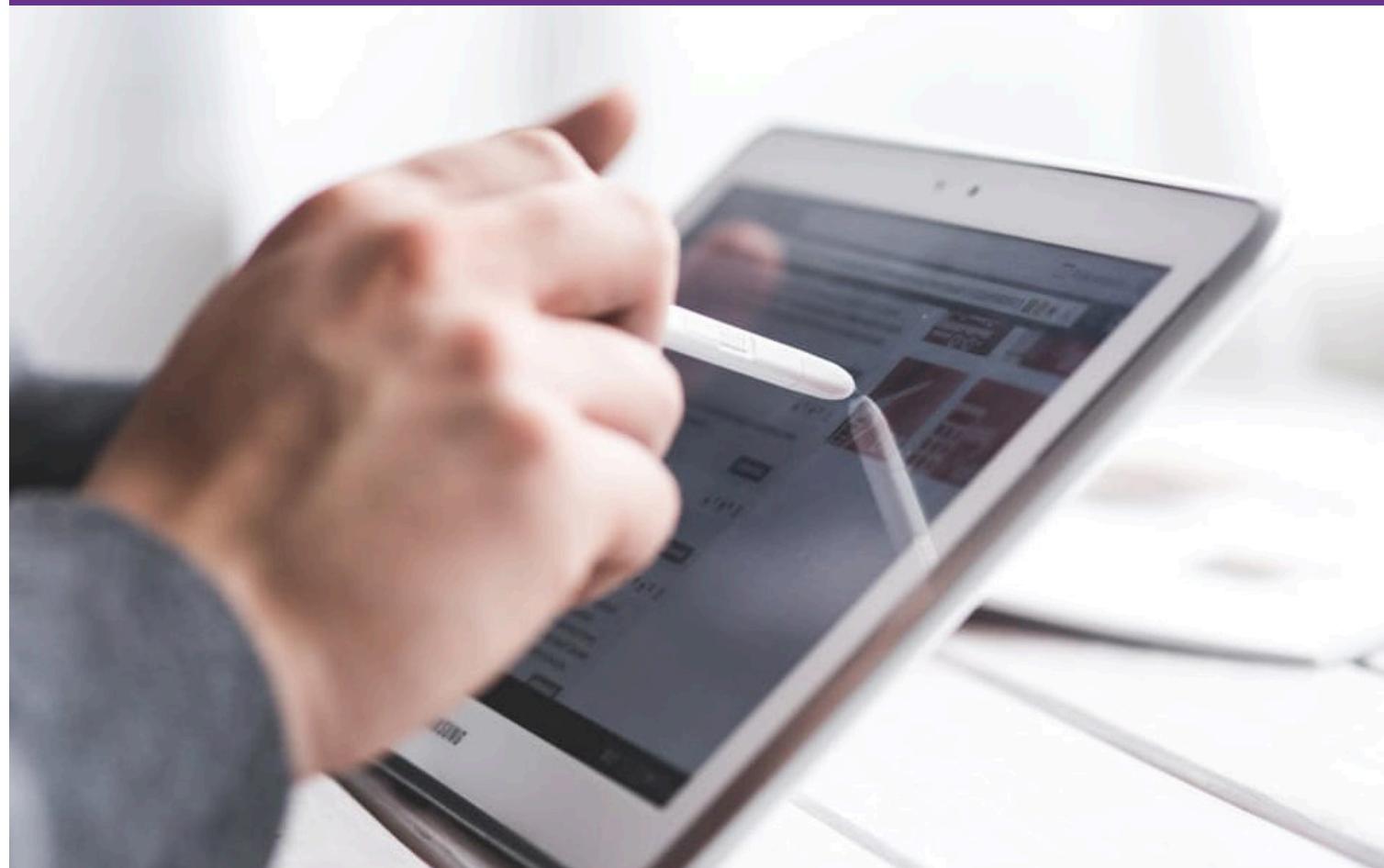


Pekka Neittaanmäki, Elmira Galeieva

Digital Healthcare Platform



Editor: Pekka Neittaanmäki
Covers: Jarno Kiesiläinen

Copyright © 2016
Pekka Neittaanmäki, Anthony Ogbechie ja Jyväskylän yliopisto

ISBN 978-951-39-6927-1 (verkkoj.)
ISSN 2323-5004

Jyväskylä 2016

Digital Healthcare Platform

Pekka Neittaanmäki, Elmira Galeieva

ABOUT THE PROJECT

This report was conducted under the Platform Value Now project funded by Finland's Strategic Research Council. Platform Value Now will focus on understanding the fast emerging platform ecosystems, their value creation dynamics and requirements of the supportive institutional environment. We will analyze ecosystems with systems tools and develop new methods for platform-centric ecosystems management. Data collection is based on active scanning of global technology and platform ecosystems and fast solution oriented case experiments with Finnish corporations and policy planners. The aim of the project is to operationalize the collected understanding into a Platform Profile framework that will enable more efficient method and tool development for ecosystem management.

CONTENT

<u>HEALTHCARE ECOSYSTEM</u>	6
Digital Healthcare Ecosystem	6
Why the Healthcare Ecosystem Matters.....	6
Platform Economy. Ecosystems are the new bedrock of digital healthcare	7
More than medicine	7
Predictable Disruption. Digital ecosystems blur healthcare's boundaries, in a foreseeable way.....	8
PHC Ecosystem.....	8
Why patient experience is key to acquisition and retention in coordinated care networks.....	9
Healthcare: For here or to go?.....	9
Factors that promote or inhibit the implementation of e-health systems: an explanatory systematic review.....	10
Patient Engagement: Happy Patients, Healthy Margins	10
Why digital transformation should be a strategic priority for health insurers.....	11
Losing patience: Why hospitals must revive their digital health strategies	11
Private Health Insurance Exchange Enrollment Increases 35 Percent to 8 Million in 2016	12
How healthcare systems can become digital-health leaders	12
ehealth 2.0: How health systems can gain a leadership role in digital health.....	13
Patient Engagement and the Healthcare Ecosystem 2.0	13
Disrupting the health-care ecosystem.....	14
Did the digitization of healthcare leave the human element behind?.....	14
The new healthcare ecosystem: 5 emerging relationships	15
Health Data Sources & Users / Healthcare Ecosystem	15
Getting the Best Business-Intelligence Solution for Healthcare.....	16
HealthShare. You'll make breakthroughs in connecting care	16
Information in healthcare: EHR success requires more than system adoption	17
Analytics across the ecosystem. A prescription for optimizing healthcare outcomes ..	17
5 Reasons Why Healthcare Data is Unique and Difficult to Measure.....	18
4 Essential Lessons for Adopting Predictive Analytics in Healthcare	18
Healthcare Analytics Adoption Model	19
The User-Driven Transformation of Health Care	19
Social Innovation Building a Smart Care Community	20
Digital Health Track Brings Together Health Tech, Pharma And Biotech.....	20
The Emerging Role of the Pharmacist in the Healthcare Ecosystem	21

Patient Use of Email for Health Care Communication Purposes Across 14 European Countries: An Analysis of Users According to Demographic and Health-Related Factors	22
eHealth Literacy: Extending the Digital Divide to the Realm of Health Information	22
European citizens' digital health literacy	23
White Paper: The Medical Grade Wireless Utility	23
Digitizing the Safety Net: Health Tech Opportunities for the Underserved	24

HEALTHCARE PLATFORMS

What is a Healthcare IT Platform?	25
The HealthSaaS Platform	26
Taking the NHS on the digital journey	26
Remote Healthcare Service Platform.....	27
Defining the mobile health platform	27
Mobile Healthcare Delivery Platform. Case study.....	28
Is there a “Platform gap” in Healthcare? A Stanford Medicine X Panel	28
DigiAID: A Wearable Health Platform for Automated Self-tagging in Emergency Cases	29
Home Health Gateway Based Healthcare Services Through U-Health Platform	29
Wearable sensors network for health monitoring using e-Health platform	30
Design and Implementation of a Web-Service-Based Public-Oriented Personalized Health Care Platform	30
An Innovative Platform for Person-Centric Health and Wellness Support	31
Is your workers' compensation technology platform ready for healthcare reform?.....	31

DIGITAL HEALTHCARE TECHNOLOGIES

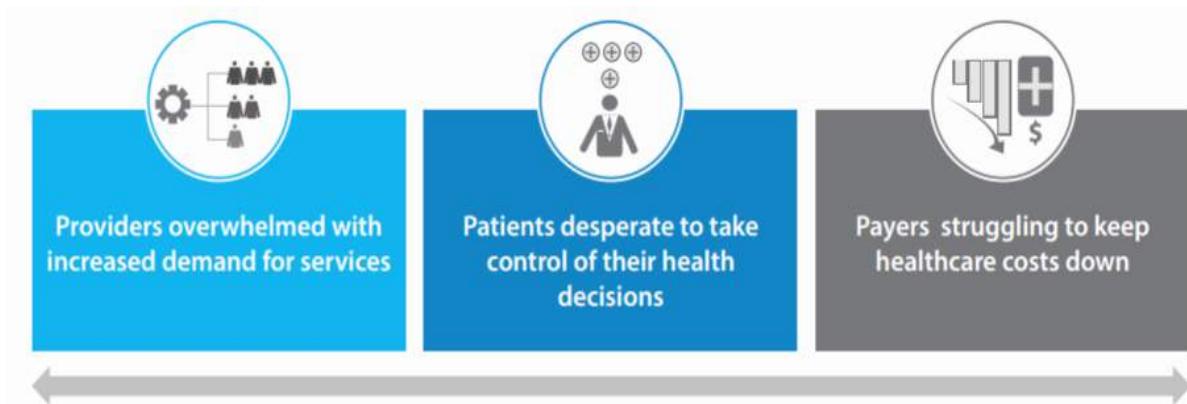
Removing technology barriers to make healthcare healthier	32
The Digitization of Healthcare	32
Using healthcare IT to improve patient access	33
Enhancing Clinical Practice with Wearables	33
The role of big data in medicine	34
Big Data In Healthcare	34
Why Your Healthcare Business Intelligence Strategy Can't Win without a Data Warehouse.....	35
What is the best Healthcare Data Warehouse Model for Your Organization?	35
Open a world of cloud-based connected health care.....	36
Building Future-Ready Healthcare IT Platforms: Get To The Cloud	36
Hadoop in Healthcare - A No-Nonsense Q & A	37
Moving Healthcare Analytics to Hadoop to Build a Better Predictive Model	37
A New Framework Architecture for Next Generation e-Health Services	38
Exploring a methodology for eHealth indicator development.....	38
Applying Watson technology for personalized cancer care	39
Kone liittää hissinsä verkkoon - valvojana IBM Watson.....	39

HEALTHCARE DATA SECURITY	40
Digital Trust. As healthcare data security risks increase, so do opportunities to earn consumer trust	40
Building trust using patient engagement and the wisdom of the crowd	40
International review. Secondary use of health and social care data and applicable legislation	41
ENTERPRISE DATA MANAGEMENT (EDM) SOLUTIONS	41
Why cybercriminals attack healthcare more than any other industry.....	42
A New Approach To Protecting Healthcare Data Security.....	42
Key steps to big data security in healthcare	43
50 things to know about healthcare data security & privacy	43
Data security threat scars digital healthcare	43
Electronic Health Records Security and Privacy Concerns	44
Fifth Annual Benchmark Study on Privacy & Security of Healthcare Data	44
HEALTHCARE TRENDS AND PREDICTIONS	45
Digital Health Trends Show the Power of People	45
Healthcare's digital future	45
What Digital Innovation in Healthcare Will Look Like.....	46
Connected Health: 4 Trends Shaping The Future Of Digitized Healthcare	46
Big Data in Healthcare Made Simple: Where It Stands Today and Where It's Going .	47
2015 Health Plans Industry Outlook	47
Top health industry issues of 2016	48
Healthcare and Life Sciences Predictions 2020	48
Global health 2035: a world converging within a generation	49
With 2 acquisitions, IBM builds out Watson Health.....	49
IBM to Invest up to \$150M to Support Italian Research Hub.....	50
Alder Hey Children's Hospital Set to Become UK's First 'Cognitive' Hospital	50
Personalized Prevention: Harnessing Technology Catalysts for Change.....	51
A National Action Plan To Support Consumer Engagement Via E-Health	52
Modern Doctors' House Calls: Skype Chat and Fast Diagnosis.....	52
Towards Trustworthy Health Platform Cloud	53
Patient Engagement and Reported Outcomes in Surgical Recovery: Effectiveness of an e-Health Platform	53
Gamification: What It Is and Why It Matters to Digital Health Behavior Change Developers	54
HEALTHCARE IN FINLAND	55
Health in all policies as a priority in Finnish health policy: A case study on national health policy development	55
Performance Estimation of Networked Business Models: Case Study on a Finnish eHealth Service Project	55

Human Factors in the Large: Experiences from Denmark, Finland and Canada in Moving Towards Regional and National Evaluations of Health Information System Usability.....	55
Improving the Coordination of Patients' Medication Management: A Regional Finnish Development Project.....	56
Nordic EHealth Indicators: Organisation of Research, First Results and the Plan for the Future.....	56
Problem in Patient Information System Acquirement in Finland: Translation and Terminology	57
Barriers to and advantages of e□health from the perspective of elderly people: A literature review.....	57
Finnish experiences of health monitoring: local, regional, and national data sources for policy evaluation	58
Report on eHealth and eWelfare of Finland: Usability improvement necessary for health care digitalization to proceed	59
Peer Review eHealth Strategy and Action Plan of Finland in a European Context	59
User experiences with different regional health information exchange systems in Finland	60
Charting Design Preferences on Wellness Wearables	60
Expanding choice of primary care in Finland: much debate but little change so far	60
Finland's Health Ecosystems and Strengths in Digital Health and Personalized Healthcare Attract Investments and Innovations	61
Nokia plans to acquire Withings to accelerate entry into Digital Health	61
Oulu leads with innovative healthcare	62
Towards data-driven healthcare in Finland	62
Finland's future digital health stars showcase services in the USA	63
Digital Health Revolution -project launched	63
Finland's strong health ecosystem and strengths in digital health attract investments and innovation collaboration	64
Investor's Perspective: Finnish Digital Health Ecosystem – The Next Big Thing?	64

HEALTHCARE ECOSYSTEM

Digital Healthcare Ecosystem



Read article:

<https://www.infosys.com/digital/white-papers/Documents/digital-healthcare-ecosystem.pdf>

Why the Healthcare Ecosystem Matters



Read article:

<http://www.dtcperspectives.com/why-the-healthcare-ecosystem-matters/>

Platform Economy. Ecosystems are the new bedrock of digital healthcare

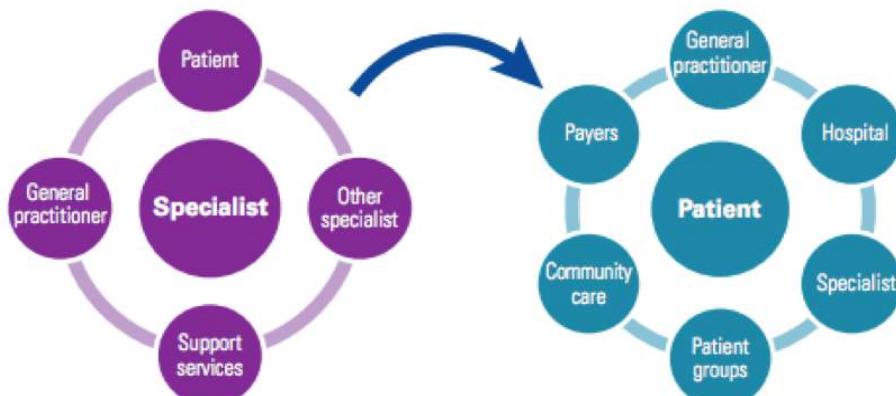


Read article:

<https://www.accenture.com/us-en/insight-platform-economy-digital-health#block-example>

More than medicine

Figure 2: New healthcare ecosystems are centered on the patient



Source: KPMG International, 2012

Read article:

<http://www.kpmg.com/ZA/en/IssuesAndInsights/ArticlesPublications/General-Industries-Publications/Documents/More%20than%20medicine.pdf>

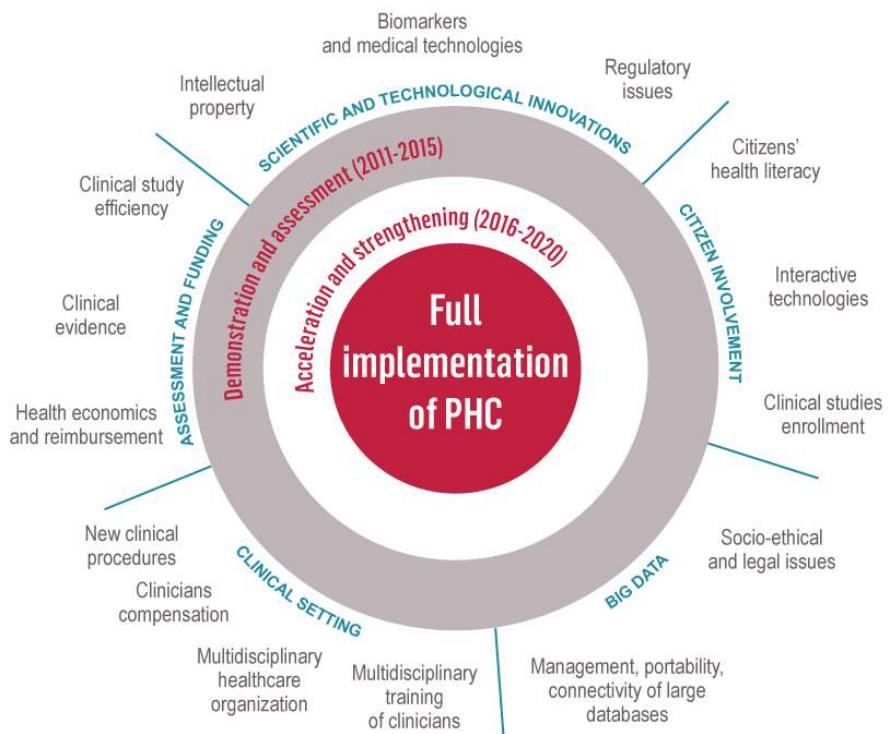
Predictable Disruption. Digital ecosystems blur healthcare's boundaries, in a foreseeable way.



Read article:

<https://www.accenture.com/us-en/insight-predictable-disruption-digital-health>

PHC Ecosystem



Read article:

<http://qnphc.org/personalized-health-care/phc-ecosystem/>

Why patient experience is key to acquisition and retention in coordinated care networks



Read article:

<https://www.accenture.com/us-en/insight-patient-experience-acquisition-retention-coordinated-care>

Healthcare: For here or to go?



Source: Accenture Research and CB Insights

Read article:

https://www.accenture.com/t20151120T024431_w_us-en_acnmedia/Accenture/Conversion-Assets/DotCom/Documents/Global/PDF/Dualpub_25/Accenture-Healthcare-for-Here-or-to-Go-v2.pdf#zoom=50

Factors that promote or inhibit the implementation of e-health systems: an explanatory systematic review

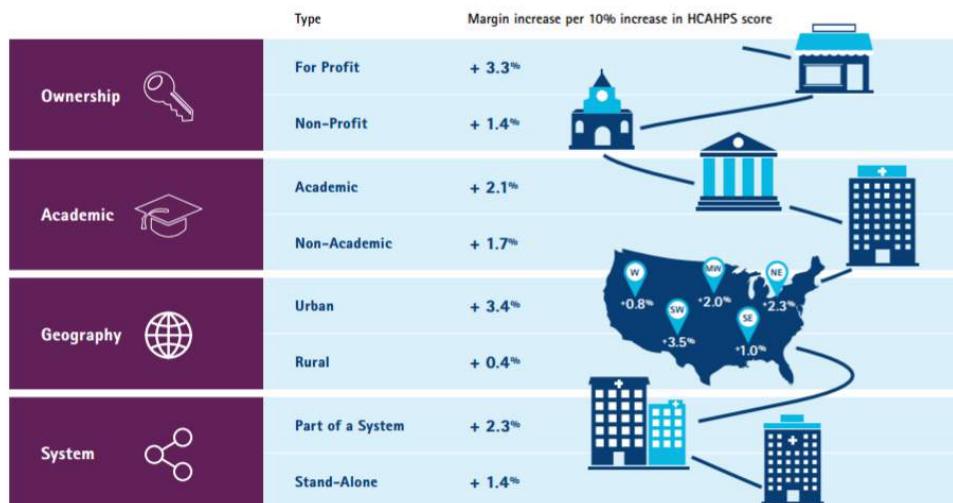
Table 1. Normalization process theory coding framework used for qualitative analysis of review data on e-health implementation

Coherence (Sense-making work)	Cognitive participation (Relationship work)	Collective action (Enacting work)	Reflexive monitoring (Appraisal work)
Differentiation Is there a clear understanding of how a new e-health service differs from existing practice?	Enrolment Do individuals "buy into" the idea of the e-health service?	Skill set workability How does the innovation affect roles and responsibilities or training needs?	Reconfiguration Do individuals try to alter the new service?
Communal specification Do individuals have a shared understanding of the aims, objectives and expected benefits of the e-health service?	Activation Can individuals sustain involvement?	Contextual Integration Is there organizational support?	Communal appraisal How do groups judge the value of the e-health service?
Individual specification Do individuals have a clear understanding of their specific tasks and responsibilities in the implementation of an e-health service?	Initiation Are key individuals willing to drive the implementation?	Interactional workability Does the e-health service make people's work easier?	Individual appraisal How do individuals appraise the effects on them and their work environment?
Internalization Do individuals understand the value, benefits and importance of the e-health service?	Legitimation Do individuals believe it is right for them to be involved?	Relational integration Do individuals have confidence in the new system?	Systematization How are benefits or problems identified or measured?

Read article:

<http://www.scielosp.org/pdf/bwho/v90n5/v90n5a11.pdf>

Patient Engagement: Happy Patients, Healthy Margins



Read article:

https://www.accenture.com/t20151003T033201_w_us-en_acnmedia/Accenture/Conversion-Assets/DotCom/Documents/Global/PDF/Industries_17/Accenture-Happy-Patients-Healthy-Margins.pdf#zoom=50

Why digital transformation should be a strategic priority for health insurers

Six steps help get the digital transformation going.



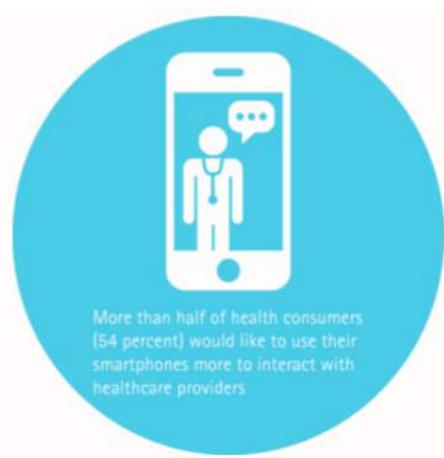
- 1 Start from the customer:** Prioritize key customer journeys and digitize end to end.
- 2 Break your functional silos:** Build a cross-functional team with a clear mandate and digital talent.
- 3 Create measurable targets:** Develop quantitative targets for each team.
- 4 Translate digital ambition into resource allocations and budgets:** Significantly reallocate investments.
- 5 Focus on talent:** Infuse new leaders into organization; retain existing digital talent.
- 6 Maximize value of two-speed IT:** Digitally enable your legacy infrastructure.

McKinsey&Company | Source: McKinsey analysis

Read article:

<http://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/why-digital-transformation-should-be-a-strategic-priority-for-health-insurers>

Losing patience: Why hospitals must revive their digital health strategies

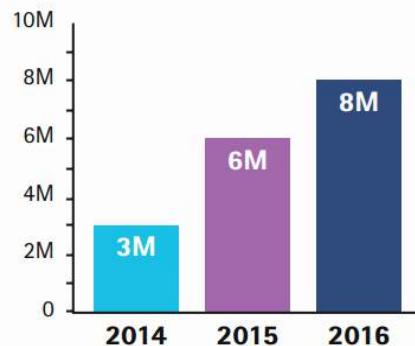


Read article:

https://www.accenture.com/t20160516T051341_w_us-en_acnmedia/Accenture/Conversion-Assets/DotCom/Documents/Global/PDF/Dualpub_24/Accenture-Losing-Patience.pdf#zoom=50

Private Health Insurance Exchange Enrollment Increases 35 Percent to 8 Million in 2016

Figure 1: Private HIX enrollment reached 8 million in the 2016 benefit plan year



Source: Accenture 2016; calculation includes pre-65 employees and dependents.

Read article:

https://www.accenture.com/_acnmedia/PDF-3/Accenture-Private-Health-Insurance-Exchange-Enrollment-Increases.pdf

How healthcare systems can become digital-health leaders



Read article:

<http://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/how-healthcare-systems-can-become-digital-health-leaders>

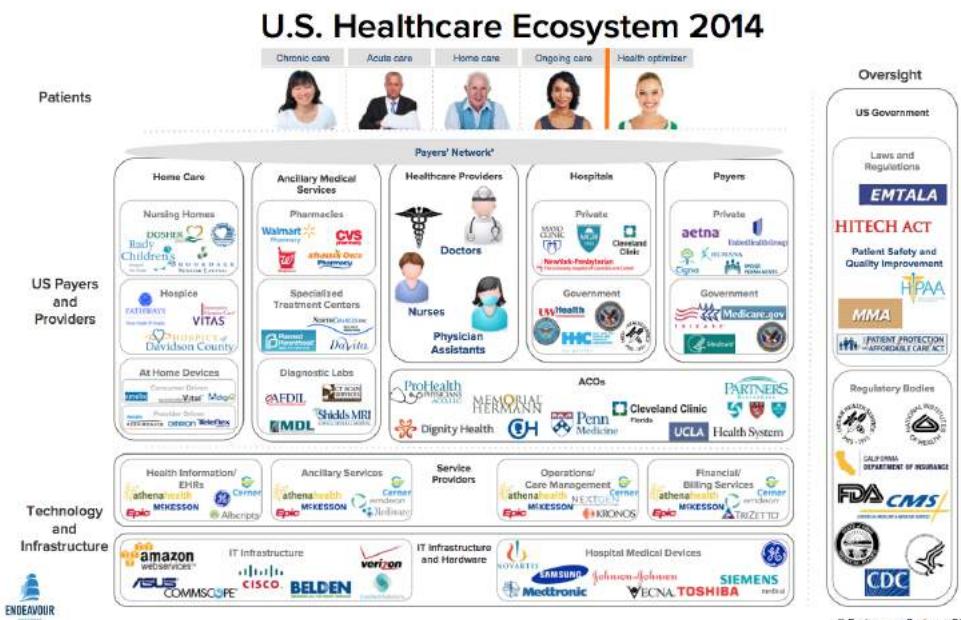
ehealth 2.0: How health systems can gain a leadership role in digital health



Read article:

<http://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/e-health-2-point-0-how-a-health-systems-can-gain-a-leadership-role-in-digital-health>

Patient Engagement and the Healthcare Ecosystem 2.0



Read article:

<http://endeavourpartners.net/patient-engagement-and-the-healthcare-ecosystem-2-0/>

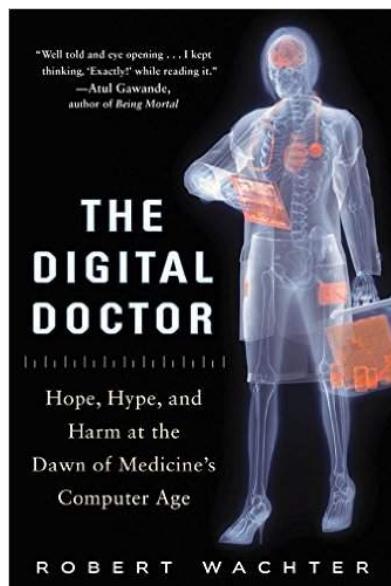
Disrupting the health-care ecosystem



Watch video:

<http://live.wavecast.co/disrupting-the-health-care-ecosystem/>

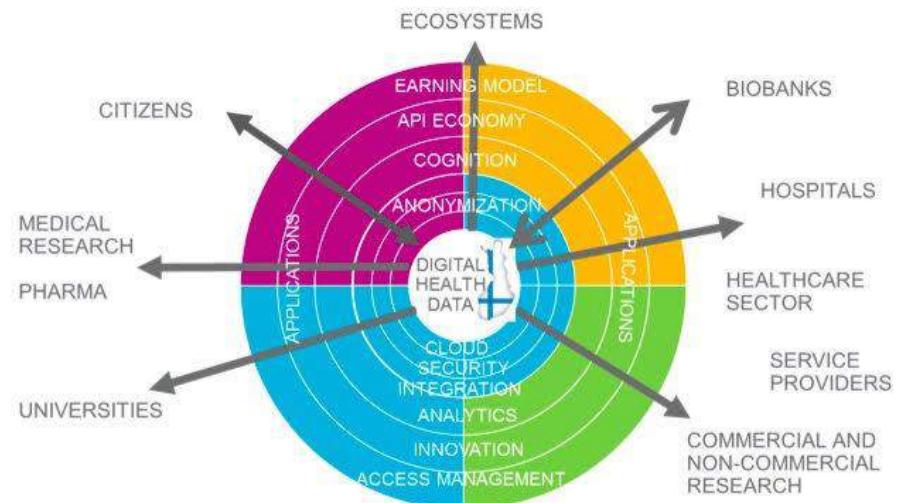
Did the digitization of healthcare leave the human element behind?



Read article:

<http://mobihealthnews.com/47357/did-the-digitization-of-healthcare-leave-the-human-element-behind>

The new healthcare ecosystem: 5 emerging relationships

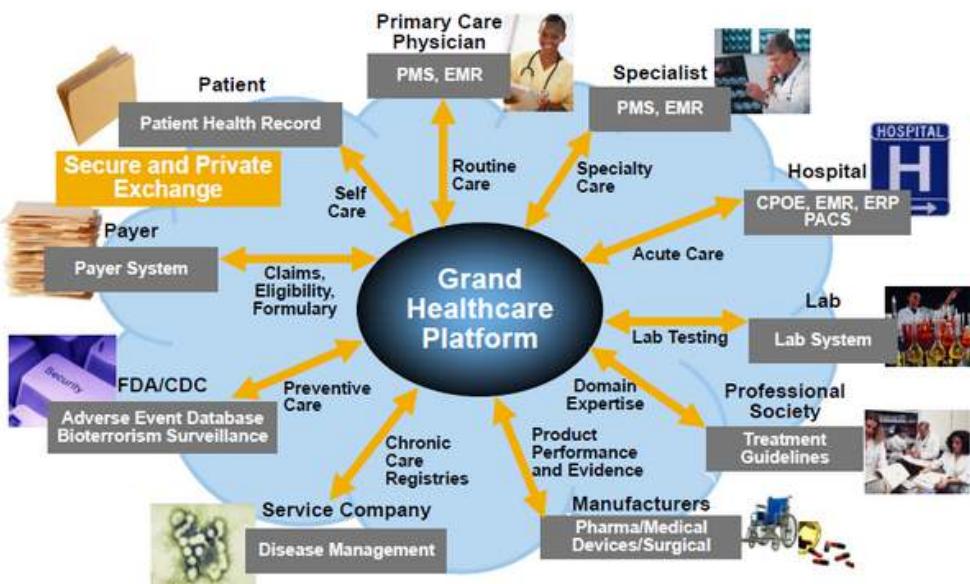


Read article:

<http://www.beckershospitalreview.com/hospital-management-administration/the-new-healthcare-ecosystem-5-emerging-relationships.html>

Health Data Sources & Users / Healthcare Ecosystem

The Future
Interconnected, Private, Secure Health Information Exchange



@RobertWahMD <http://himss.files.cms-plus.com/2014Conference/handouts/PHY1.pdf>

Read article:

<https://storify.com/HealthcareWen/health-data-sources-and-users>

Getting the Best Business-Intelligence Solution for Healthcare

	Point Solutions	Internally Developed Solutions	EDW Platform
Agility and Flexibility	Minimal; built for specific purposes	Varies	High agility and flexibility
Use across multiple Systems	None	Not usually without expert help	Yes
Time to Value	Months to Years	Years	Weeks to Months

Read article:

<https://www.healthcatalyst.com/best-healthcare-business-intelligence-solution>

HealthShare. You'll make breakthroughs in connecting care

The screenshot shows the HealthShare patient portal. At the top, there's a navigation bar with 'HealthShare', 'About Us', and 'Sign Out'. Below that is a header with 'Messages', 'Library', 'Calendar', and 'My Account'. On the left, a sidebar shows a photo of a woman named Maria González, 39 years old, Female. The sidebar also lists 'Wellness Home', 'My Personal Information', 'Share My Records', 'My Health History' (which is highlighted in purple), 'My Medications', 'My Lab Results', 'My Conditions', and 'My Plan'. The main content area is titled 'Health History' and shows a timeline from 'July 17' to 'February 10'. Each entry includes a small icon, the date, the time, the provider's name, and a 'View Details' link. A callout box on the right says: 'The HealthShare intuitive timeline makes it easy for patients to review the medical record for accuracy, helping them partner with their providers for safer, high-quality care.' Another callout at the bottom left says: 'Patients can view, download and transmit records, send messages to providers, request services and efficiently manage their care.' A footer at the bottom states: 'HealthShare Patient Portal - © 2012 InterSystems Corporation. All rights reserved. InterSystems, the InterSystems logo, and the HealthShare logo are registered trademarks of InterSystems Corporation. Other names may be trademarks of their respective owners.'

Read article:

<http://www.intersystems.com/our-products/healthshare/healthshare-overview/>

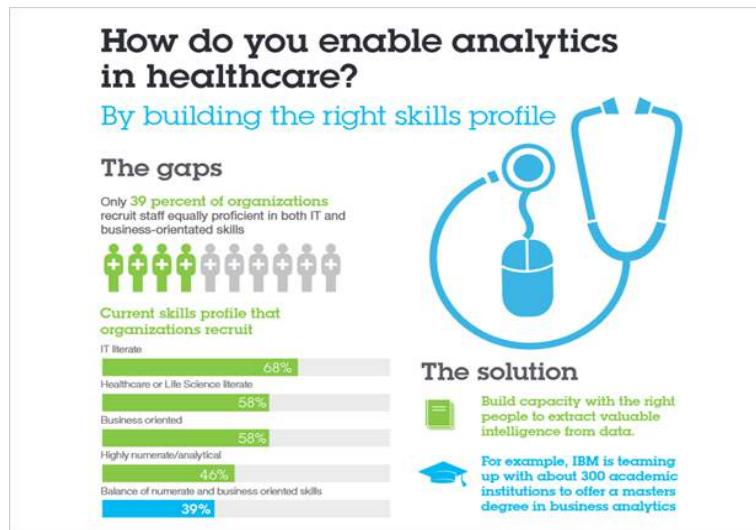
Information in healthcare: EHR success requires more than system adoption



Read article:

<http://www.i-scoop.eu/information-in-healthcare-ehr-requires-more-than-system-adoption/>

Analytics across the ecosystem. A prescription for optimizing healthcare outcomes



Read article:

<http://www-935.ibm.com/services/us/gbs/thoughtleadership/healthcare-ecosystem/>

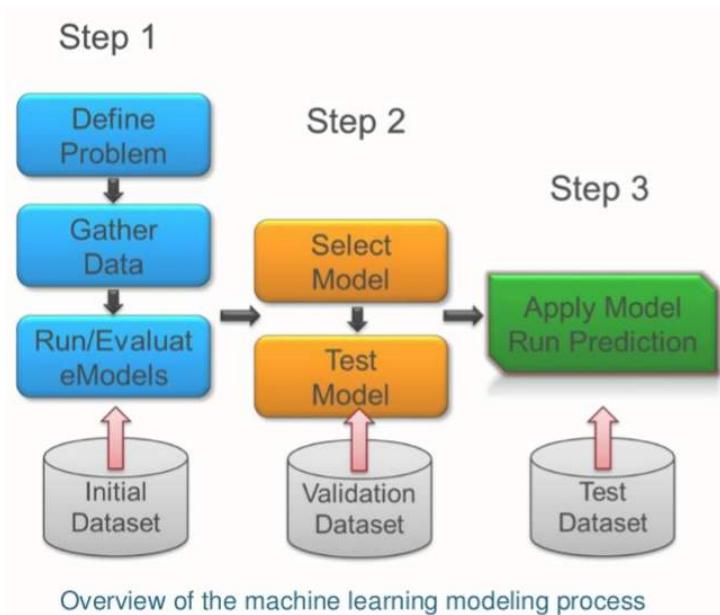
5 Reasons Why Healthcare Data is Unique and Difficult to Measure



Overview presentation:

<http://www.slideshare.net/healthcatalyst1/5-reasons-why-healthcare-data-is-difficult-to-measure>

4 Essential Lessons for Adopting Predictive Analytics in Healthcare



Overview presentation:

<http://www.slideshare.net/healthcatalyst1/4-essential-lessons-for-adopting-predictive-analytics-in-healthcare>

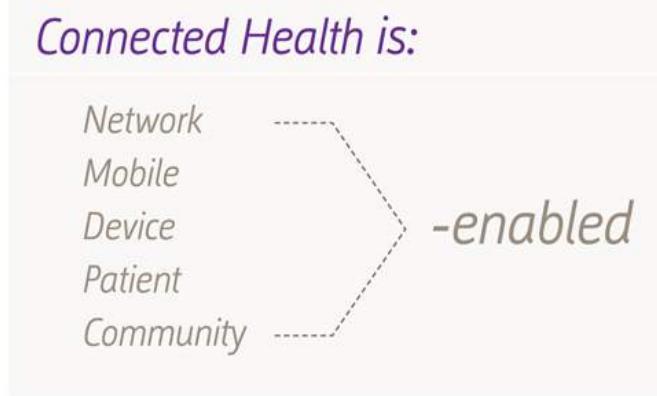
Healthcare Analytics Adoption Model

Level 8	Personalized Medicine & Prescriptive Analytics
Level 7	Clinical Risk Intervention & Predictive Analytics
Level 6	Population Health Management & Suggestive Analytics
Level 5	Waste & Care Variability Reduction
Level 4	Automated External Reporting
Level 3	Automated Internal Reporting
Level 2	Standardized Vocabulary & Patient Registries
Level 1	Enterprise Data Warehouse
Level 0	Fragmented Point Solutions

Overview presentation:

<http://www.slideshare.net/healthcatalyst1/healthcare-analytics-adoption-model-oct-2013>

The User-Driven Transformation of Health Care

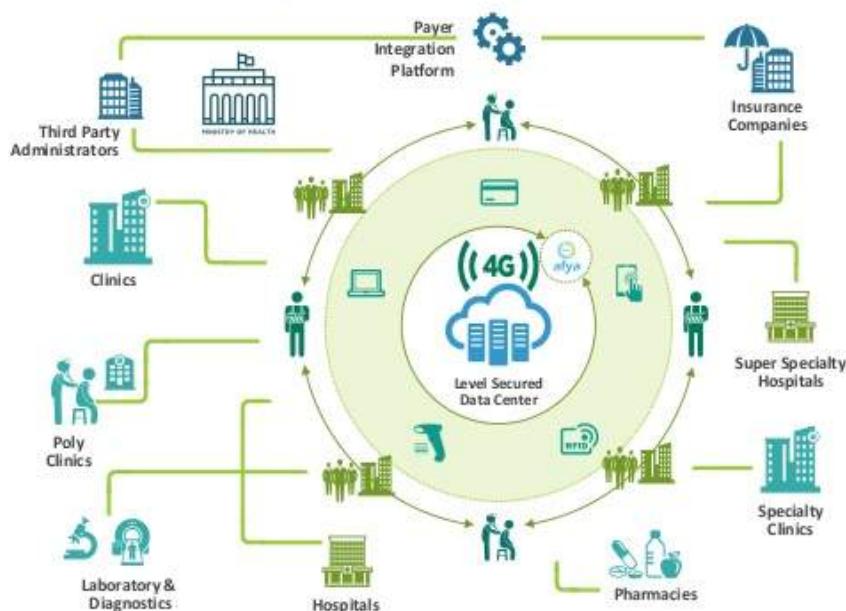


Read article:

<https://www.medtechintelligence.com/column/meddesign-the-user-driven-transformation-of-health-care/>

Social Innovation Building a Smart Care Community

Healthcare Ecosystem - Service Oriented



Future of "CARE" will be through an ecosystem localized to a "Geography"
"Healthcare Is Local"

Social Innovation Building a Smart Care Community

8

Read article:

<http://www.slideshare.net/VasukumarNair1/social-innovation-building-a-smart-care-community-20150911upload>

Digital Health Track Brings Together Health Tech, Pharma And Biotech



Read article:

<http://www.greentoscale.net/en/news/self-care/digital-health-track-brings-together-health-tech-pharma-and-biotech>

The Emerging Role of the Pharmacist in the Healthcare Ecosystem



Read article:

<http://rxtimes.com/the-emerging-role-of-the-pharmacist-in-the-healthcare-ecosystem-article-3/>

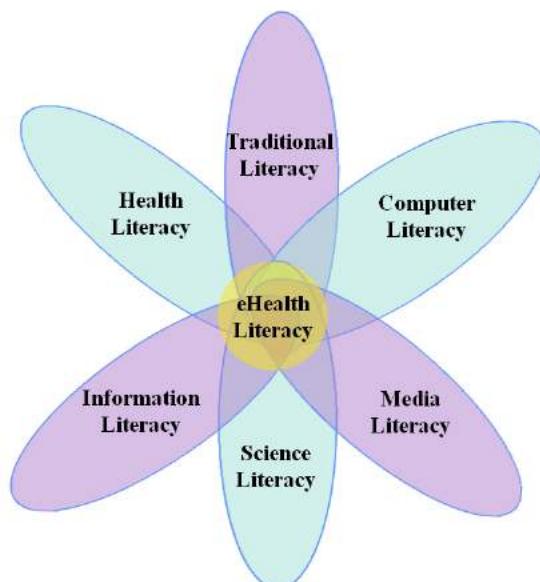
Patient Use of Email for Health Care Communication Purposes Across 14 European Countries: An Analysis of Users According to Demographic and Health-Related Factors



Read article:

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4376107/>

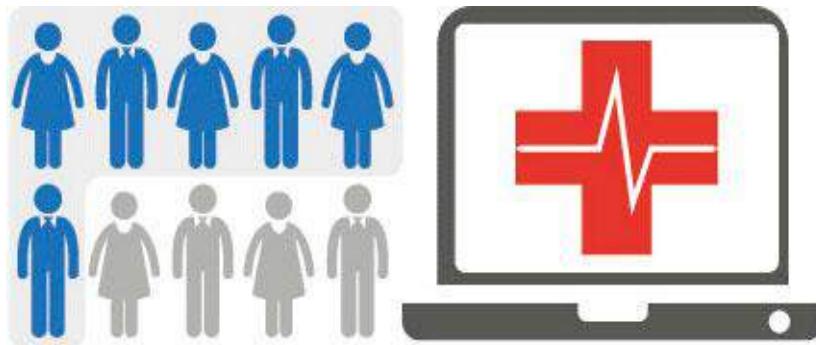
eHealth Literacy: Extending the Digital Divide to the Realm of Health Information



Read article:

[http://www.jmir.org/2012/1/e19/?utm_source=twitterfeed&utm_medium=twitter&utm_campaign=Feed:+Top10Tw1+\(Top+10+JMIR+Articles:+Most+Tweeted+\(Past+1+month\)\)](http://www.jmir.org/2012/1/e19/?utm_source=twitterfeed&utm_medium=twitter&utm_campaign=Feed:+Top10Tw1+(Top+10+JMIR+Articles:+Most+Tweeted+(Past+1+month)))

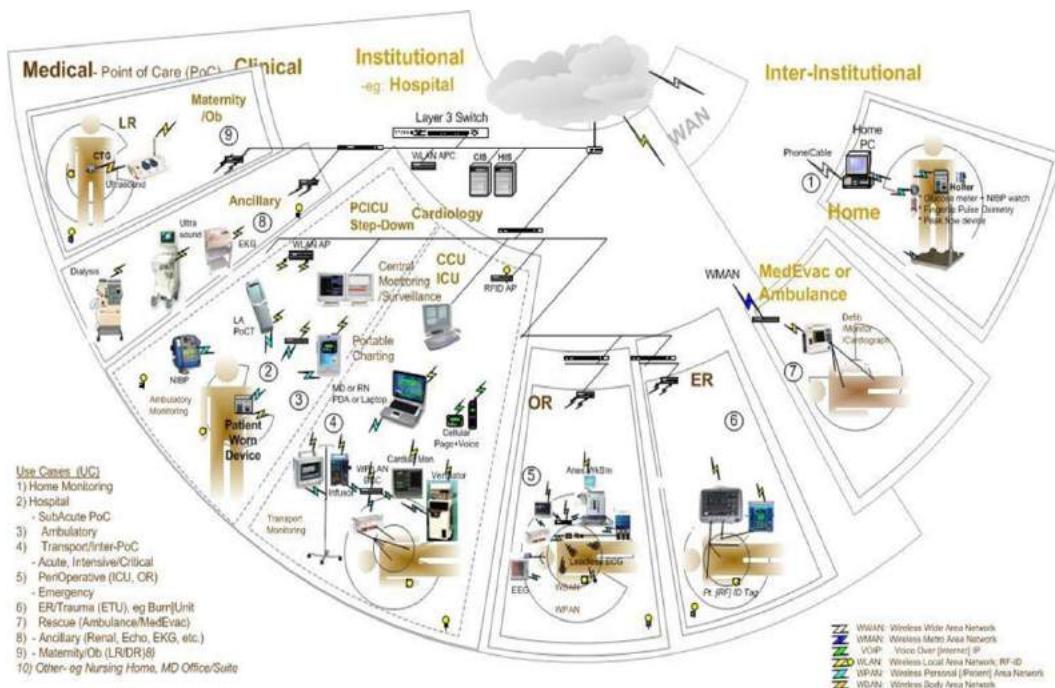
European citizens' digital health literacy



Read article:

http://observgo.uquebec.ca/observgo/fichiers/42526_res1.pdf

White Paper: The Medical Grade Wireless Utility



Read article:

<http://www.woodharbinger.com/the-medical-grade-wireless-utility/>

Digitizing the Safety Net: Health Tech Opportunities for the Underserved

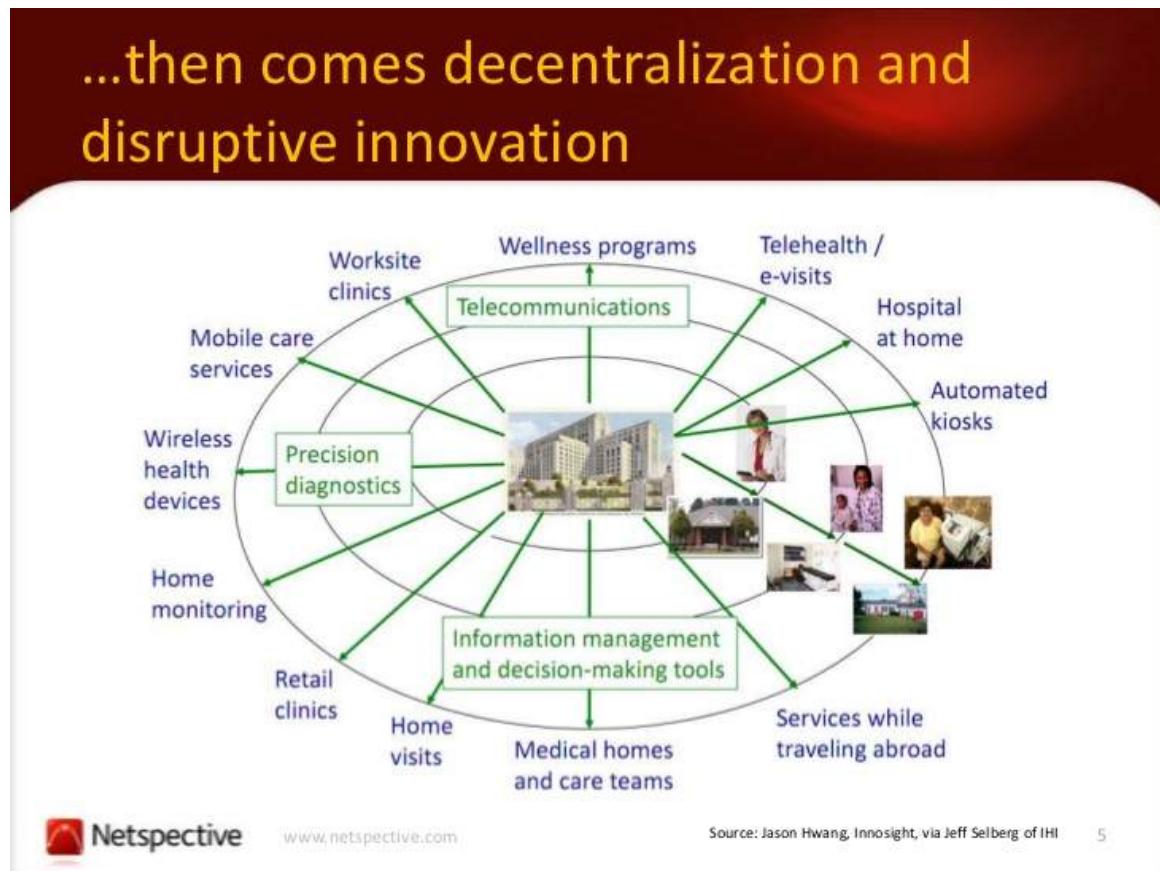


Read article:

<http://www.chcf.org/~media/MEDIA%20LIBRARY%20Files/PDF/PDF%20D/PDF%20DigitizingSafetyNet.pdf>

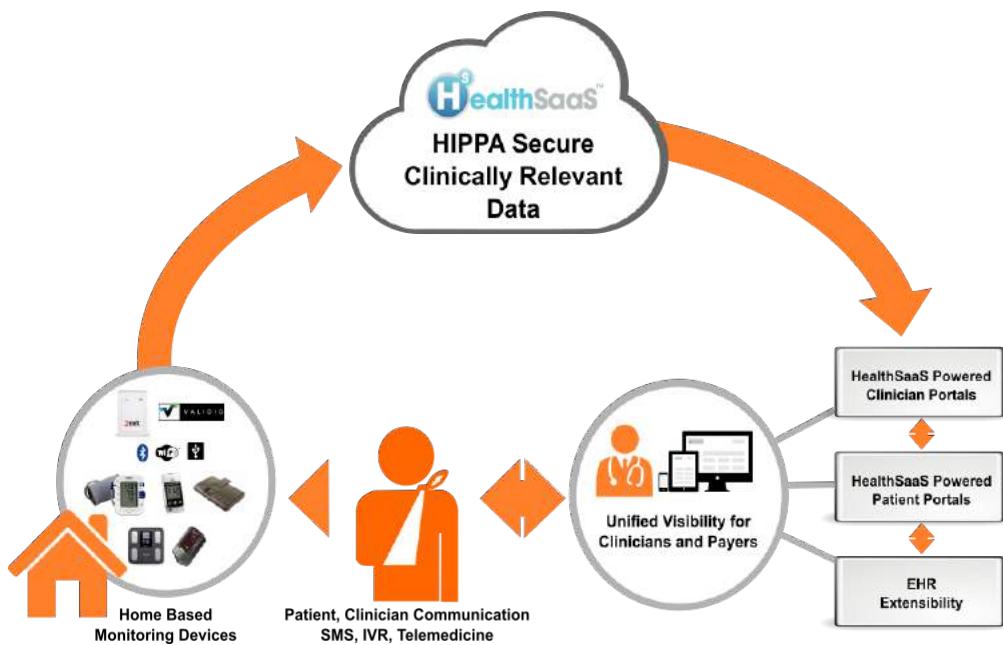
HEALTHCARE PLATFORMS

What is a Healthcare IT Platform?



Overview presentation:
<http://www.slideshare.net/eddodds/shahslides1>

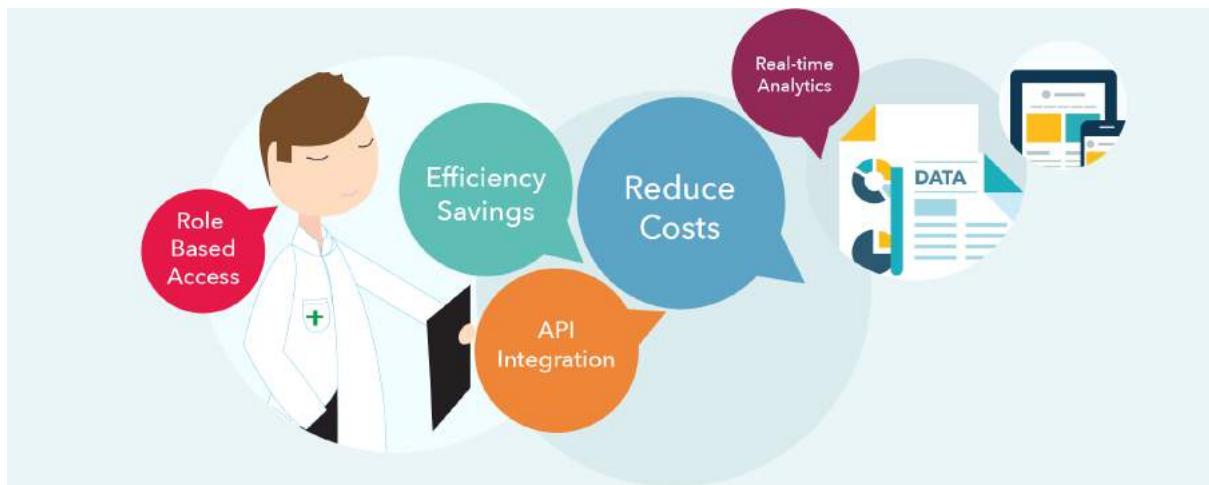
The HealthSaaS Platform



Read article:

<https://www.healthsaas.net/>

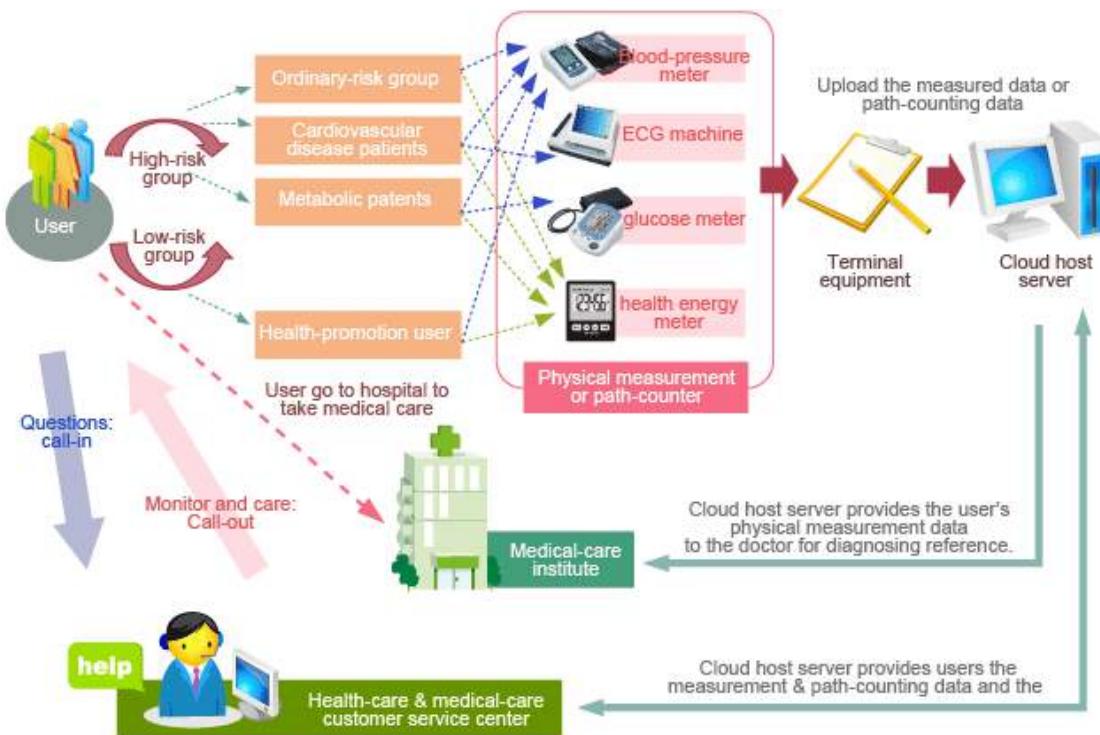
Taking the NHS on the digital journey



Read article:

<http://www.comtacthealthcare.com/digital-platform.html>

Remote Healthcare Service Platform



Read article:

<http://www.iisigroup.com/en/services/saa-saas.html>

Defining the mobile health platform



Read article:

<http://www.healthcaredive.com/news/defining-the-mobile-health-platform/372228/>

Mobile Healthcare Delivery Platform. Case study

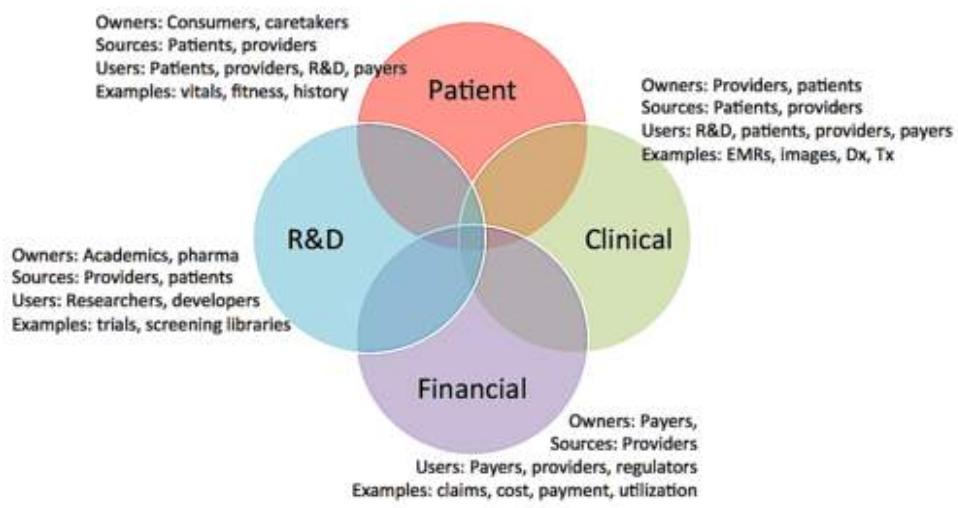


Read article:

<http://www.azoft.com/case-studies/mobile-healthcare-delivery-platform/>

Is there a “Platform gap” in Healthcare? A Stanford Medicine X Panel

Medical Data

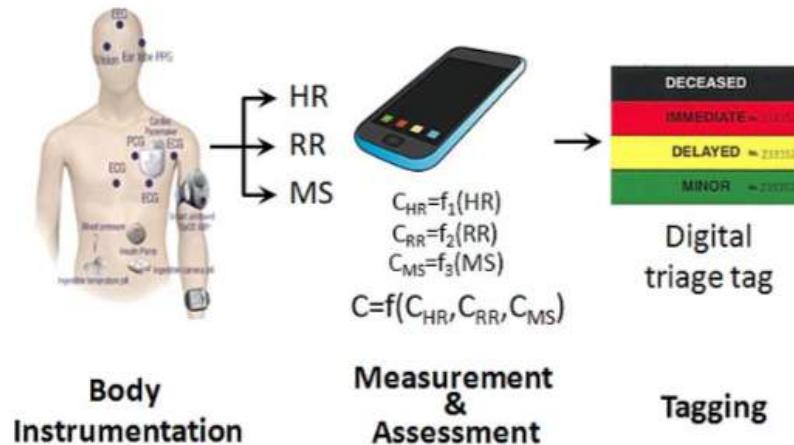


Source: McKinsey

Read article:

<http://thedocorweighsin.com/platform-gap-healthcare-stanford-medicine-x-panel/>

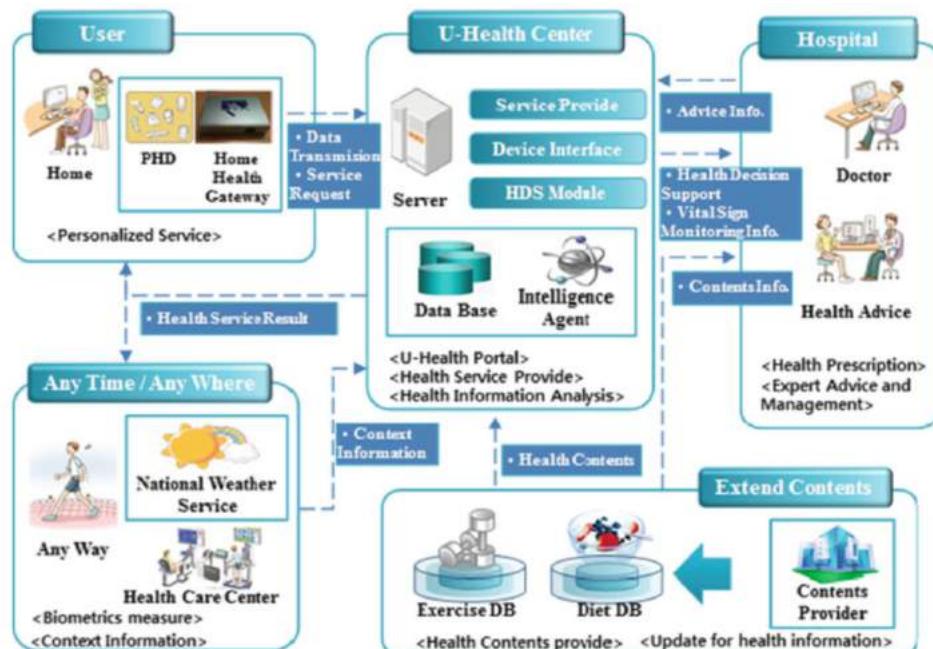
DigiAID: A Wearable Health Platform for Automated Self-tagging in Emergency Cases



Read article:

http://ieeexplore.ieee.org/xpls/abs_all.jsp?arnumber=7015969&tag=1

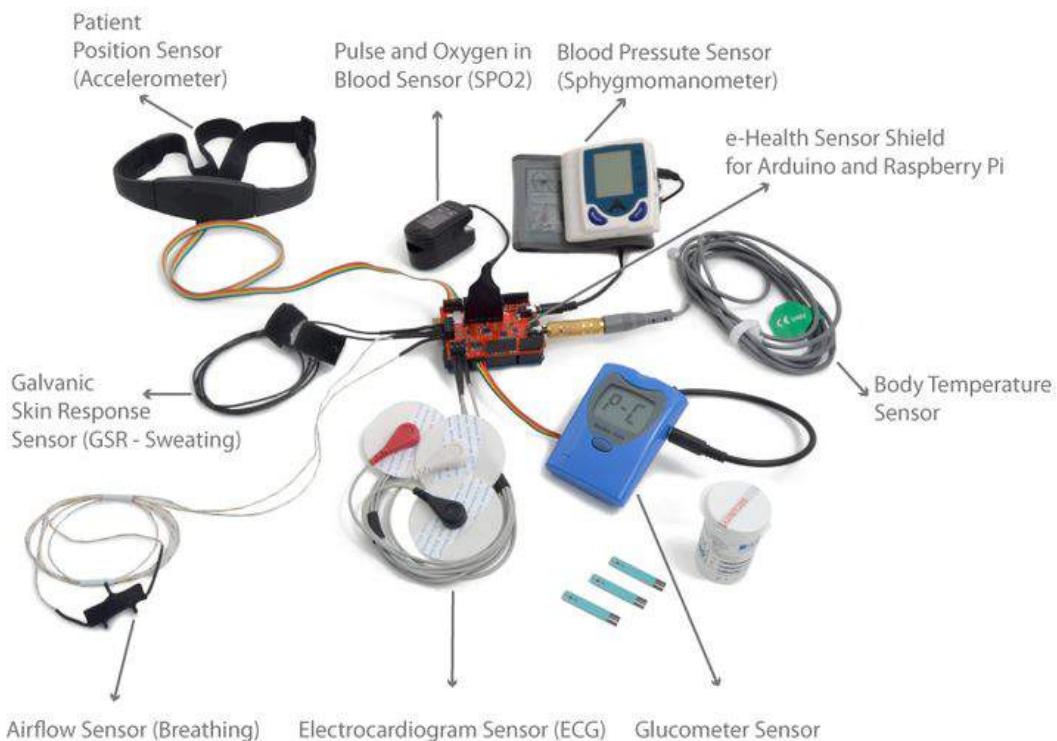
Home Health Gateway Based Healthcare Services Through U-Health Platform



Read article:

<http://link.springer.com/article/10.1007/s11277-013-1231-8>

Wearable sensors network for health monitoring using e-Health platform



Read article:

<http://search.proquest.com/docview/1646717323/fulltext/F1A021F55854427FPQ/1?acountid=11774>

Design and Implementation of a Web-Service-Based Public-Oriented Personalized Health Care Platform

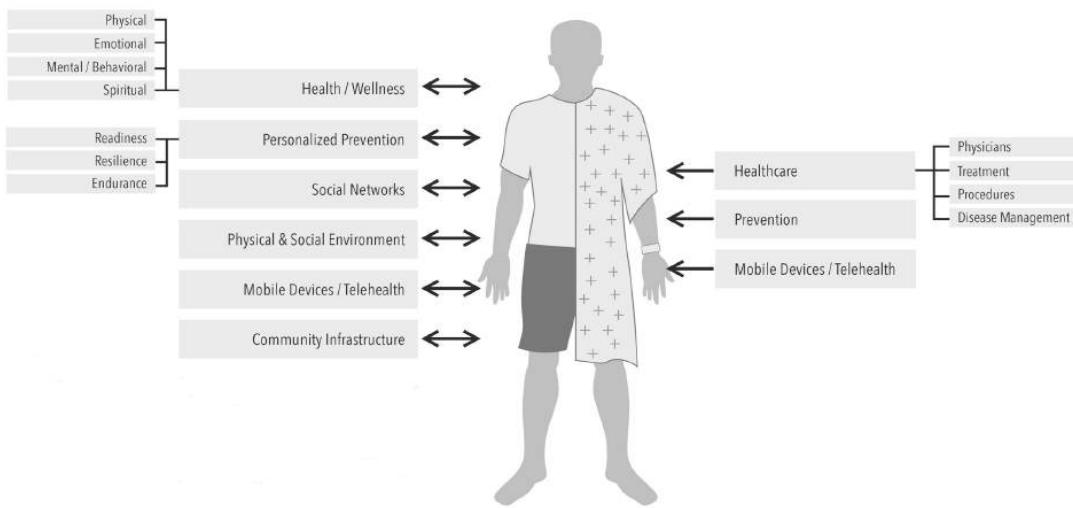


Read article:

http://ieeexplore.ieee.org/xpls/abs_all.jsp?arnumber=6425514

An Innovative Platform for Person-Centric Health and Wellness Support

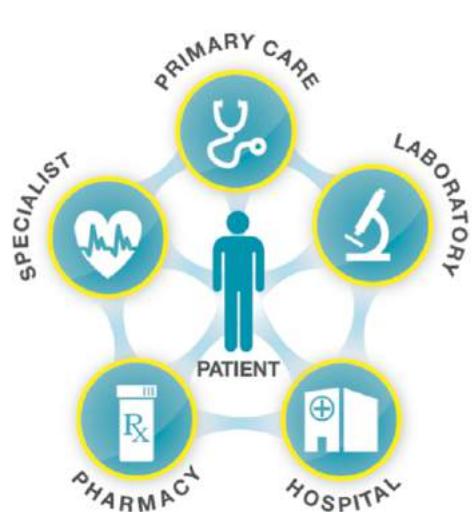
Person-Centric & Patient-Centered



Read article:

http://link.springer.com/chapter/10.1007/978-3-319-16480-9_14

Is your workers' compensation technology platform ready for healthcare reform?

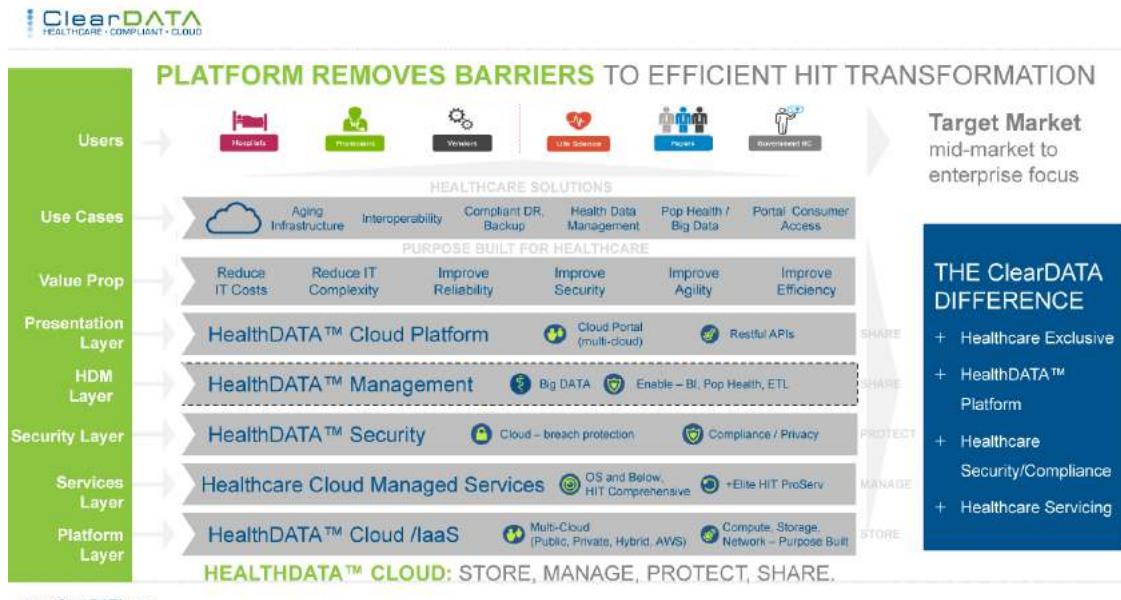


Read article:

<http://www.mobilehealthmarketplace.com/is-your-workers-compensation-technology-platform-ready-for-healthcare-reform/>

DIGITAL HEALTHCARE TECHNOLOGIES

Removing technology barriers to make healthcare healthier



Read article:

<https://www.cleardata.com/solutions/healthcare-cloud-computing/>

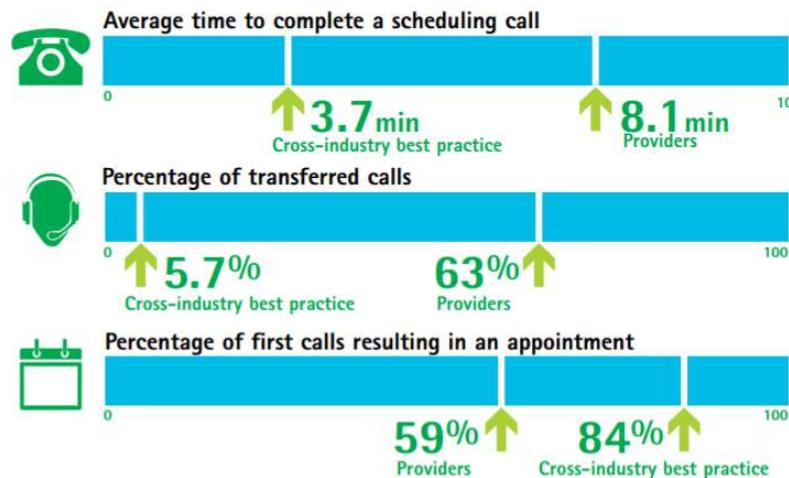
The Digitization of Healthcare



Read article:

<http://www.itbriefcase.net/the-digitization-of-healthcare>

Using healthcare IT to improve patient access



Source: How Patients Access the US Healthcare System, Accenture Research December 2013, and Benchmark Portal, All Industries Benchmark Report: Best-in-Class Call Center Performance, May 2013

Read article:

<https://www.accenture.com/us-en/insight-healthcare-providers-risking-patient-satisfaction-summary>

Enhancing Clinical Practice with Wearables



Read article:

https://www.accenture.com/t20160519T051015_w_fi-en_acnmedia/PDF-19/Accenture-Wearables-Health-PoV.pdf#zoom=50

The role of big data in medicine



Read article:

<http://www.mckinsey.com/industries/pharmaceuticals-and-medical-products/our-insights/the-role-of-big-data-in-medicine>

Big Data In Healthcare



Overview presentation:

<http://www.slideshare.net/sanderklous/big-data-in-healthcare>

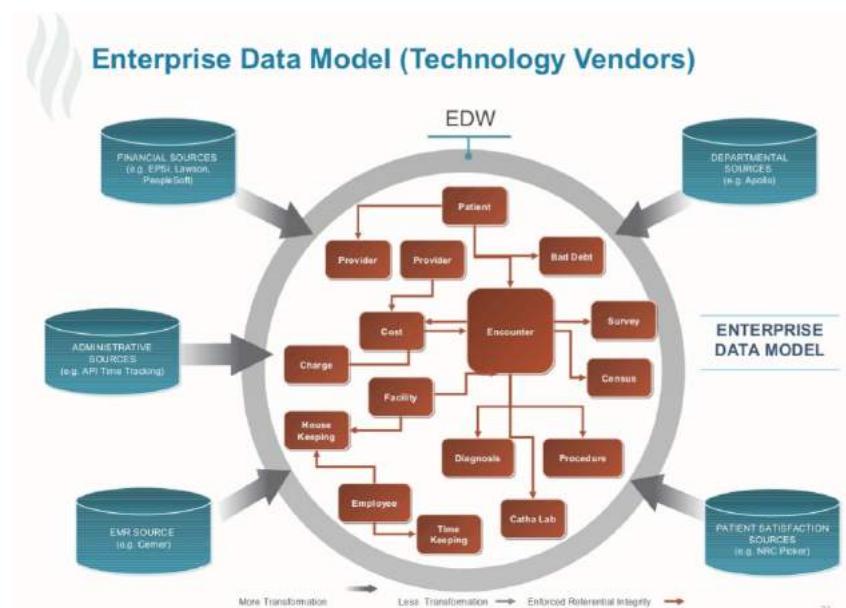
Why Your Healthcare Business Intelligence Strategy Can't Win without a Data Warehouse



Read article:

<https://www.healthcatalyst.com/wp-content/uploads/2014/08/Why-Your-Healthcare-Business-Intelligence-Strategy-Can%E2%80%99t-Win-without-a-Data-Warehouse.pdf>

What is the best Healthcare Data Warehouse Model for Your Organization?



Overview presentation:

http://www.slideshare.net/healthcatalyst1/what-is-the-best-healthcare-data-warehouse-model-for-your-organization?next_slideshow=1

Open a world of cloud-based connected health care

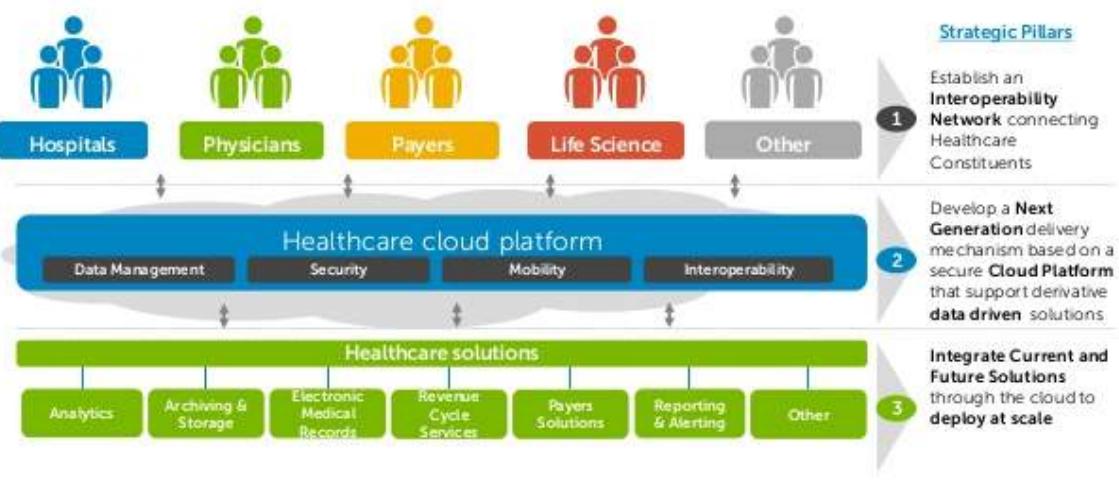


Read article:

<http://www.usa.philips.com/healthcare/innovation/about-health-suite>

Building Future-Ready Healthcare IT Platforms: Get To The Cloud

Dell cloud strategy for healthcare



Dell World 2013



Overview presentation:

<http://www.slideshare.net/DellWorld/building-futureready-healthcare-it-platforms-get-to-the-cloud>

Hadoop in Healthcare - A No-Nonsense Q & A



Overview presentation:

<http://www.slideshare.net/healthcatalyst1/hadoop-in-healthcare-a-nononsense-q-and-a>

Moving Healthcare Analytics to Hadoop to Build a Better Predictive Model

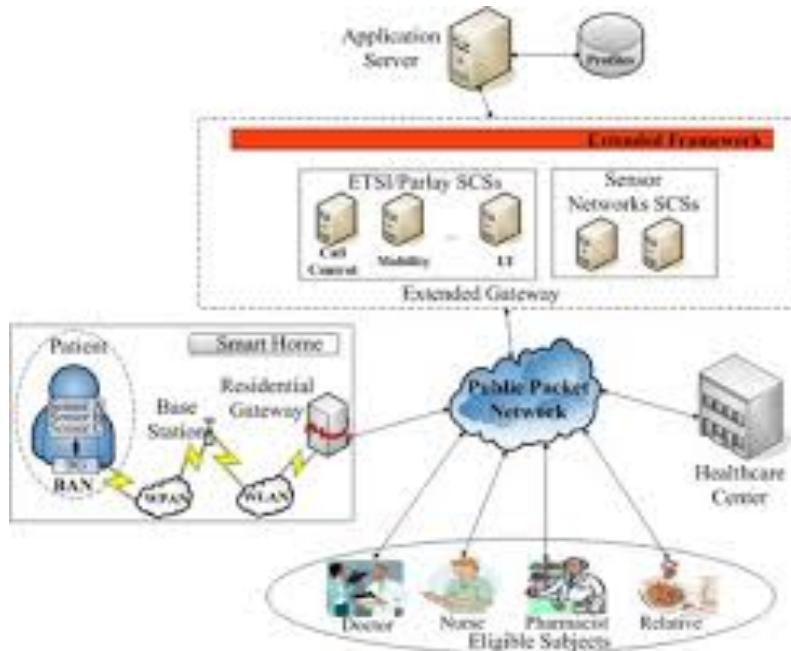
Roadmap of building Dignity Health Insights Big Data Hub



Overview presentation:

http://www.slideshare.net/Hadoop_Summit/moving-health-care-analytics-to-hadoop-to-build-a-better-predictive-model

A New Framework Architecture for Next Generation e-Health Services



Read article:

http://ieeexplore.ieee.org/xpls/abs_all.jsp?arnumber=6331008

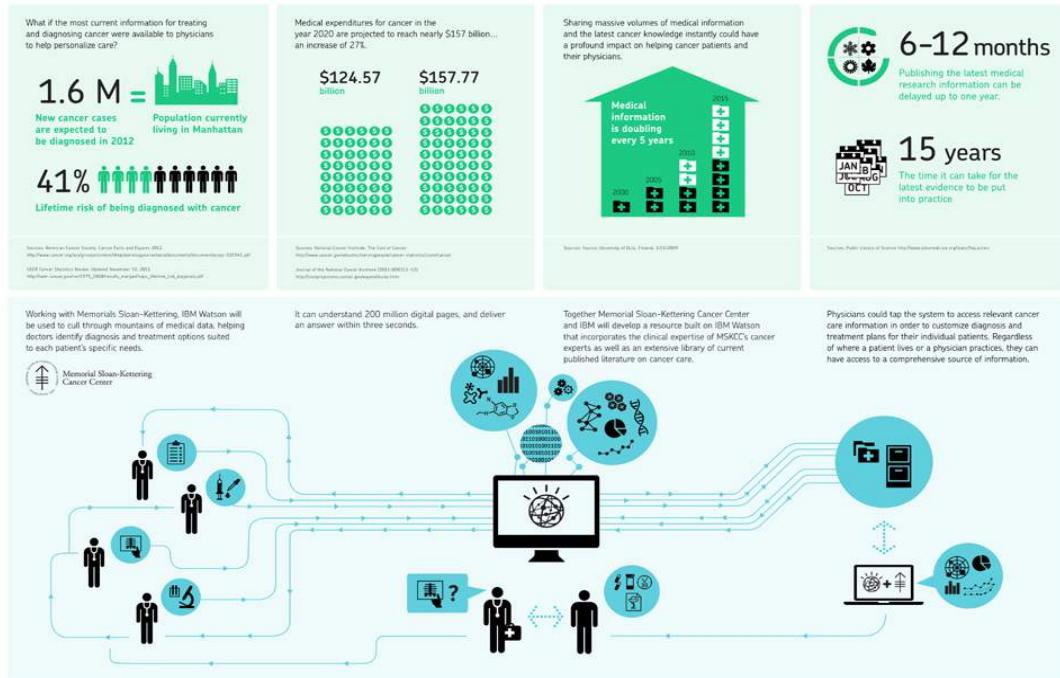
Exploring a methodology for eHealth indicator development

Read article:

https://books.google.fi/books?hl=ru&lr=&id=Hul-VBfW3LcC&oi=fnd&pg=PA338&dq=Finnish++ehealth&ots=k3RJvBkLvY&sig=j0YTrspJGPH-ybISgTAnrF8UjqY&redir_esc=y#v=onepage&q=Finnish%20%20ehealth&f=false

Applying Watson technology for personalized cancer care

Memorial Sloan Kettering & IBM Watson: Advancing the Future of Personalized Cancer Care



Read article:

<http://www.kurzweilai.net/applying-watson-technology-for-personalized-cancer-care>

Kone liittää hissinsä verkoon - valvojana IBM Watson



Read article:

<http://www.kauppalehti.fi/uutiset/kone-liittaa-hissinsa-verkkoon---valvojana-ibm-watson/gwhmwRaL>

HEALTHCARE DATA SECURITY

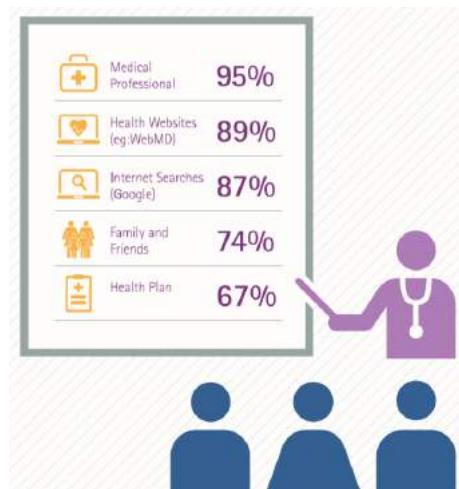
Digital Trust. As healthcare data security risks increase, so do opportunities to earn consumer trust



Read article:

<https://www.accenture.com/us-en/insight-digital-trust-digital-health>

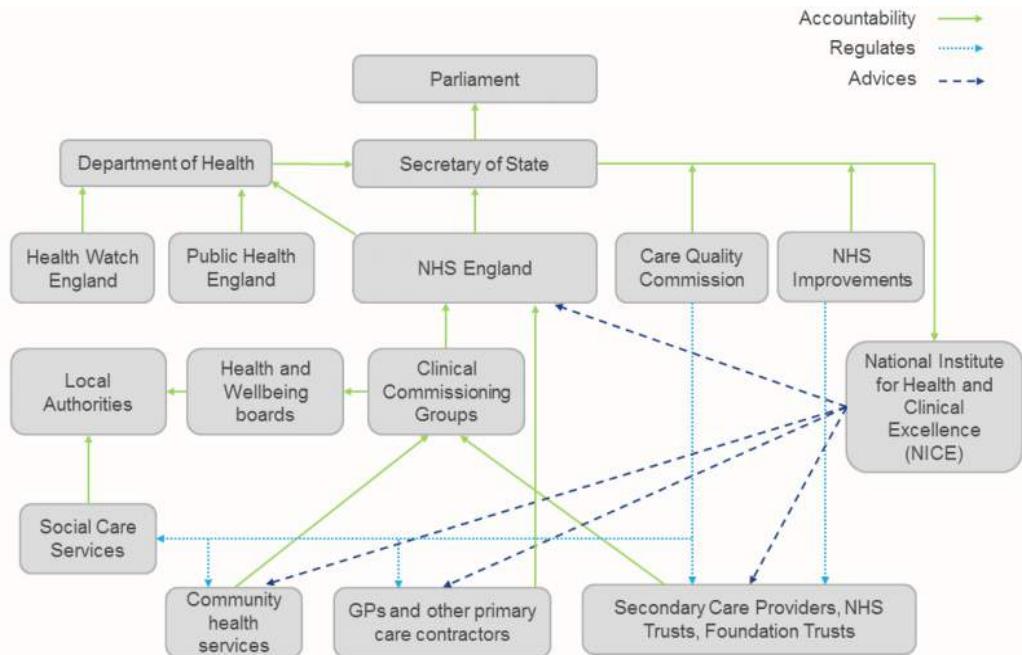
Building trust using patient engagement and the wisdom of the crowd



Read article:

<https://www.accenture.com/us-en/insight-building-trust-using-patient-engagement-wisdom-crowd>

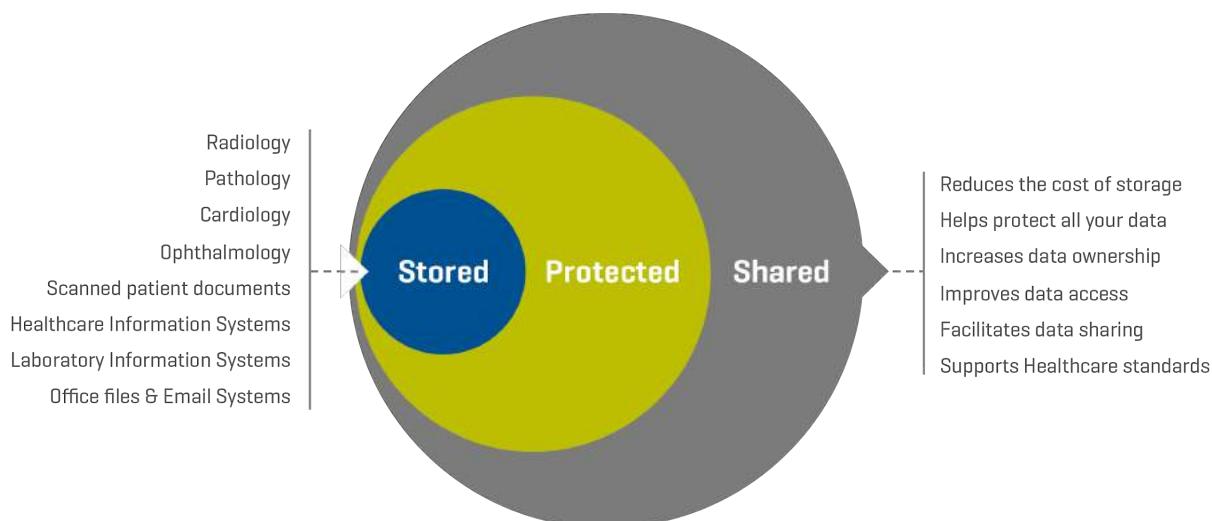
International review. Secondary use of health and social care data and applicable legislation



Read article:

https://www.sitra.fi/julkaisut/Muut/International_review_secondary_use_health_data.pdf

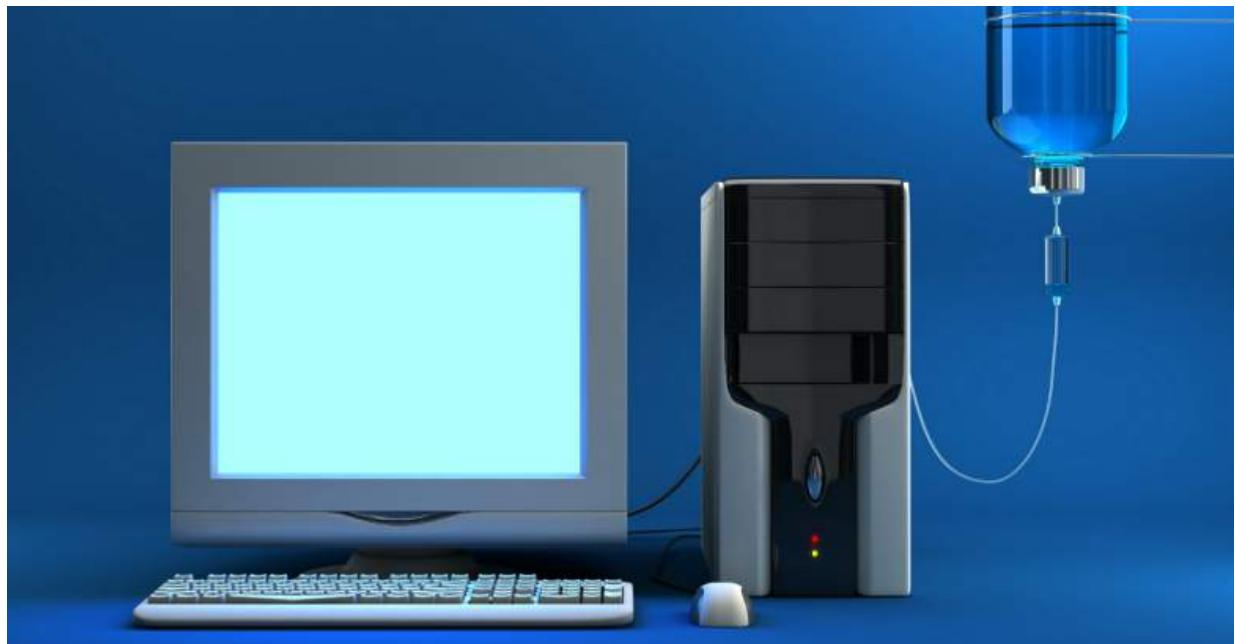
ENTERPRISE DATA MANAGEMENT (EDM) SOLUTIONS



Read article:

<http://ccxmed.co.za/healthcare-data-management-solutions-hdm/>

Why cybercriminals attack healthcare more than any other industry



Read article:

<https://nakedsecurity.sophos.com/2016/04/26/why-cybercriminals-attack-healthcare-more-than-any-other-industry/>

A New Approach To Protecting Healthcare Data Security



Read article:

<http://www.healthcare-informatics.com/article/new-approach-protecting-healthcare-data-security>

Key steps to big data security in healthcare

Read article:

<http://www.computerweekly.com/podcast/Key-steps-to-big-data-security-in-healthcare>

50 things to know about healthcare data security & privacy



Read article:

<http://www.beckershospitalreview.com/healthcare-information-technology/50-things-to-know-about-healthcare-data-security-privacy.html>

Data security threat scars digital healthcare



Read article:

<http://www.ft.com/cms/s/2/ee688f1a-e622-11e5-a09b-1f8b0d268c39.html#axzz4AB2CCQmq>

Electronic Health Records Security and Privacy Concerns



Read article:

<http://www.ironmountain.com/Knowledge-Center/Reference-Library/View-by-Document-Type/General-Articles/E/Electronic-Health-Records-Security-and-Privacy-Concerns.aspx>

Fifth Annual Benchmark Study on Privacy & Security of Healthcare Data



Read article:

http://media.scmagazine.com/documents/121/healthcare_privacy_security_be_30019.pdf

HEALTHCARE TRENDS AND PREDICTIONS

Digital Health Trends Show the Power of People



Read article:

https://www.accenture.com/t20160526T042034_w/us-en/_acnmedia/PDF-17/Accenture-Digital-Health-Technology-Vision-2016-Infographic.pdf#zoom=50

<https://www.accenture.com/us-en/insight-healthcare-technology-vision-2016>

Healthcare's digital future



Read article:

<http://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/healthcares-digital-future>

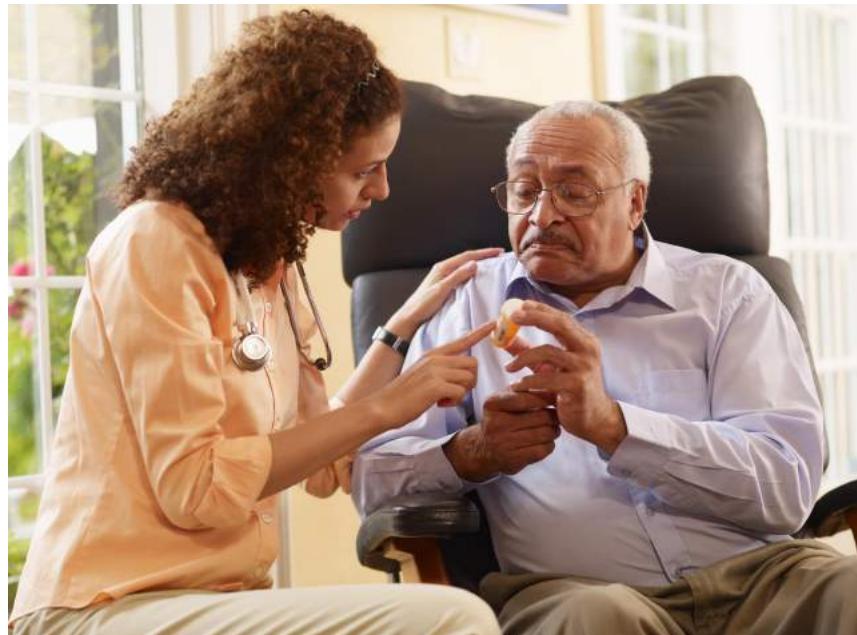
What Digital Innovation in Healthcare Will Look Like



Read article:

<http://observer.com/2016/05/what-digital-innovation-in-healthcare-will-look-like/>

Connected Health: 4 Trends Shaping The Future Of Digitized Healthcare



Read article:

<http://www.digitalistmag.com/digital-economy/2016/03/16/4-trends-shaping-future-of-digitized-healthcare-04080034>

Big Data in Healthcare Made Simple: Where It Stands Today and Where It's Going



Overview presentation:

<http://www.slideshare.net/healthcatalyst1/big-data-in-healthcare-made-simple-where-it-stands-today-and-where-its-going>

2015 Health Plans Industry Outlook

Deloitte.

2015 HEALTH PLANS INDUSTRY OUTLOOK

AN INTERVIEW WITH GREG SCOTT, U.S. HEALTH PLANS LEADER & VICE CHAIRMAN, DELOITTE LLP

WHERE DO YOU SEE THE Opportunities for Growth IN YOUR SECTOR?

PAST STRATEGIES WILL NOT SURVIVE
IN THE FACE OF TODAY'S UNPRECEDENTED DISRUPTION

REGULATION FINANCIAL COMPETITIVE

THE RISE OF THE CONSUMER

COLLABORATION OFFERS EXPANSION & INCREASED MARKET SHARE OPPORTUNITIES

UNDERSTAND WILL LIKELY PREVAIL

WHAT SHOULD BUSINESSES BE Mindful of AS THEY PLAN FOR?

INNOVATORS WILL BE BETTER POSITIONED FOR THE FUTURE

NEW PRODUCTS BETTER TECHNOLOGIES COLLABORATIVE BUSINESS MODELS ENJOYABLE CONSUMER EXPERIENCE

TECHNOLOGY EFFICIENT, SCALABLE, RAPIDLY DEPLOYABLE SENSITIVITY ANALYTICS

WHAT IS THE Next BIG THING?

WHAT MARKETS DO YOU SEE EMERGING IN THE SECTOR?

RISE OF CONSUMERISM MANY HEALTH PLANS HAVE INVESTED GREATLY

INTEGRATION ACROSS VALUE CHAIN

NEW INNOVATIONS & MARKETPLACES

NEW PLAYERS

SUCCESSFUL HEALTH PLANS MUST CLEARLY REDIFINE & ESTABLISH

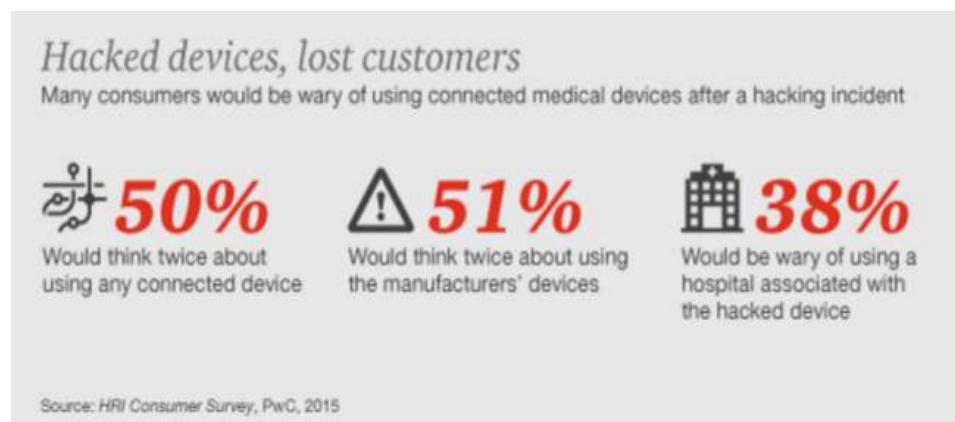
LUCINDA LEVINE CROWLEY & CO.

Read a copy of this interview at www.deloitte.com/us/2015plansoutlook

Read article:

<http://www2.deloitte.com/us/en/pages/life-sciences-and-health-care/articles/2015-health-plans-outlook.html>

Top health industry issues of 2016



Read article:

<http://www.pwc.com/us/en/health-industries/top-health-industry-issues.html>

Healthcare and Life Sciences Predictions 2020



Read article:

<http://www2.deloitte.com/us/en/pages/life-sciences-and-health-care/articles/healthcare-and-life-sciences-predictions-2020.html>

Global health 2035: a world converging within a generation



Read article:

[http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(13\)62105-4/fulltext?_eventId=login&&version=printerFriendly](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(13)62105-4/fulltext?_eventId=login&&version=printerFriendly)

With 2 acquisitions, IBM builds out Watson Health



Read article:

<http://www.healthcareitnews.com/news/ibms-big-buy>

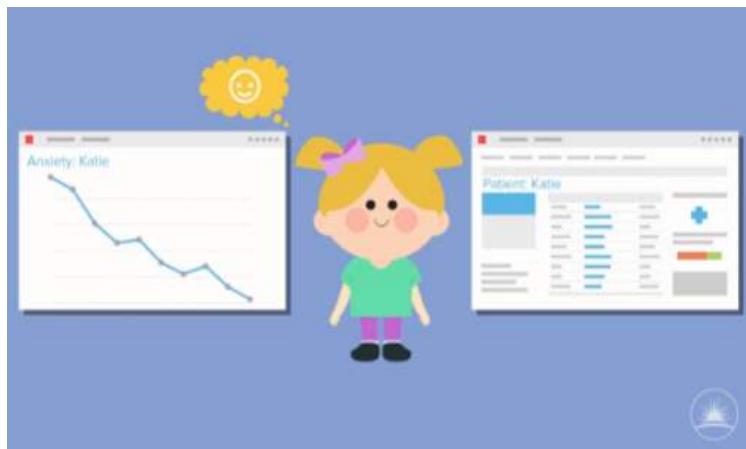
IBM to Invest up to \$150M to Support Italian Research Hub



Read article:

<https://www.genomeweb.com/informatics/ibm-invest-150m-support-italian-research-hub>

Alder Hey Children's Hospital Set to Become UK's First 'Cognitive' Hospital



Read article:

http://www-03.ibm.com/press/us/en/pressrelease/49722.wss?utm_source=dlvr.it&utm_medium=twitter

Personalized Prevention: Harnessing Technology Catalysts for Change



Read article:

<http://insights.wired.com/profiles/blogs/personalized-prevention-harnessing-technology-catalysts-for#axzz49z8JuXJe>

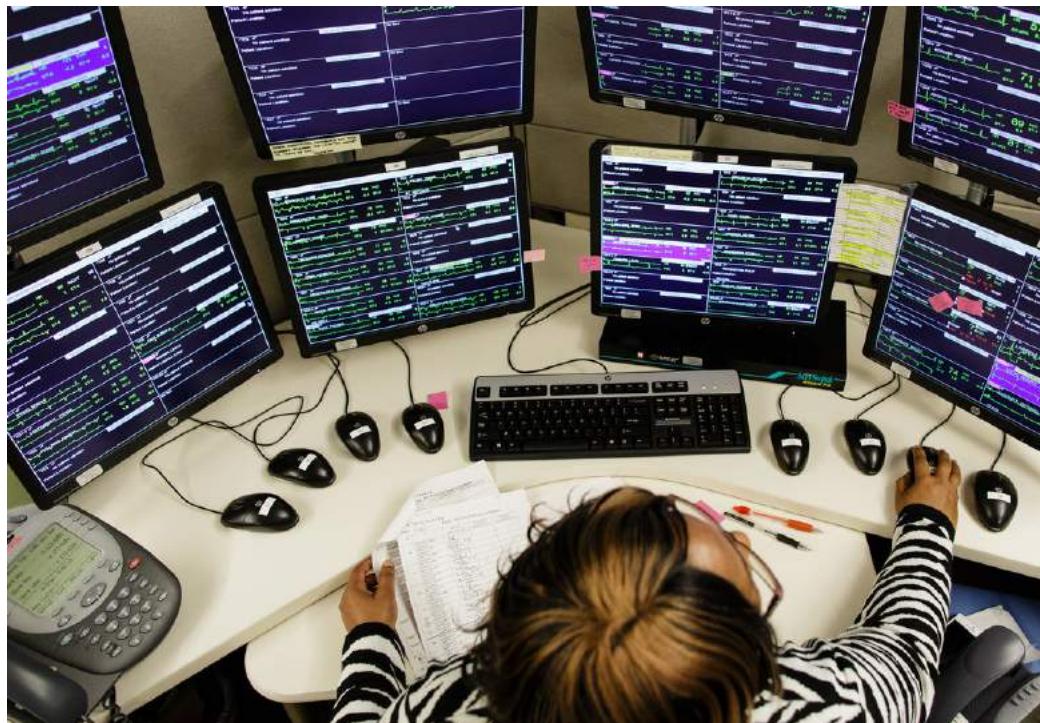
A National Action Plan To Support Consumer Engagement Via E-Health



Read article:

<http://content.healthaffairs.org/content/32/2/376.full>

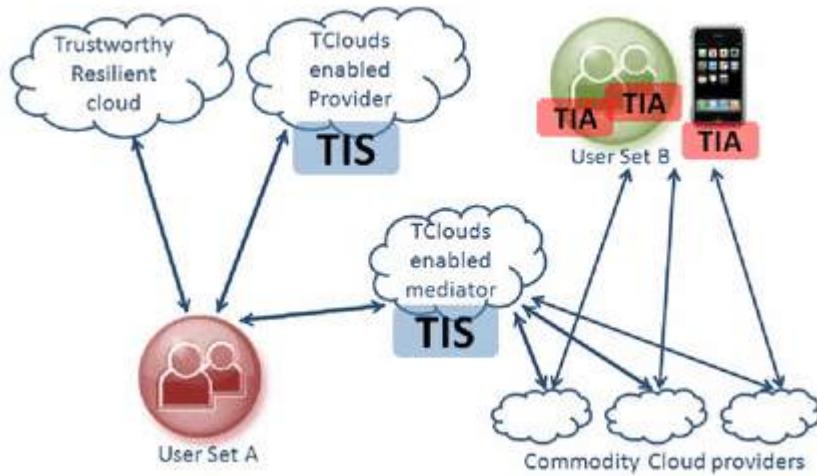
Modern Doctors' House Calls: Skype Chat and Fast Diagnosis



Read article:

http://www.nytimes.com/2015/07/12/health/modern-doctors-house-calls-skype-chat-and-fast-diagnosis.html?_r=3

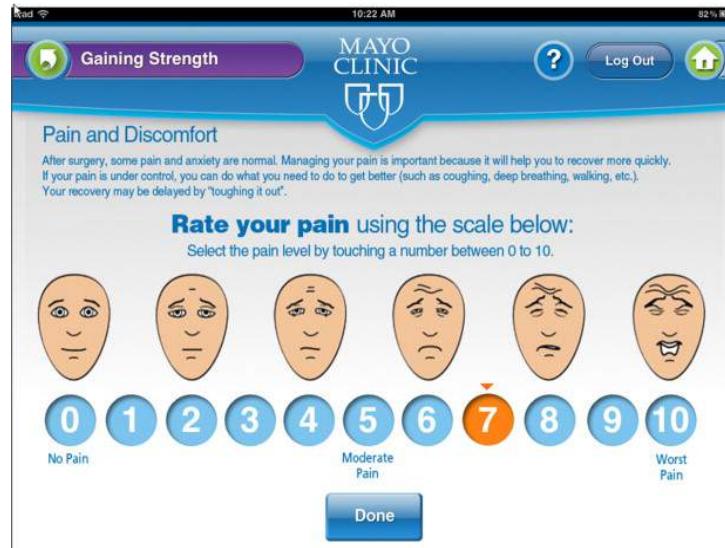
Towards Trustworthy Health Platform Cloud



Read article:

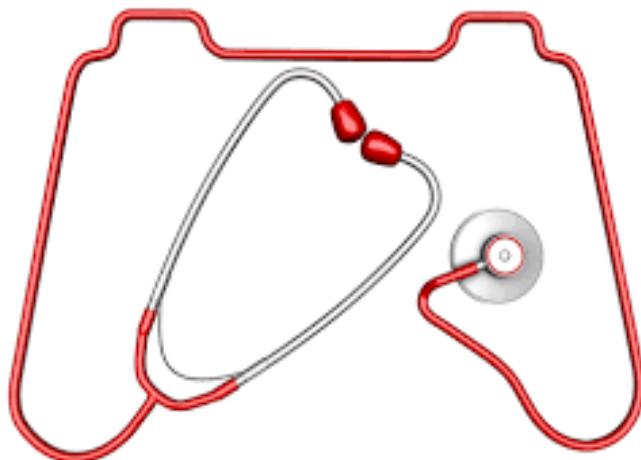
http://link.springer.com/chapter/10.1007/978-3-642-32873-2_12

Patient Engagement and Reported Outcomes in Surgical Recovery: Effectiveness of an e-Health Platform



Read article: <http://www.sciencedirect.com/science/article/pii/S107275151300361X>

Gamification: What It Is and Why It Matters to Digital Health Behavior Change Developers



Read article:

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4307817/>

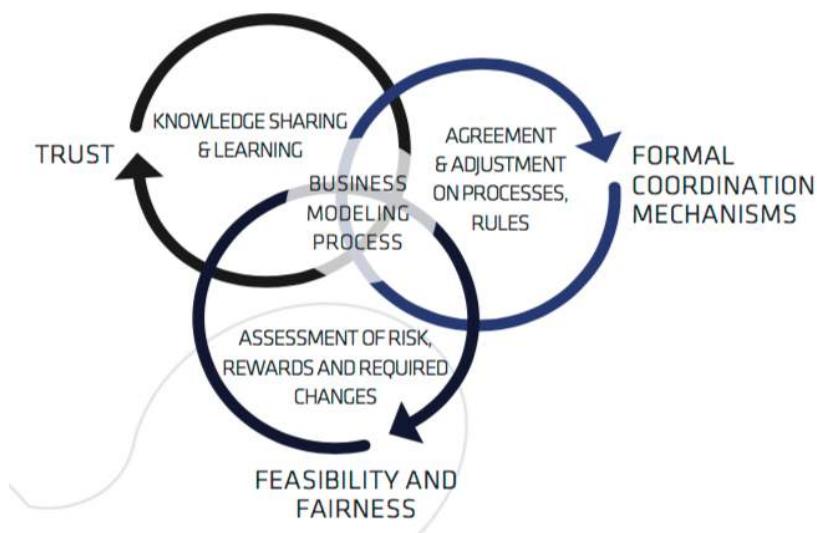
HEALTHCARE IN FINLAND

Health in all policies as a priority in Finnish health policy: A case study on national health policy development

Read article:

http://sjp.sagepub.com/content/41/11_suppl/3.short

Performance Estimation of Networked Business Models: Case Study on a Finnish eHealth Service Project



Read article:

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2570044

Human Factors in the Large: Experiences from Denmark, Finland and Canada in Moving Towards Regional and National Evaluations of Health Information System Usability.

Read article:

https://www.researchgate.net/publication/264833561_Human_Factors_in_the_Large_Experiences_from_Denmark_Finland_and_Canada_in_Moving_Towards_Regional_and_National_Evaluations_of_Health_Information_System_Usability_Contribution_of_the_IMIA_Human_Factors

Improving the Coordination of Patients' Medication Management: A Regional Finnish Development Project

Read article:

https://books.google.fi/books?hl=ru&lr=&id=bpvYBAAQBAJ&oi=fnd&pg=PA175&dq=Finnish++ehealth&ots=6wiC3TB7bf&sig=EBG9hRMeL4Xx1OP1Ip8wYH2ReFk&redir_esc=y#v=onepage&q=Finnish%20%20ehealth&f=false

Nordic EHealth Indicators: Organisation of Research, First Results and the Plan for the Future



Nordic eHealth Indicators

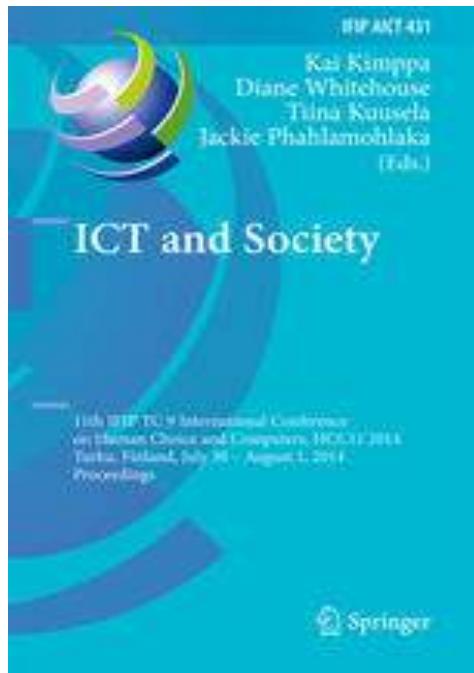
Organisation of research, first results and the plan for the future



Read article:

https://books.google.fi/books?hl=ru&lr=&id=NFINL3PsChwC&oi=fnd&pg=PA7&dq=Finnish++ehealth&ots=bXdX0Bedd0&sig=HxZg76eySKlj5FT4Z_K1lbWXSUE&redir_esc=y#v=onepage&q=Finnish%20%20ehealth&f=false

Problem in Patient Information System Acquirement in Finland: Translation and Terminology



Read article:

http://link.springer.com/chapter/10.1007/978-3-662-44208-1_29

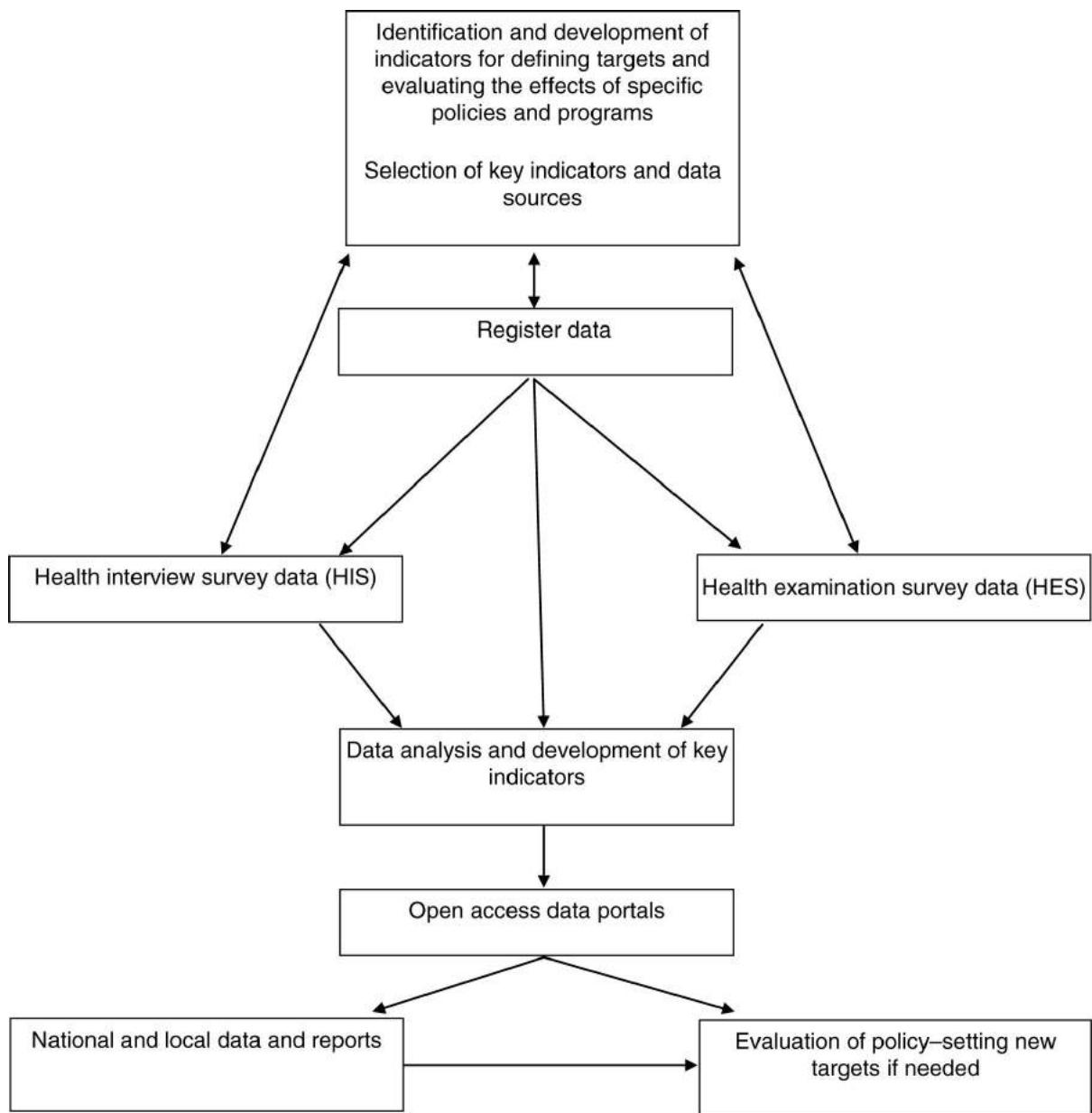
Barriers to and advantages of e-health from the perspective of elderly people: A literature review

Strengths <ul style="list-style-type: none"> Positive attitude [8,9,10] More value attached to good health [4] Cost effective [8,13] High penetration [11,15] Better education [8,9,10,11,12,13] 	Weaknesses <ul style="list-style-type: none"> Lack of evidence-based research [12,15] Physical disability of the elderly [8,9] Quality of e-health [8,13] Lack of education [9,14,16]
Opportunities <ul style="list-style-type: none"> Better education [2, 23] Improvement of quality of study: more practical and evidence-based [24] Economic growth (wealth) [2, 23] Rapid development of technology [12, 24] 	Threats <ul style="list-style-type: none"> Digital divide [11,14,16] Complexity of rapid technology advances [16] Data privacy and protection [16]

Read article:

<http://www.oaj.tsv.fi/index.php/stty/article/view/8172>

Finnish experiences of health monitoring: local, regional, and national data sources for policy evaluation



Read article:

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4773820/>

Report on eHealth and eWelfare of Finland: Usability improvement necessary for health care digitalization to proceed

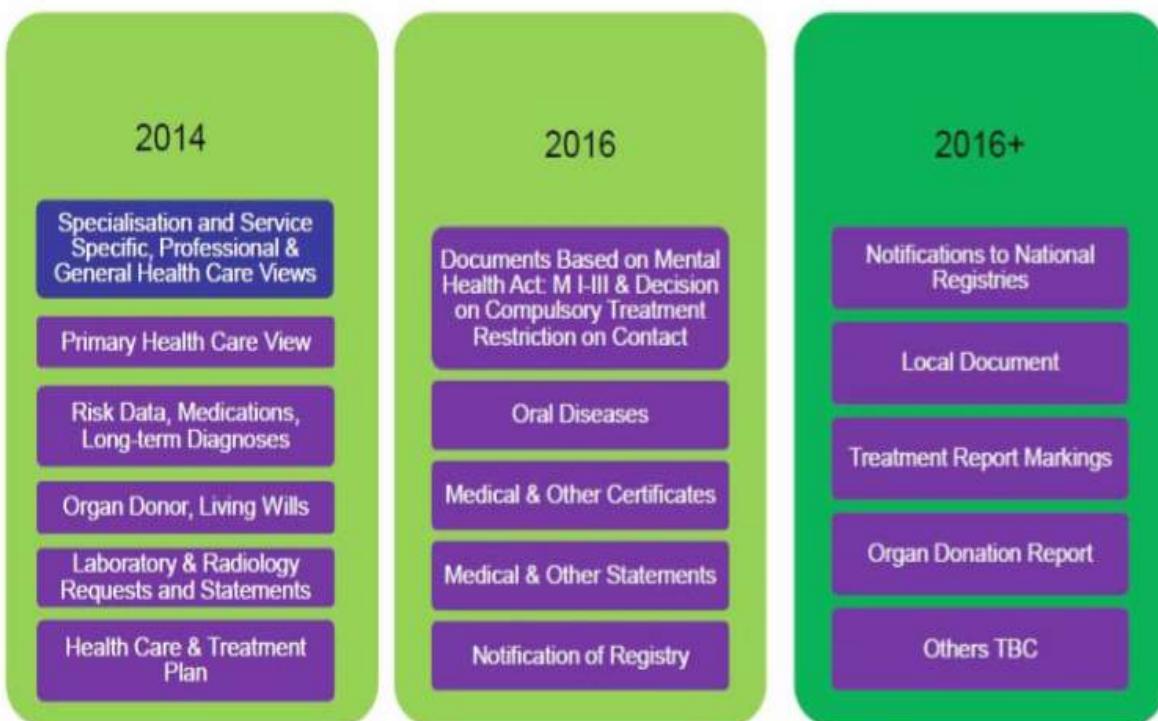


Centre for Health and Technology

Read article:

<http://cht.oulu.fi/news/report-on-ehealth-and-ewelfare-of-finland-usability-improvement-necessary-for-health-care-digitalization-to-proceed>

Peer Review eHealth Strategy and Action Plan of Finland in a European Context



Read article:

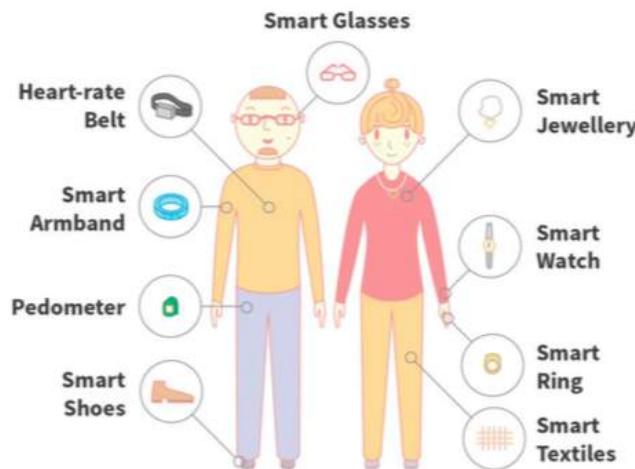
https://www.julkari.fi/bitstream/handle/10024/127149/RAP2013_11_EHTEL_verkko.pdf?sequence=1

User experiences with different regional health information exchange systems in Finland

Read article:

<http://www.sciencedirect.com/science/article/pii/S1386505613002086>

Charting Design Preferences on Wellness Wearables



Read article:

<http://dl.acm.org/citation.cfm?id=2875231>

Expanding choice of primary care in Finland: much debate but little change so far

Read article:

<http://europepmc.org/abstract/med/26819142>

Finland's Health Ecosystems and Strengths in Digital Health and Personalized Healthcare Attract Investments and Innovations



Read article:

<http://www.finland.org/public/default.aspx?contentid=345145&nodeid=35833&contentlan=2&culture=en-US>

Nokia plans to acquire Withings to accelerate entry into Digital Health



Read article:

<http://company.nokia.com/en/news/press-releases/2016/04/26/nokia-plans-to-acquire-withings-to-accelerate-entry-into-digital-health>

Oulu leads with innovative healthcare



Read article:

<http://finland.fi/business-innovation/oulu-leads-with-innovative-healthcare/>

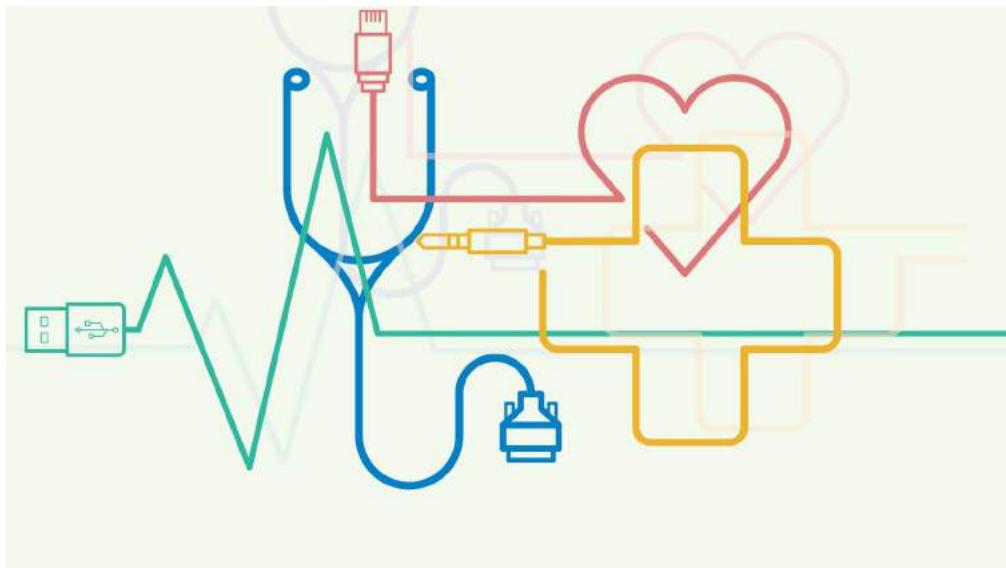
Towards data-driven healthcare in Finland



Read article:

<http://www.paneuropeannetworks.com/special-reports/towards-data-driven-healthcare-in-finland/>

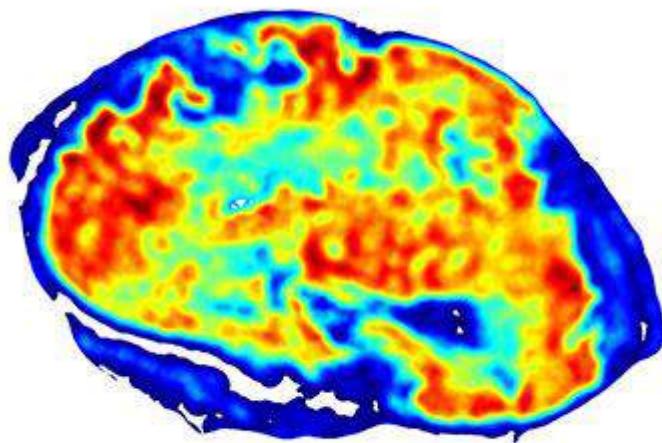
Finland's future digital health stars showcase services in the USA



Read article:

<https://www.tekes.fi/en/whats-going-on/news-from-tekes/finlands-future-digital-health-stars-showcase-services-in-the-usa/>

Digital Health Revolution -project launched



Read article:

<https://www.fimm.fi/en/news/1408021641>

Finland's strong health ecosystem and strengths in digital health attract investments and innovation collaboration

Read article:

http://valtioneuvosto.fi/en/article/-/asset_publisher/finland-s-strong-health-ecosystem-and-strengths-in-digital-health-attract-investments-and-innovation-collaboration

Investor's Perspective: Finnish Digital Health Ecosystem – The Next Big Thing?



Read article:

<http://www.healthspa.fi/finnish-digital-health-ecosystem-the-next-big-thing/>

