Health Data Analytics

Business Case Development

Health Data Analytics (HDA)

Not BIG Data

Health Data Analytics (HDA) is the thoughtful combination of Business Intelligence (BI) and Clinical Intelligence (CI)

Creating value with Health Data Analytics requires the **timely** and **relevant** processed data (information) that allows you to make intelligent business/clinical **decisions** that drive **action**.

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Health Data Analytics Maturity

Optimization of People and Associated Processes

Health Data Analytics Drivers

HEALTH DATA ANALYTIC DRIVERS ARE FORCING ORGANIZATIONS TO ANSWER MORE DETAILED AND IN DEPTH QUESTIONS

- How Much Did We Spend on Consumables Last Month?
- What was Last Month's Falls Data?
- How Did We...?
- Why Did it Happen?
- What is Happening on L&D Right Now?
- What is the Impact?
- What Should We Change for Tomorrow?
- How Can We...?
- Who is at risk for..?

Wait, What Happened?	What is Happening?	What Will Happen?
Retrospective | Investigative	Emergent | Immediate	Prospective | Predictive

Low HDA Maturity → High HDA Maturity

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HDA Maturity Time Allocation

Higher Maturity – More time on Action

HDA Time Allocation

Low HDA Maturity		High HDA Maturity
Initiate Retrospective | Investigative	**Growth** Emergent | Immediate	**Innovate** Prospective | Predictive
Decision Making	Decision Making	Decision Making
Analysis		
Data Collection and Validation	Analysis	Analysis
	Data Collection and Validation	Data Collection and Validation

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HDA Business Case

The First Step to Change

What a Business Case Is:

- The product of an assessment (where you are)
- A gap analysis (where you want to be and the effort for attainment)

What It Focuses On:

- How HDA fits into the organizations strategy
- The organization's change readiness stature

What the Components are:

- Benefits of becoming a data driven organization
- Courses of Action (COA) Development
- Resource requirements (people, time, budget, technology)
- Limitations and Constraints
- Recommendations

What is the Value

- Enable Leadership with a common operation picture to make an informed decision on the best course of action to pursue regarding increasing the maturity of the organizations HDA capability

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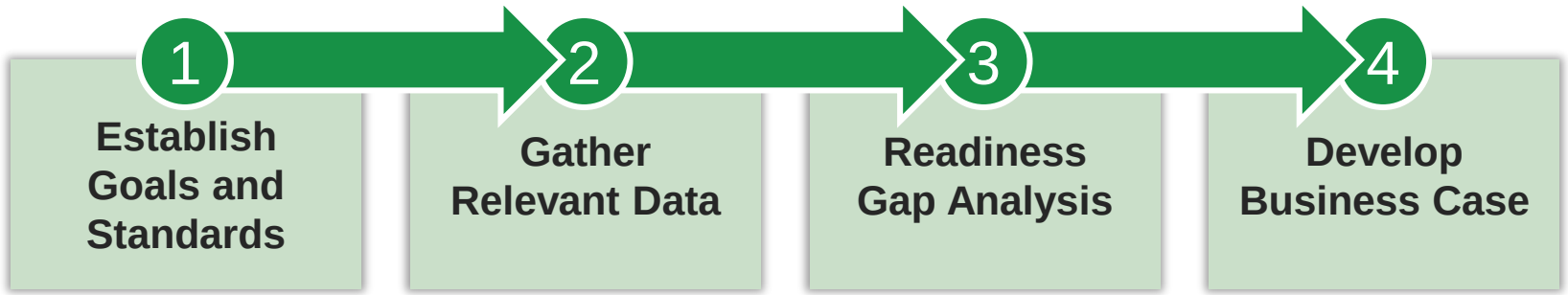
Developing a Business Case

Four Basic Steps

The process of developing a business case is a systematic look at the full spectrum of opportunities and challenges associated with increasing HDA maturity.

In advance of this complex, multi-stakeholder initiative, we will examine impacts to the organization, people, technology, and process necessary for increasing HDA maturity– with a deliberate eye on the key success factors for implementation.



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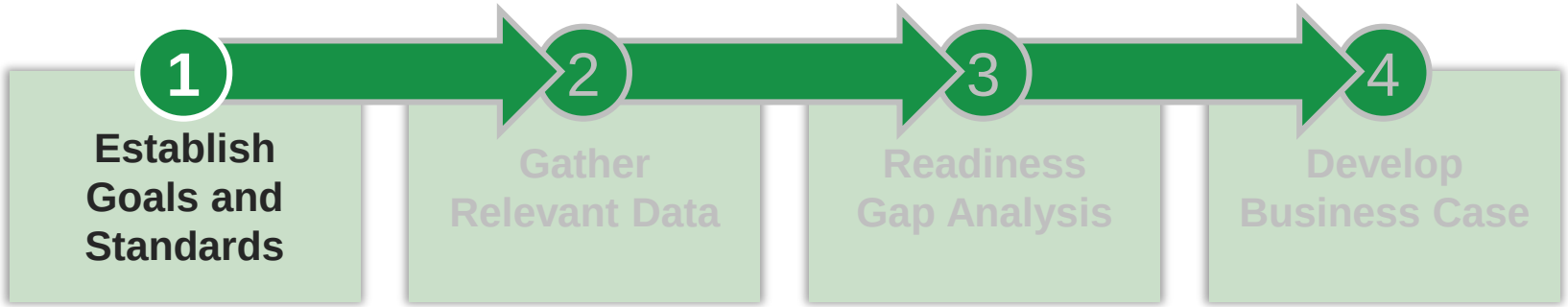

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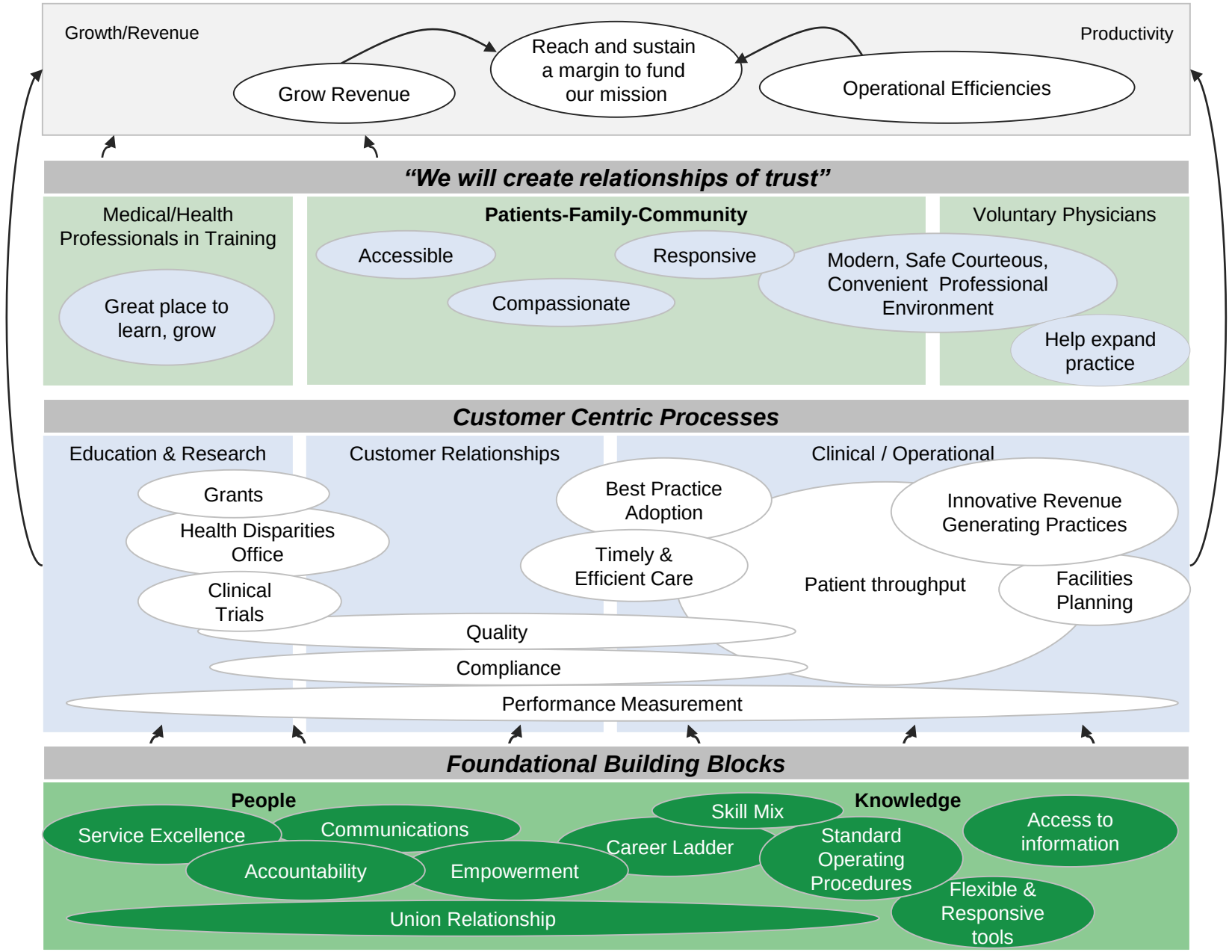
University Medical Center Strategy Map

Financial Perspective
What we must deliver to sustain financial viability

Customer Perspective
What our customers expect from us

Internal Perspective
What processes we must excel at to deliver what our customers expect

People /Knowledge Perspective
How we must develop the organization



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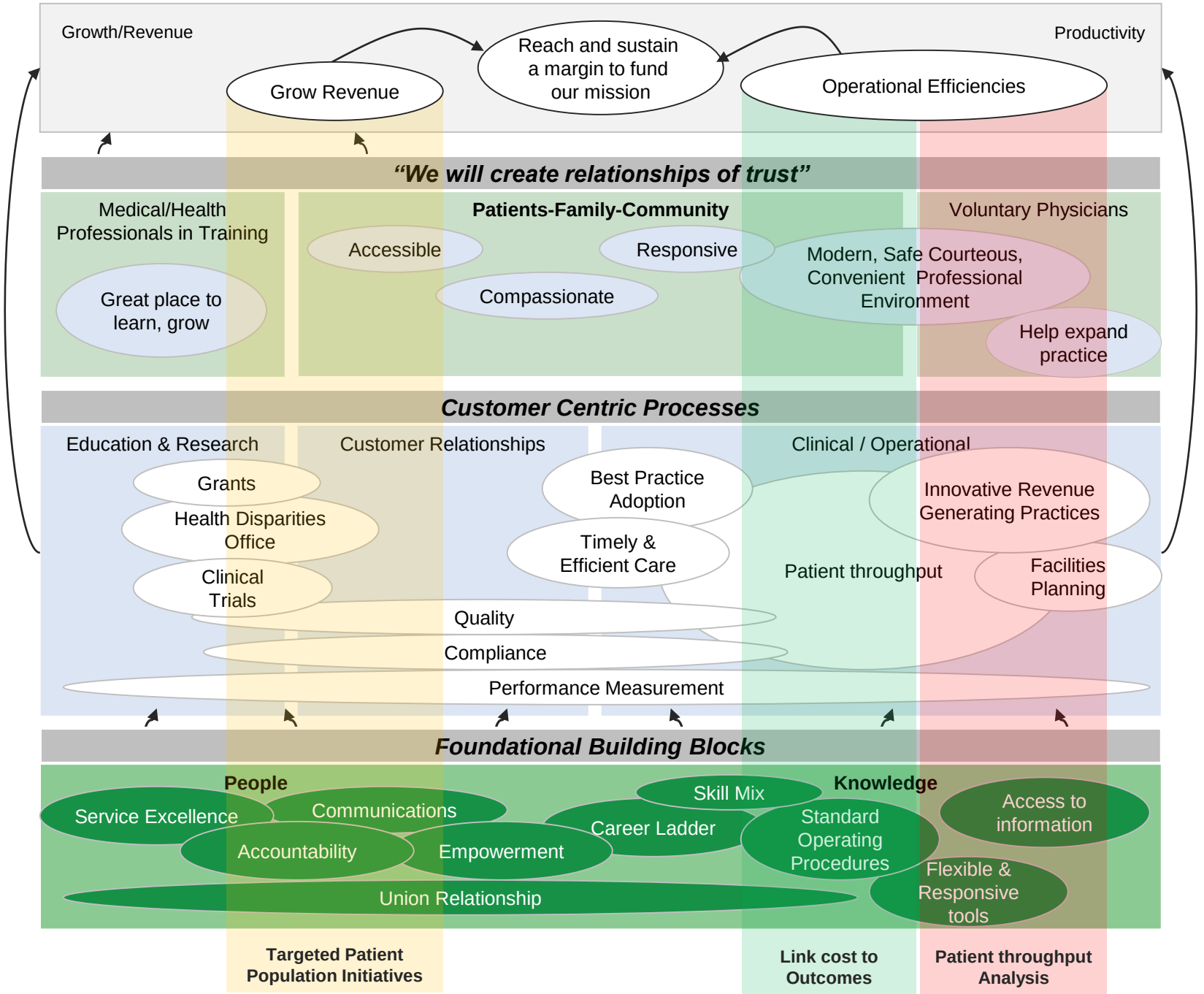

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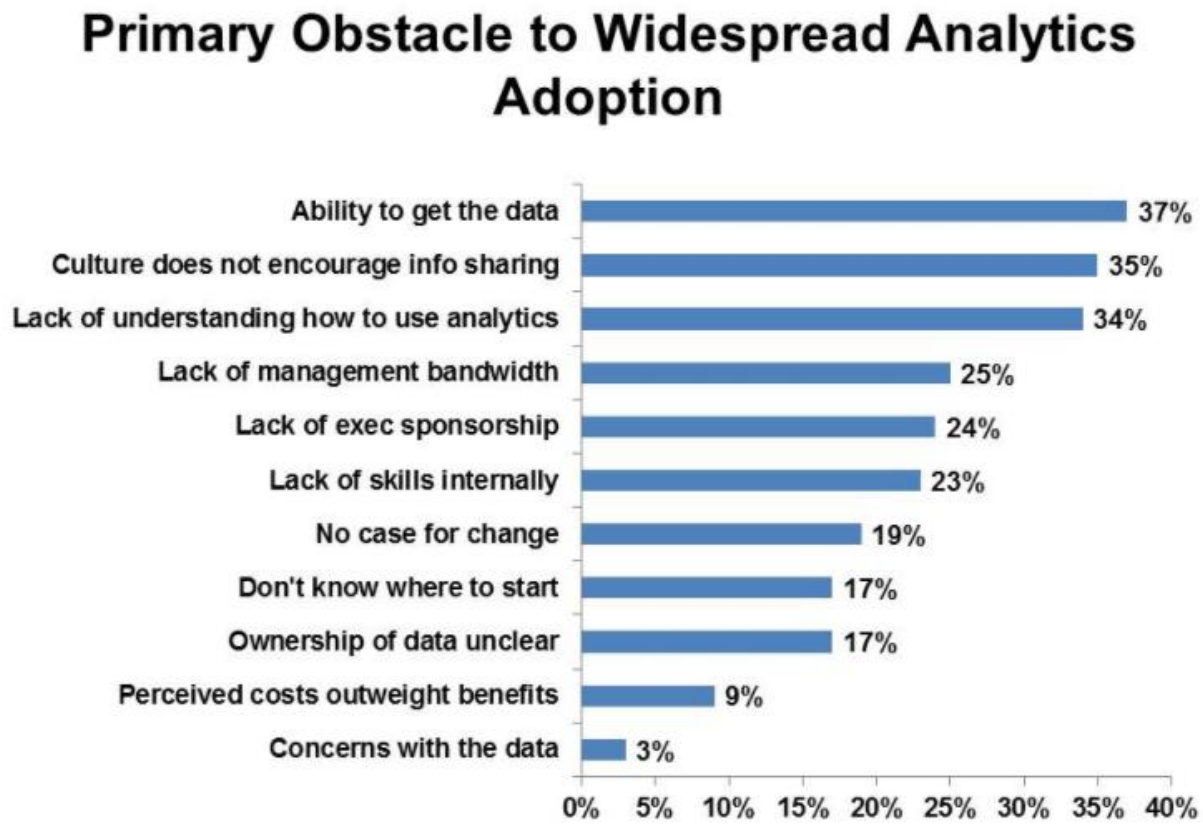
What Is Holding Healthcare Back?

Data and the Inability to Manage it is a Big Problem



Source: The value of analytics in healthcare: from insights to outcomes, IBM Institute for Business Value, February 2012

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HDA Capability Enablers

People, Informatics, Data Quality and Governance

People

Skills & Roles
Patient Needs and Desires
Responsibilities
Accountability
Training
Organization Structure

Informatics

Technology
Data Modeling
Master Data
Access
Security
Analytical & Reporting Tools
Reporting / Dashboards
Infrastructure

HDA Enablers

Data Quality

Reporting
Dashboards
Quality
Feedback
Action Planning
Execution
Data Acquisition
Workflow Improvement

Governance

Governance
Strategy
Projects
Metrics
Training
Policy
Security
Standards

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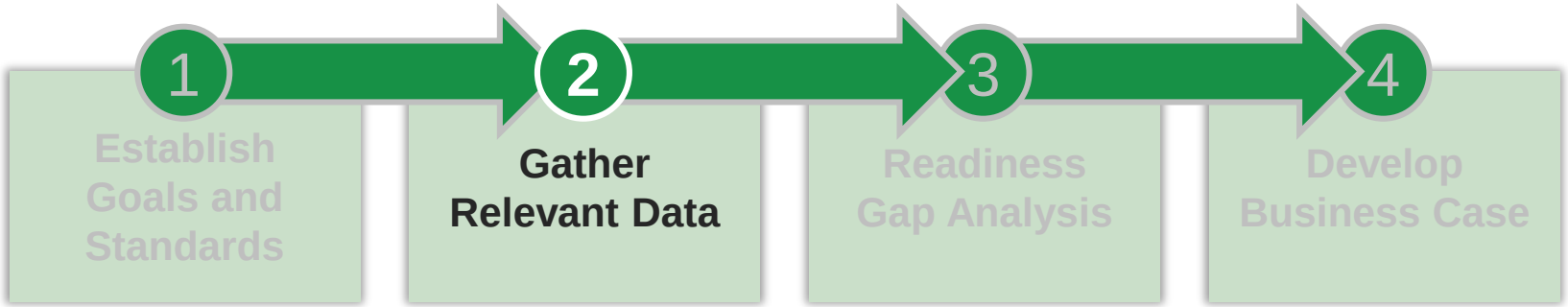

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Gather Data

Systematic and Organized

1. Observations
2. Document Review
3. Survey
4. Focus Group
5. Interview

Lesson learned

Be sensitive to the amount of time required by individuals to provide information during the assessment phase.

All interviews and data requests are vetted prior to execution.

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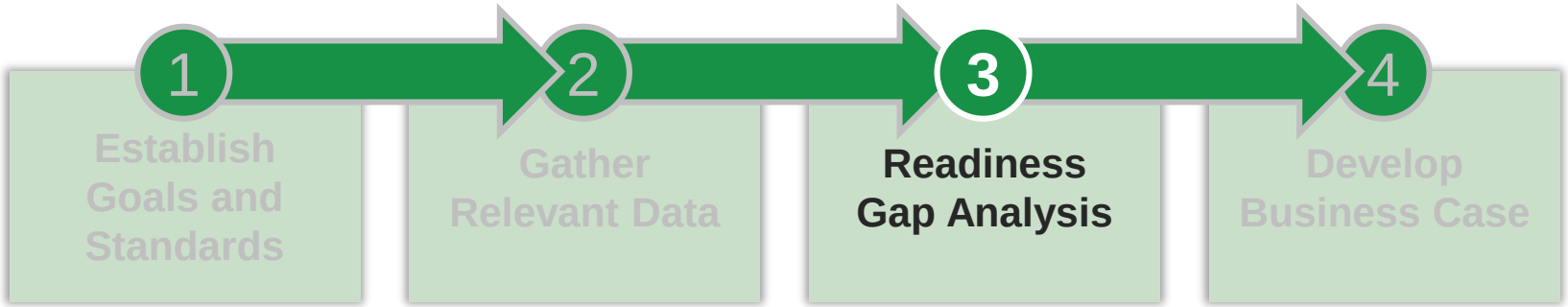

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HDA Capability Enablers

Dashboard Example

	People	Data Quality	Technology	Governance
Hospital A	◓	●	◓	◓
Dept B	○	◒	○	○
Unit C	●	○	●	●
Practice D	●	◒	●	●

● **Low Risk: Ready to Proceed**

◓ **Some Risk: Additional Preparation**

○ **High Risk: Significant Preparation**

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Dashboard Component Analysis

Deep Dive into each Component

Practice: “A”

Component: People

Some Risk: Additional Preparation

Key Findings

- The organization reacts generally well to change (survey response, adoption of technologies), however Ad hoc approach to change is a concern, need a better change process.
- The overall climate for change to EHR is positive and enthusiastic. How things have been adopted in the past has caused some anxiety

Items to sustain

- Key Physician champions are requesting new technology
- Physician users are aware of the change and impact
- Good use of standard communication plans
- Senior leaders participate in staff meetings
- Effective use of Steering Committees for project reporting

Items to improve

- Ad hoc Change Management practices
- Alignment: Sense of urgency is not consistent amongst staff
- Alignment: New technology skills not currently present – requires preparatory training to assist in project delivery
- Staff concern that technology efficiency will reduce overtime shift availability
- Not incorporating all available communication vehicles
- No consistent message for the purpose and drivers of the initiative

Sample Data

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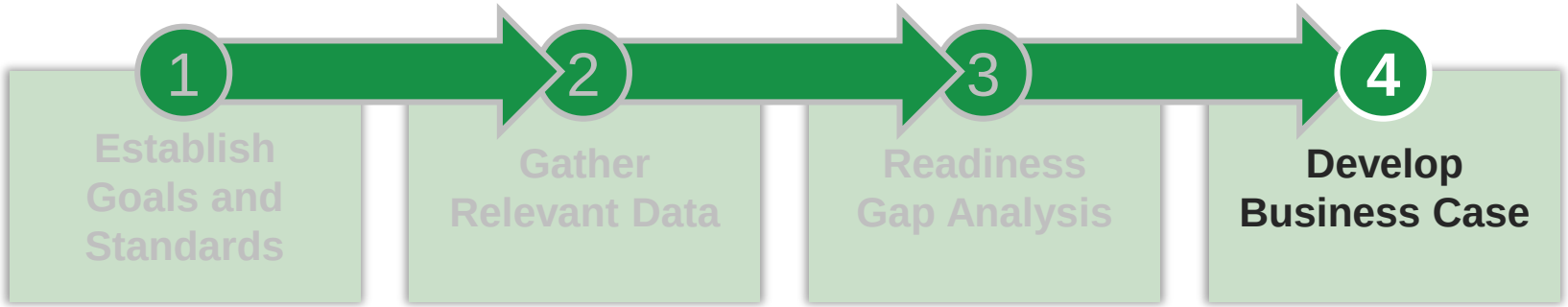

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HDA Business Case

2 - 3 Realistic COAs

In order to select a Course of Action (COA), score each COA using decision criteria

		Courses of Action		
		COA 1	COA 2	COA 3
Decision Criteria	Yields Best Results / Value			
	Accountability			
	Stakeholder Buy-in / Fewest Barriers			
	Speed			
	Cost			
	Manageable			
	Feasibility (easy to complete)			
	Suitability (fit)			
Totals				

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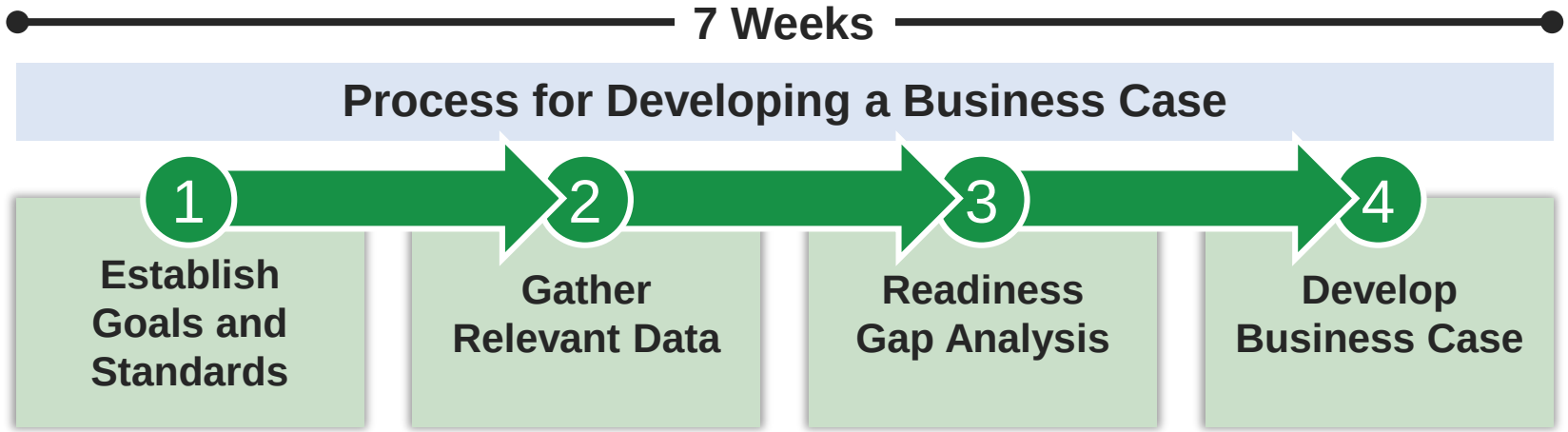
Developing a Business Case Timeline

Typical Business Case Development is 7 weeks



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Lessons Learned

Business Case Critical Success Factors

- Integrate with the organizational culture
- Achieve buy in from leadership on the value of data and how it contributes to achieving organizational goals and survivability
- Demonstrate how data is an enabler in the strategic plan
- Define the problem HDA seeks to understand and solve
- Show how data helps with the decision making process
- Demonstrate how HDA facilitates workflow integration
- Articulate and develop the skills necessary for health data analytics
- Accommodate population health strategies
- Change focused on the process not the people
- Create awareness among senior leaders regarding the opportunities / decisions / leverage points

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