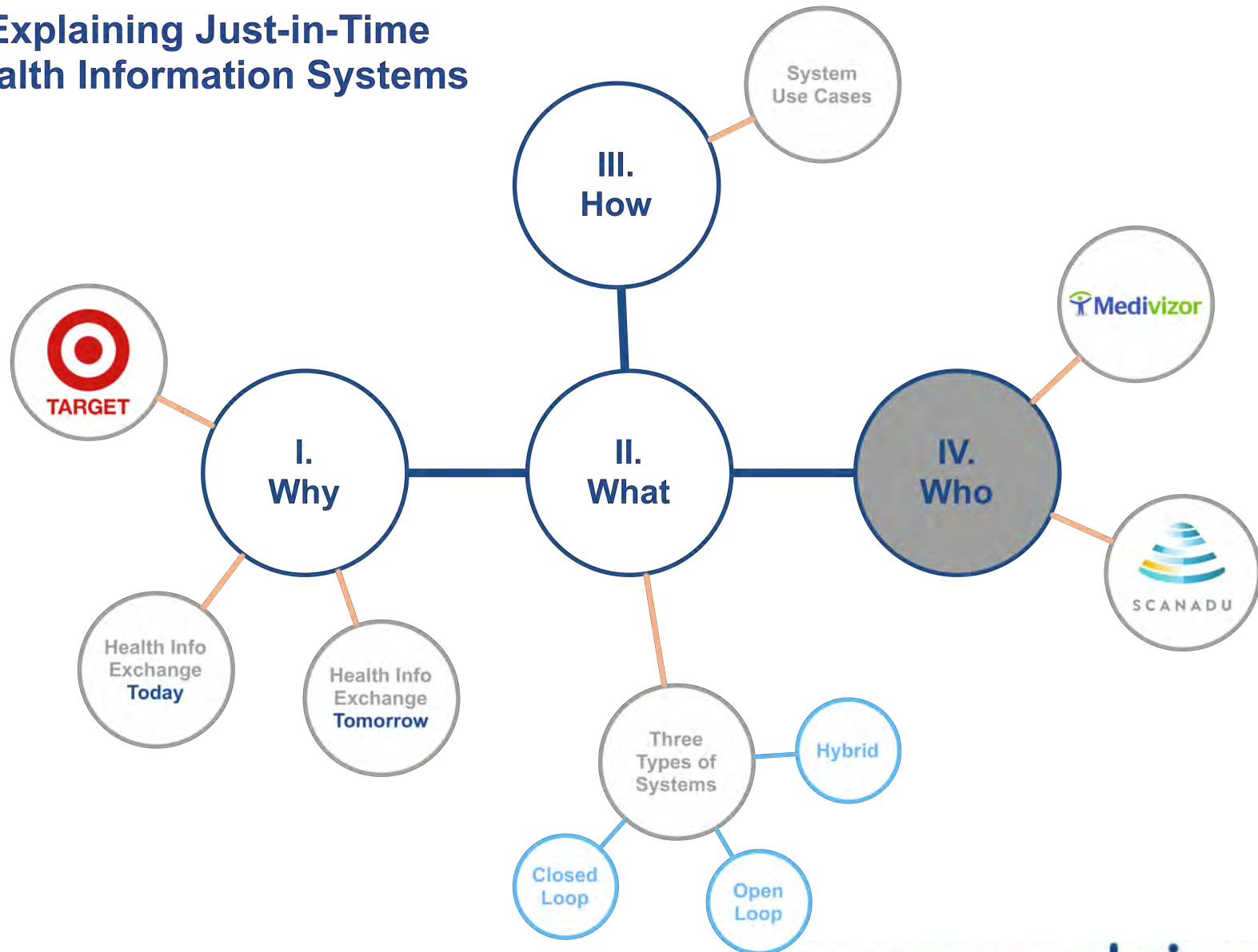
Medivizor: Delivering **Personalized** Health Content to People With Serious Medical Conditions

www.medivizor.com

System Type: Open Loop
Use Case: Digital Education and Support

Medivizor uses data provided by users to automatically deliver personalized and customized health content updates.

Users spend less time searching for and sifting through health content. Information delivered by Medivizor is also automatically translated into non-technical language to boost understanding.

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Medivizor on Why Personalized Health Content is Critical

Tal Givoly, Medivizor, Co-Founder & Chief Executive Officer

"Everyone currently is talking about proactive information seeking activities. However, the optimal solution is that content should come to you when it becomes available and when it's critical for you to know it. The assumption should be that when information is delivered, it's going to be relevant."

(Additional Medivizor Commentary Featured in Report)

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Scanadu: **Leveraging Biometric Data** to Deliver Relevant and Customized Health Information

www.scanadu.com

**System Type: Open Loop
Use Cases: Digital Education and
Support; Consumer Wellness**

Scanadu is building a hardware-software ecosystem designed to help consumers rapidly collect a range of biometric data, including blood pressure and temperature. The startup is also developing a content delivery system that leverages body performance data to passively deliver a range of relevant and personalized health information to users.

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Scanadu on How Personalization Will Help Consumers

Alan Greene, MD, FAAP, Chief Medical Officer, Scanadu

"It's important to emphasize that our goal is not to replace hospitals or doctors. We want to empower people to fully participate in their care and to have better conversations and relationships with their physicians."

(Additional Scanadu Commentary Featured in Report)

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Some Implications of Just-in-Time Health Information Systems

A Health Content Filter Bubble?

The Filter Bubble

What ▮▮▮ the ▮▮▮▮▮
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Eli Pariser

As just-in-time systems become widespread will people receive **less exposure** to new, important or contradictory ideas?

Will it Become Harder to Reach People?

Will personalization **benefit or harm** health organizations' marketing and communications initiatives and how will they adjust?

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Are We Thinking Hard Enough About Data Security, Privacy and Portability?

What happens if just-in-time health information systems are **hacked**?

How can data be **securely shared** between systems?

Who owns the data?

Will people be able to **take their data** with them?

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How You Can Learn A lot More

Premium enmoebius bronze Report Outlines the Just-in-Time Health Information Future

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A **45 Page** Report Featuring:

- **In-depth information** on the features of just-in-time health information systems (you'll also learn how they're architected)
- **Extensive commentary** from Scanadu, Medivizor and other firms forging the personalized health content future
- **Exclusive data** on which consumers are best suited for these systems and where they might be most effective
- Much, much more

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Get This Report Absolutely Free

Start a free 10-day trial enmoebius bronze subscription and:

- Access the full 45 page report
- Benefit from related research on digital health behavior change, content personalization, Big Data, sensors and much more
- Discuss just-in-time health information systems and receive expert advice on other digital health topics
- Plans start at $24/month*
- Keep the report, even if you don't continue your subscription

*With an annual plan.

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