



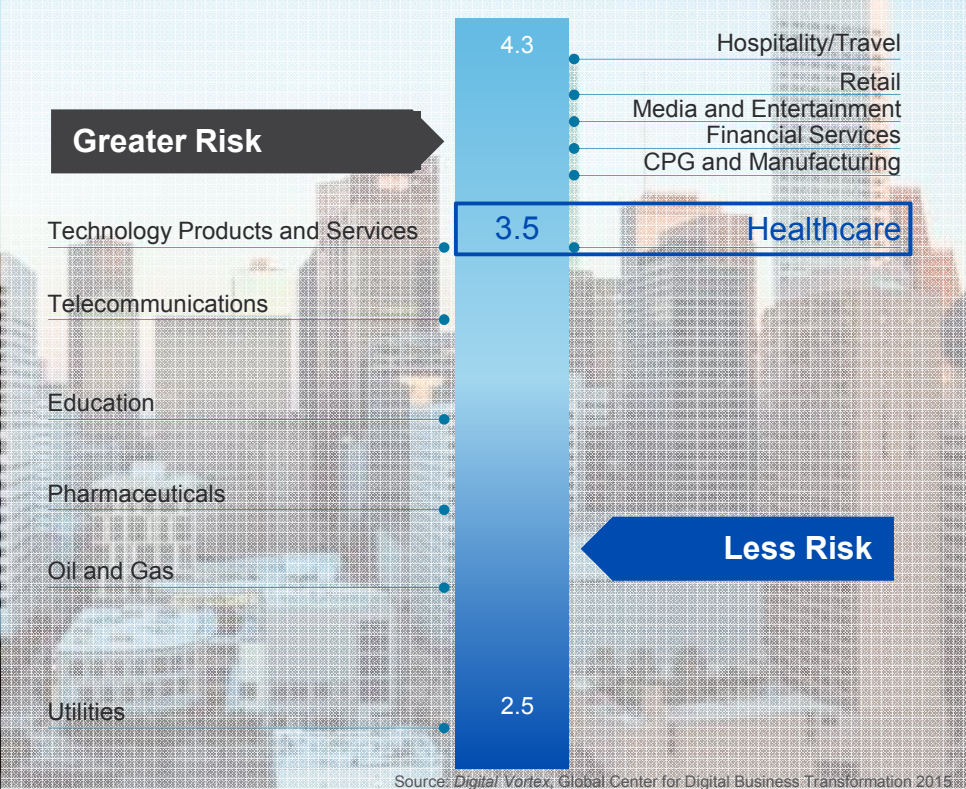
# The Digitization Journey

Reimagining Healthcare In A Digital World

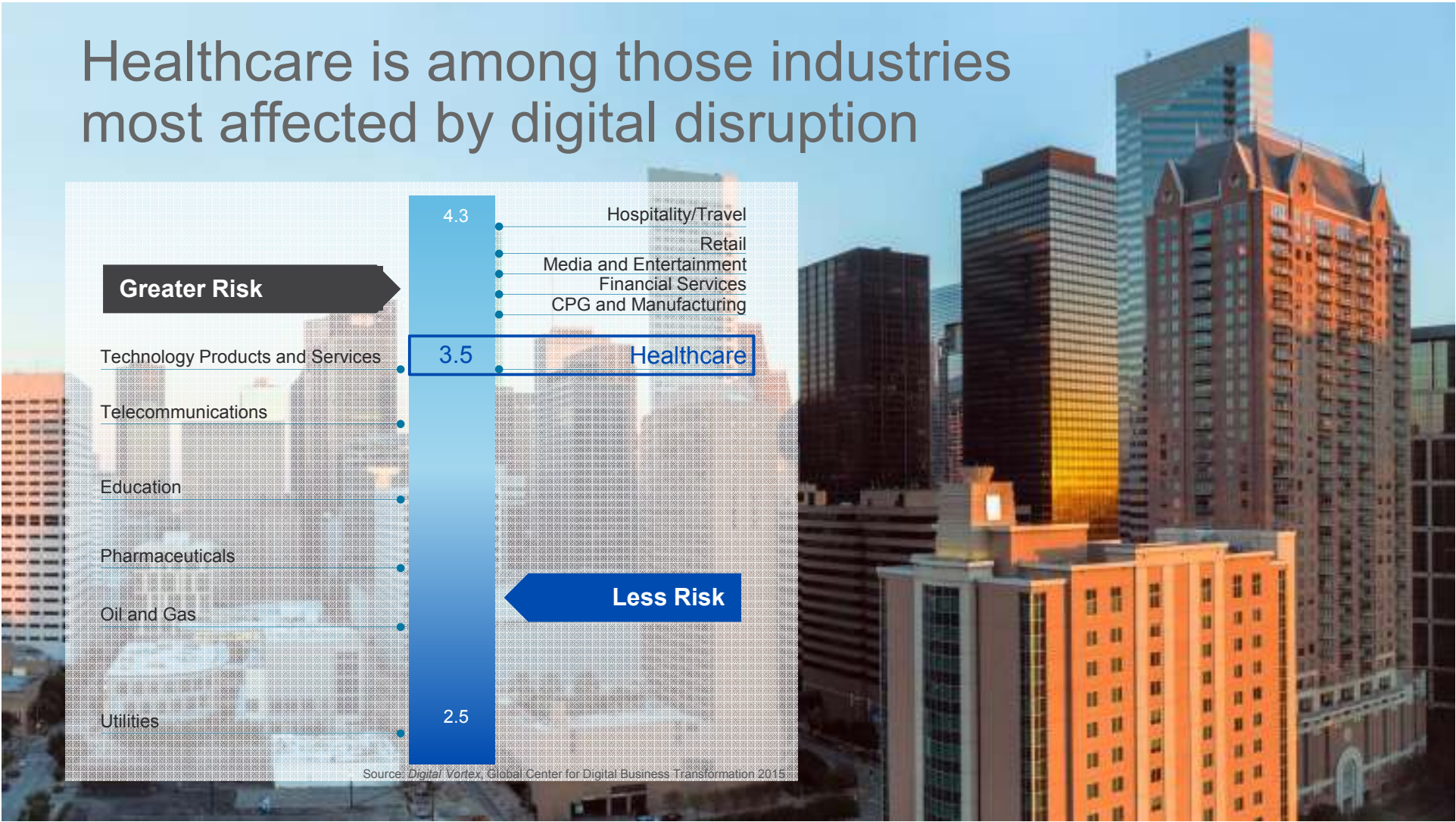
Jason Mortensen, Global Healthcare Solution Portfolio Manager

@Jason\_Health

# Healthcare is among those industries most affected by digital disruption



Source: Digital Vortex, Global Center for Digital Business Transformation 2015





What's surprising is that, while businesses see the threat of digital disruption, most are not responding adequately.

**55%**

Say digital disruption is not worthy of board-level attention

**47%**

Acknowledge digital disruption as a major business issue, but are not responding to it

...Yet, only  
**25%**

Are actively responding by digitally disrupting their own business

Source: Global Center for Digital Business Transformation, 2015.

Consumers are increasingly willing to shop around for healthcare, forcing hospitals to think like retailers to retain their business

PwC's Health Research Institute (HRI).



The ongoing shift toward value-based and customer-centric care delivery will spark innovative solutions and add value for healthcare customers. Such digitization of products, services and commerce models, in fact, are already beginning to democratize healthcare systems in disruptive ways.

Frost & Sullivan

# Even with the Risk of Market Turbulence, Most See Digital Disruption as a Force for Good



**75%**

form of progress

**72%**

improves value for customers

**66%**

empowers people

**63%**

good for society

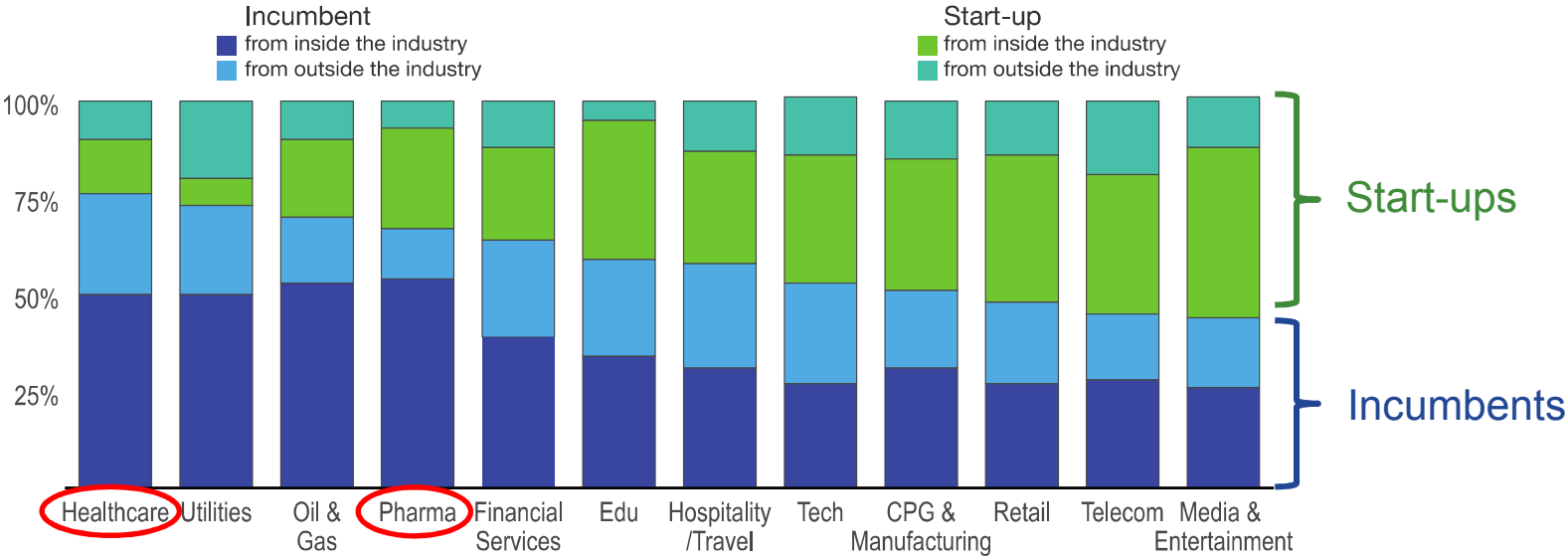
**63%**

improves quality of life

Percentage of respondents who “somewhat” or “strongly” agree with each of the statements

# For Many, Disruption Will Come from *Incumbents Inside* Their Industry ...

SURVEY QUESTION:  
Who is most likely to disrupt your industry?



... but those in already-disrupted industries also see major threats from start-ups





# Healthcare Provider Drivers



## Patient

- Tech Savvy Consumerism
- Wellness Programs
- Targeted population health management
- Chronic condition monitoring
- Medication compliance

## Workforce

- Staff operating at the top of their license
- Care coordination
- Staff & patient workflow
- Staff shortages & talent gaps

## Continuum of Care

- Shift towards out-patient care
- New methods of care delivery
- Transitions of care across the continuum
- Remote monitoring

## Country specific regulations

- Cyber Security
- Government Reform
- Privacy / HIPAA / Patient data laws
- Patient outcomes / value-based payment models
- Patient Safety

# Enabling Digital Healthcare

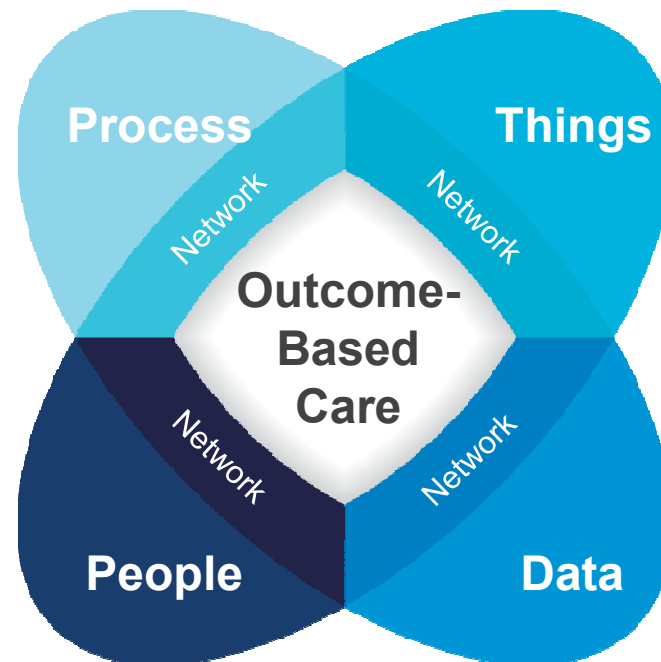
## Connecting People, Process, Data and Things

### Reimagined Workflows:

Connecting clinicians and machines for improved workflows

### Personalized Care:

Connecting clinicians and patients in meaningful ways



### Platform Revolution:

Connecting machines to the internet and each other to redefine ecosystems

### Intelligent Organization:

Leveraging data to support decision making



*Given the Drivers – what's your strategy?*



# Digitization Journey Levels

## Enablement



Agility and Increased Productivity



Reduced Costs (Opex and Capex)



Faster Response

## Differentiated

2.0

New User Experiences, Products, Services



Accelerated Product, Services, and Process Innovation



Distributed Connectivity and Intelligence

## Defined



Business Model Innovation / Industry Transformation



Machine 2 Machine / Augmented Decisions / Self Learning Analytics



New Growth and Constant Innovation



# What needs Digital Transformation?



## How well do you know your Customers & Workforce?

- Where do patients spend most of their time?
- How will patients embrace the technology?
- Are your employees engaged?
- Are you staff able to operate at the top of their license?

## Do you know what to act upon?

- What path have your patients taken?
- Do you know the history of all forms of contact with patients?
- Where is your equipment located?
- When is equipment about to fail?
- What is the most efficient workflow?
- How do you automate the response?

## Do you know what to protect?

- Is your network secure?
- Are your devices secure?
- Are your patients safe?
- Is your data secure?

# Digital Hospital Healthcare Solution Categories



Virtual Care



Patient Engagement & Satisfaction



Clinical Efficiency & Optimization



Secured Assets



Platforms

# Business Initiatives

## Initiatives

- Medical Device Segmentation
- Malware Protection
- Integrated Security Portfolio Approach

- Tele-Health
- Virtual Patient Observation
- Remote Patient Monitoring

- Appointment reminders
- In Room Infotainment
- Wayfinding
- Population Health

- Location Aware Workflow
- Enhanced Collaboration

- HIE
- Data Interoperability
- Application Rationalization
- Analytics



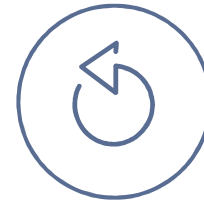
Compliance & Security



Virtual Care



Patient Engagement



Clinical Workflow



Platforms

# Business Outcomes



## Compliance & Security

- Improve patient safety
- Maintain patient privacy
- Data protection
- Avoid data breach



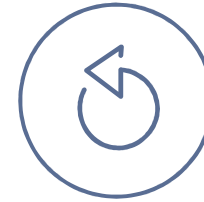
## Virtual Care

- Scale PCP & specialist access
- Decrease travel
- Improve patient outcomes
- Lower cost of care



## Patient Engagement

- Decrease missed appointments
- Improve proactive outreach
- Improve patient experience



## Clinical Workflow

- Decrease wait time
- Increase care collaboration and coordination
- Improve patient outcomes



## Platforms

- Share information across platforms and organizations
- Population health

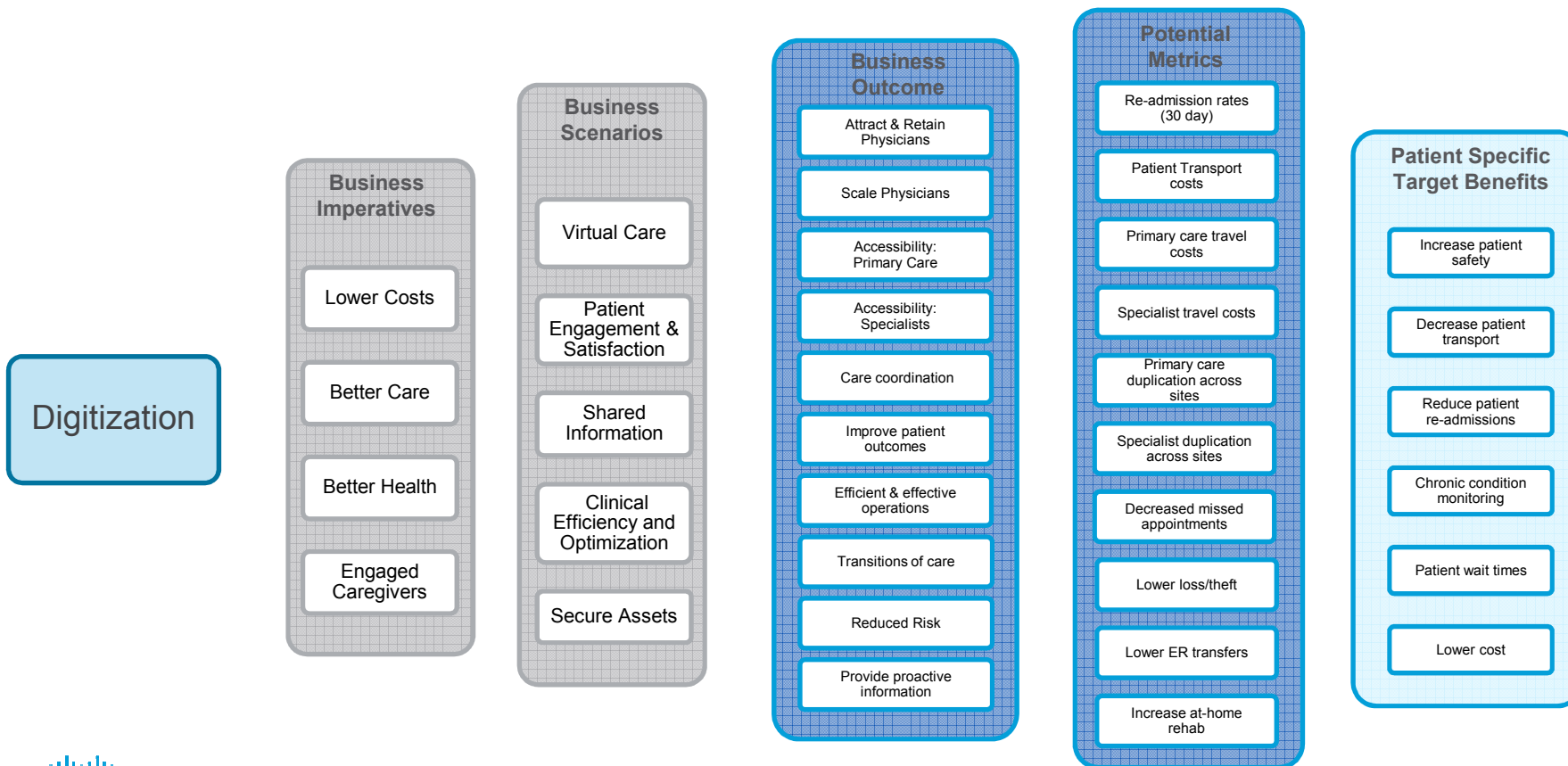
OUTCOMES



# Strategic Business Imperatives

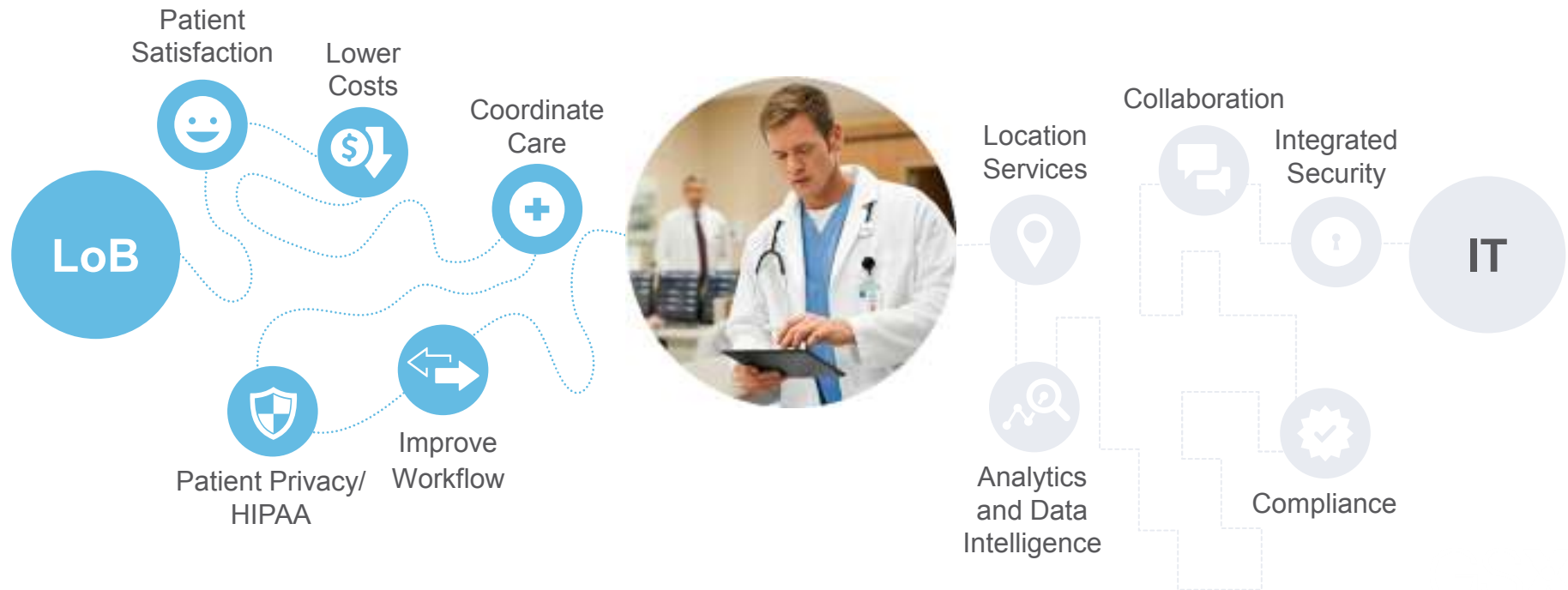


# Digitization Value Map



# Healthcare Digital Transformation

Once the Business Imperatives and Solutions have been defined, we need to focus on the enabling Technologies.



# Digital Recovery Room Example



# Mother in a Recovery Room - Current Experience



- Mother comes in a recovery room after delivery.
- Baby is in the Nursery or NICU.
- She needs to wait for the nurse to come for updates on the baby.
- A family member who needs updates needs to go to the Nursery or NICU to find updates.
- Mothers waits for the physician to come and inform her about the baby's health.
- Mother relies on the nurse on duty to find out about her and babies schedule for the day and night.



# Mother in a Recovery Room - Digitized Process



- Mother can view the baby while being on bed in her recovery room via video monitors in the NICU.
- She can communicate with the nurse on duty in NICU while being in the recovery room.
- Hospital staff, Mother and family can track the RFID tag on the baby and see when and where they are.

# Mother in a Recovery Room - Digitized Process



- She can see a schedule of all the upcoming visits by nurse, resident doctor, pediatrician, new mom classes via the personalized infotainment system for the day.



- EHR systems talking to each other such that the mother's history and baby birth information is all in one place and known to the doctor on duty.

# Real Deployments



## MedNow



### Direct to Consumer MedNow

*Care is available for low acuity primary care conditions using video visits or eVisits. The patient and clinician are in different physical locations*



### Specialty MedNow

*Allows patients with more serious conditions to have a consultation with a Grand Rapids-based Spectrum Health specialist via a secure video connection from remote clinics and hospitals.*



### Remote Patient Monitoring

*Remote monitoring of chronic conditions by way of technology*

# One Touch Workflows

## Medical Reconciliation Consultation

A nurse has patient in the Emergency Department and needs to reach a Pharmacist. The only Pharmacist available is located at a nearby facility. The fastest method of collaboration is a real-time video/audio conference.



Nurse touches screen for instant connection to pharmacist, then begins the medication reconciliation process with the Pharmacist and the patient.

A nurse-pharmacist collaboration allowed discrepancies to be reconciled before causing harm. The collaboration was efficient and cost-effective, while improving patient safety.



### Business Outcomes

- Increased efficiency and ease of access to Pharmacist specialists
- Reduction in Adverse Drug Events (ADE)
- Discrepancies reconciled before causing patient harm

