SMI Thought Leadership Councils

Clinical Integration Council

October 19, 2022 / 8:00am – 10:00am

Today's Agenda

Topic	Facilitator	Time
Council Structure and Spring Forum Recap	Jim	10 Min
Illustrating the Clinical Integration Council Objective	Burton	10 Min
Market Review of Research on Clinical Integration Maturity Models	Jane Pleasants	20 Min
Subgroup Debrief: Data & Physician Alignment	Ginger, Rohan, Derek	20 Min
Group Input – Finalizing the SMI Maturity Model		45 Min
Next Steps	Burton & Jim	15 Min

SMI

Welcome – Council Members & Guests

Name	First	Name	Last	Title	Organization
Melissa	Amell	Director of Healthcare Strategy Supply Chain	Infor(US) LLC.
Kimberly	Amrami	M.D., Medical Director	Mayo Clinic
Steve	Anderson	Vice President, Corporate Accounts	Stryker Corporation
Steven	Basile	VP Sales	Healthmark Industries CO
Charlie	Belzer	Group Vice President	BD
Peter	Brereton	CEO	Tecsys
Jimmy	Chung	M.D., Chief Medical Officer	Bon Secours Mercy Health
Ron	Colaguori	Vice President, Supply Chain & Operations Support	BayCare Health System
Karen	Conway	Vice President, Healthcare Value	GHX
Stacey	Cosco	VP Periop & Surgical Services, Operations	Dartmouth Hitchcock
Michael	DeLuca	EVP, Operations	Prodigo Solutions Inc.
Derick	Elliott	Vice President, National Accounts & Strategic Programs	Stryker Corporation
Linda	Engels	Vice President, U.S. Enterprise Accounts for West Market & Healthcare Consulting	Medtronic
Burton	Fuller	Vice President of Supply Chain	Johns Hopkins Health System
Trisha	Gillum	Network Director of Supply Chain	Kettering Health
Jim	Goodman	Vice President Health Care Systems	Smith & Nephew
Kit	Haefner	Sr. Director, National Accounts	TissueTech, Inc.
Tom	Harvieux	Chief Supply Chain Officer	BJC HealthCare
Ginger	Henry	VP of Supply Chain	Legacy Health
David	Hooper	ProviderSales Leader	W. L. Gore & Associates
Lisa	Ishii	M.D.	Johns Hopkins Health System
Jack	Koczela	Director - Supply Chain Services	Froedtert Health
Michael	LaCasse	Vice President, U.S. Specialty Channels - US Market - Americas Region	Medtronic
Keith	Lohkamp	Sr. Director IndustryStrategy	Workday
Bryan	Loughry	Manager of Data Science	GHX
Thomas	Lubotsky	Vice President of Supply Chain	Allina Health
David	Maggs	M.D., VP Medical Affairs	BD
Hal	Mueller	Chief Supply Chain Officer	OSU Wexner Medical Center
Nancy	Pakieser	Digital Health Strategist, CISOM & Supply Chain	HIMSS
Anna	Pinilla	Director, Network Strategic Sourcing, Contracting, and Value Creation	WMCHEALTH
Bruce	Radcliff	System Vice President, Supply Chain	AdvocateAurora Health
Rohan	Sonawane	Director of Medical Affairs	Medtronic
Lori	Pilla	System Vice President and Chief Supply Chain Officer	Mercy Health System

Council Recap

Steering Committee

Co-Chairs:
Donna Drummond - Northwell Health
Steve Gundersen - SMI Board Chair

[CONSULTATION & SUPPORT]

Physician Advisory Council

Co-Chairs:
Lisa Ishii, M.D. - Johns Hopkins Health System
Rohan Sonawane, M.D., MBA - Medtronic

Clinical Integration

Collaboration

Diversity and Inclusion

Resilience and Transparency

Co-Chairs:
Burton Fuller - Johns Hopkins Health System
Jim Goodman - Smith & Nephew
Lead the industry to an effective and sustainable integrated relationship between the supply chain, clinical teams, and physician supply chain leaders

Co-Chairs:
Jim Francis - Mayo Clinic
Susan Louis - Staples, Inc.
Build upon and expand SMI's commitment to leading and modeling collaborative relationships between trading partners

Co-Chairs:
Bill Moir - Henry Ford Health System
Robert Rajalingam - Cardinal Health
Identify and promote effective approaches that foster a culture of Diversity and Inclusion for our team members in the workplace and our supply chain
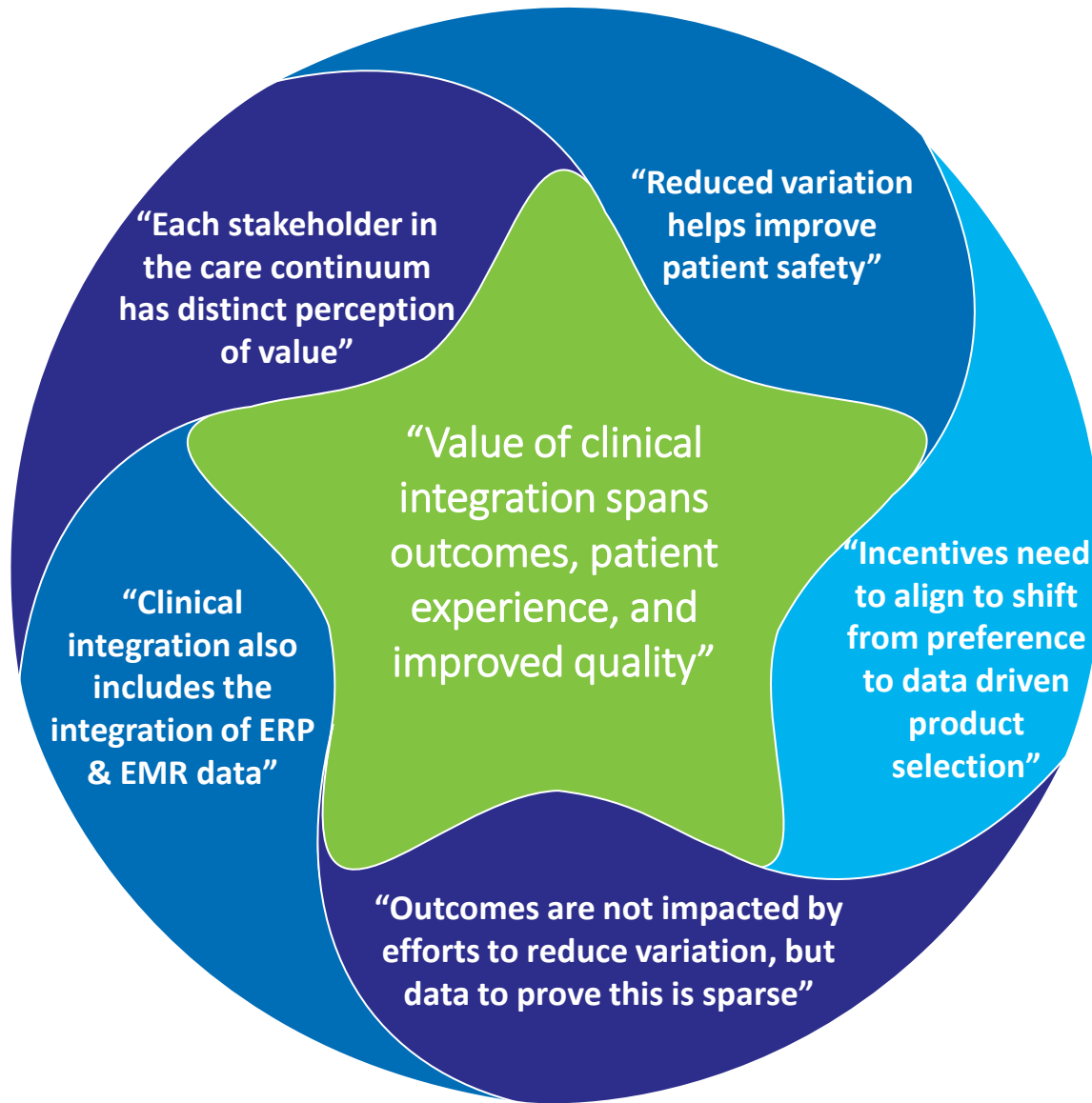
Co-Chairs:
Amanda Chawla - Stanford Health Care
Alan Mavis - Baxter
Create and foster an understanding of the critical elements that will support the imperative of establishing and sustaining a more resilient and transparent healthcare supply chain

Key Functions of the Councils include:

• Developing a strategic and comprehensive approach to SMI pillars that endorses best practices, tracks emerging trends, and identifies and creates impactful solutions to ongoing challenges

• Generating recommendations for educational webinars, program content, and articles

• Identifying and providing oversight of initiatives

• Recommending/implementing tools from external organizations

• Creating innovative and progressive solutions to anticipated supply chain challenges

SMI

"Each stakeholder in the care continuum has distinct perception of value"

"Reduced variation helps improve patient safety"

"Value of clinical integration spans outcomes, patient experience, and improved quality"

"Clinical integration also includes the integration of ERP & EMR data"

"Incentives need to align to shift from preference to data driven product selection"

"Outcomes are not impacted by efforts to reduce variation, but data to prove this is sparse"

Clinical Integration Council Mission Statement:

"SMI Clinical Integration Council will develop and promote efforts that align the needs of clinicians, administration, and suppliers while improving the patient experience"

Council Recap - 2022

March 1 – First Meeting

Key Topics Discussed:
improving patient experience, reducing variation, eliminating "preference," aligning incentives, data & data fluency (how standards are working), evidence-based product selection, creating sustained success, start not just with product but overall objective, and accountability
Created mission statement

June 28th – Virtual Meeting

Approved Mission Statement
Creation of two subgroups:
- Data Enablement
- Physician/Clinician Engagement

October 3 – Data Enablement Subgroup
- Reviewed Clinical Integration Models from other organizations
- Began creating framework for new model

October 6 – Physician Engagement Subgroup
- Reviewed Clinical Integration Models from other organizations
- Began creating framework for new model

October 19 – Fall Forum

Timeline: MARCH · APRIL · JUN · AUG · OCT

April 20 – Spring Forum

Potential Focus Areas:
- Physician Engagement/ Alignment/Accountability
- Data Enablement/Data Standards

August 17 – Physician Engagement Subgroup
- Evaluate the tools already available
- Work to create a maturity model

August 18 – Data Enablement Subgroup
- Playbook on data collaboration between trading partners
- Work to create a maturity model

Illustrating Council Objective

Resilience Maturity Model (RMM)

LEVEL 4: Immunity
A collaborative, agile, mature, program based on strong partnerships and knowledge-based collaborations to prepare for and respond to risk. Collective use of analytics and predictive models is in place for continuity in managing most supplies regardless of criticality, risk, or disruption.

LEVEL 3: Resilient
Dedicated program and Supply Chain team that uses technology, analytics, and predictive models in providing a response and solutions for business continuity and risk mitigation. Vigorous use of prevention, assessment, and control measures in place.

LEVEL 2: Responsive
Dedicated Supply Chain team that leads across a system in risk mitigation, management, and response to disruptions with some insight on market intelligence and clinical equivalents for disrupted products.

Level 1: Prepared
Supply Chain reviews and responds to supply disruption with structured processes and plans towards risk mitigation. Insights into some key data points, such as utilization patterns, are part of the response.

Columns: Scope & Service (what) | Communication & Partnership (approach) | Infrastructure & Analytics (how)

INCREASING RESILIENCE

The RMM defines 3 key elements that are critical to achieving each level of resilience defined:


Scope & Service — *what*

Communication & Partnership — *approach*

Infrastructure & Analytics — *how*

Maturity Model Framework & Levels

LEVEL 4: Immunity
A collaborative, agile mature program based on strong partnerships and knowledge-based collaborations in the prevention to the response of risk. Collective use of analytics and predictive models is in place for continuity in managing most supplies regardless of criticality, risk, or disruption.
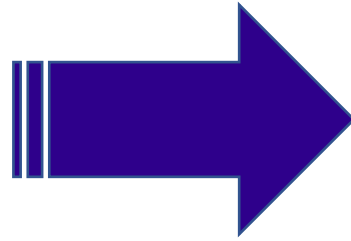
Aspirational, collaborative transparent partnership; risks mgmt. regardless of criticality

LEVEL 3: Resilient
Dedicated program and Supply Chain team that uses technology, analytics, and predictive models in providing a response and solutions to business continuity and risk mitigation. Vigorous use of prevention, assessment, and control measures in place.

Investments, use of predictive modeling in the response and solutions of business continuity & risk mitigation

LEVEL 2: Responsive
Dedicated Supply Chain team that leads across a system in risk mitigation, management, and response to disruptions with some insight on market intelligence and clinical equivalence of disrupted products.

The program focused on risk mitigation across system & insights

Level 1: Prepared
Supply Chain reviews and responds to supply disruption with structured processes and plans towards risk mitigation. Insights into some key data points, such as utilization patterns, are utilized in the response.

Early Stages of a program; primarily response 'focused'

Page 1: Scope & Service (what)

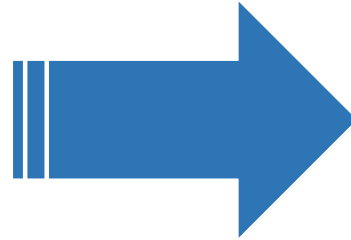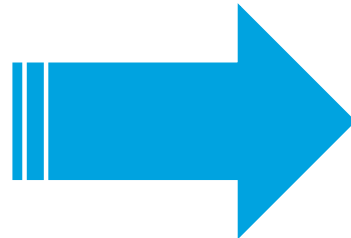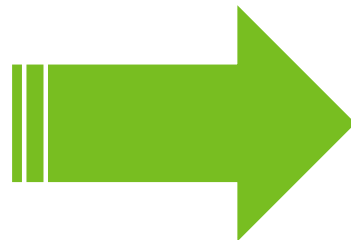|	CRITICALITY	RISK MITIGATION	DEDICATED TEAM
LEVEL 4: Immunity A collaborative, agile mature program based on strong partnerships and knowledge-based collaborations in the prevention to the response of risk. Collective use of analytics and predictive models is in place for continuity in managing most supplies regardless of criticality, risk, or disruption.	Defined response plan with criticality levels/grading of 60% of all items purchased (SKU's) within the last 24 months **40 Points**	Predictive modeling under different pandemic (variant) or disruption scenarios. Includes testing of business continuity plans with partners to include various scenarios defined. **40 Points**	Work is driven by foresight and intelligence analytics in the preparation and prevention of response data with visibility to the executive and stakeholders on performance metrics. **40 Points**
LEVEL 3: Resilient Dedicated program and Supply Chain team that uses technology, analytics, and predictive models in providing a response and solutions to business continuity and risk mitigation. Vigorous use of prevention, assessment, and control measures in place.	Defined response plan with criticality levels/grading of 40% of all items purchased (SKU's) within the last 24 months **30 Points**	Risk mitigation and controls in place include a shared business continuity plan with partners/suppliers and collaborators **30 Points**	A dedicated team uses analytics and predictive models to guide focus on risk mitigation and response. Product disruptions are visible and response strategies to stakeholders. **30 Points**
LEVEL 2: Responsive Dedicated Supply Chain team that leads across a system in risk mitigation, management, and response to disruptions with some insight on market intelligence and clinical equivalence of disrupted products.	Criticality levels/grading of 20% of all items purchased (SKU's) within the last 24 months **20 Points**	Risk mitigation in place for key identified supplier/products disruption with strategic stockpiling **20 Points**	Dedicated team that resiliency preparedness and response - top priority for the organization's executive team **20 Points**
Level 1: Prepared Supply Chain reviews and responds to supply disruption with structured processes and plans towards risk mitigation. Insights into some key data points, such as utilization patterns, are utilized in the response.	Criticality definition for medical supplies and levels/grading established **10 Points**	Basic emergency disaster scenarios and response (i.e. emergency carts) established. Risk identification planning occurs sporadically **10 Points**	Leadership within Supply Chain has some level of dedicated personnel that leads and establishes a supply disruption response **10 Points**

Page Total =_____

Column Total = _____

Column Total = _____

Column Total = _____

SMI Research on Clinical Integration Maturity Model

Clinical Integration Tools and Insights

AHRMM's Clinically Integrated Supply Chain

AHRMM's CQO Report: The Power of Clinical Integration

Becker's The 7 Components of a Clinical Integration Network

Gartner's Improve Value Analysis Effectiveness to Become a Clinically Integrated Supply Chain

HIMSS' A Clinically Integrated Outcomes Strategy for Health Systems Globally

Nexera's The Clinically Integrated Supply Chain Maturity Model

Conversations with Intalere and HealthTrust Leaders (summary)

Premier and Vizient's GPO contributions towards a clinically integrated supply chain

Oracle's Supplier and Provider contribution towards a clinically integrated supply chain

SMI

Grading Categories

Talent	Governance & Structures	Processes
Analytics & Insights	Technology	Change Management
Provider-Represented Perspective	Supplier-Represented Perspective	Patient-Represented Perspective

SMI

Top Three Resources

AHRMM

HIMSS

ORACLE

SMI

Here is how the SMI members rated the tools
(top three in each category)
*Tools were reviewed and rated by SMI members who participated in the 2020 Clinical Integration Initiative Research.

Tools	Talent	Governance & Structures	Processes	Analytics & Insights	Technology	Change Management	Provider	Supplier	Patient
AHRMM's Clinically Integrated Supply Chain	✓		✓	✓		✓	✓		✓
HIMSS' A Clinically Integrated Outcomes Strategy for Health Systems Globally			✓	✓	✓		✓		✓
Oracle's Supplier and Provider contribution towards a clinically integrated supply chain		✓	✓	✓	✓	✓		✓	✓
Becker's The 7 Components of a Clinical Integration Network	✓	✓							
Nexera's The Clinically Integrated Supply Chain Maturity Model	✓	✓				✓			
AHRMM's CQO Report: The Power of Clinical Integration						✓			
Gartner's Improve Value Analysis Effectiveness to Become a Clinically Integrated Supply Chain							✓		
Premier and Vizient's GPO contributions towards a clinically integrated supply chain					✓			✓	
Conversations with Intalere and HealthTrust Leaders (summary)								✓	

SMI

Subgroup Debrief

Data Subgroup – Key Topics Discussed

Needs

- Hospital systems struggling to keep pace/supply issues across the board – pandemic uncovered fragility in the system that we didn't expect to see

- Connecting financial/supply chain and clinical data sets – a struggle for healthcare providers

- Growth – "Business of Medicine" driven VS. improving access to care

- Security/Integrity of data is a hurdle for collaborative data sharing

Proposed Solutions

- True integration of supply chain and clinical needs to have a single source of truth for data – we all need to be speaking the same language

- Linking the data between hospitals and suppliers

Collaboration will be the key to data collection and analysis since it is mutually beneficial

Physician Subgroup – Key Topics Discussed

- Engaging physicians at all levels
- Broad support for defining the concept of supply chain-physician alignment
- Why we put physicians at the top of a list of things important to supply chain
- There is a need to understand different layers where SC and physicians intersect
- Covid provided insight into supply chain importance which can be a method for showing interdependency
- Data, cost savings, and quality of care are areas of value to physicians
- Must consider industry partner physician perspective as well
- Three ways a physician can impact operations: Clinical system improvement, Improving cost of care, Increasing throughput
- How can we standardize physician involvement?

Our Goal Today...

- **React and advise on a Clinical Integration Maturity Model Framework**

Clinical Integration Maturity Model Framework

		People – Patient, MDs	Processes	Technology
Level 4 Fully integrated and aligned incentives	Provider			
	Supplier			
	Data			
Level 3 Cross functional understanding of stakeholder needs and requirements	Provider			
	Supplier			
	Data			
Level 2 Common language and communications	Provider			
	Supplier			
	Data			
Level 1 Beginning the Conversation	Provider			
	Supplier			
	Data			

SMI

CI Maturity Model: People

		People – Patient, MDs		
Level 4 **Fully integrated and aligned incentives**	**Provider**	seamless connectivity between referring physicians, implanters/ surgeons, supply chain, suppliers, vendor reps & payers. Physicians leading decision-making through value analysis.		
	Supplier	Complete integration of EMR with medical devices/ pharmacy/ imaging. Supplier organizations (including vendor reps) are fully aligned financially with IDN and payers; alignment also tied in with patient outcome goals).		
	Data	Complete integration of EMR with patient wearables. Physicians have access to full costing data (e.g., cost per case, transparency of cost of supplies). This data helps drive aligned decisions by providers (including physicians) and suppliers (including reps).		
Level 3 **Cross functional understanding of stakeholder needs and requirements**	**Provider**	Physicians engaged in decision making from the planning stages. Service line focused approach.		
	Supplier	Suppliers aligned with providers from some type of risk component.		
	Data	Some integration of EMR with patient wearables. Some sharing of data - agreed upon supply data even if not the same for the provider and soppier. Data may be blinded or deidentified.		
Level 2 **Common language and communications**	**Provider**	Physicians engaged in decision-making near the end of a decision (for a category or contract). Physician preferences acknowledged		
	Supplier	Suppliers share retrospective data; contracts based on spend alone.		
	Data	Limited integration or manual manipulation of data with EMR systems. Focus on costs, but attempt to include other information (e.g., patient outcomes, supply obsolescence) is considered. Reactive supply management approach (e.g., need more inventory because demand planning is not working).		
Level 1 Beginning the Conversation	**Provider**	Limited/ no connectivity with referring HCPs, supply chain, payers.		
	Supplier	No integration of EMR with patient wearables. Focus on costs which are not aligned (between provider / supplier or with patient outcomes). Reactive approach to supply management (e.g., need more inventory because demand planning data is not available).		
	Data	No integration of EMR with patient wearables. Focus on costs which are not aligned (between provider / supplier or with patient outcomes). Reactive approach to supply management (e.g., need more inventory because demand planning data is not available).		

SMI

CI Maturity Model: Process

`		Processes
Level 4 **Fully integrated and aligned incentives**	**Provider**	Optimized process workflows and Service line assessments to drive maximum clinical efficiency and patient / customer experience. Streamlined billing / payers, payment / replenishment of supplies. Simple, affordable billing.
	Supplier	Capital and device planning solutions across the IDN network hospitals. Full data visibility with IDN's for supply / equipment forecasting, scheduling (procedures) and other demand planning.
	Data	EMR and procedural data available, collected passively. Inventory maintenance through EMR/procedural data
Level 3 **Cross functional understanding of stakeholder needs and requirements**	**Provider**	Strong value analysis program established where clinical evidence is in use in many cases. Physicians are on the committees / are engaged but there is not full alignment.
	Supplier	Some risk share arrangements may be in place; alignment with provider and physicians on product decisions and efficiencies (e.g., block schedules).
	Data	NA (in support of the above noted processes)
Level 2 **Common language and communications**	**Provider**	IDN has limited value analysis program led by supply chain; product decisions are made with limited or no physician engagement. Purchases mainly based on demand.
	Supplier	No risk share agreements; silo'ed approach in contracting with the providers for supplies / equipment. Some data available for demand planning from the provider (may be provided by provider or collected based on purchase history)
	Data	NA (in support of the above noted processes)
Level 1 Beginning the Conversation	**Provider**	process workflows not clearly defined for driving clinical efficiency. IDN has no or limited value analysis program; product decisions are made without physician engagement. Purchases based on demand.
	Supplier	limited or no understanding of capital planning and supply forecasting across IDN
	Data	NA (in support of the above noted processes)

SMI

CI Maturity Model: Technology

		Technology
Level 4 **Fully integrated and aligned incentives**	**Provider**	One instance of EMR for patient records across the IDN network for longitudinal patient records and connection with patient apps. Technology to allow flow of information related to the supply chain that ties into the EMR from scheduling to billing of the supplies and payment of patient bill. Technology has full interoperability.
	Supplier	Open EMR- easy connect with SW/ HW platforms. Complete interoperability with provider platforms.
	Data	Medical device/ wearables integration with EMR. Supplier, outcome and planning data is consistent and is fully transparent across the provider and supplier (e.g., use of UDI). Physicians have access to data real-time or in advance of procedures or supply use. Demand / forecasting data aligned and available between supplier and providers. A persons entire medical records from birth to death are owned by and identified with them. Anywhere they go their complete medical history is available.
Level 3 **Cross functional understanding of stakeholder needs and requirements**	**Provider**	Medical device/ wearables available and are integrated with EMR but may not drive decision-making or provide insight. Supply usage is available and ties in with quality and outcomes - may require interfaces or manual manipulation.
	Supplier	Designing and/or utilizing wearables and technology based on customer (patient, provider / physician) feedback that aligns with supplier goals.
	Data	Systems allow sharing of cost, quality, outcomes with physicians but may be retroactive or limited. Interfaces or manual reports to support the data flow. Schema free data storage, support for multiple views (ontologies) of the world working toward unified yet customizable ontology. Medical practice dictates all work flows and processes and technology supports (not vice-versa). Complete lineage information captured.
Level 2 **Common language and communications**	**Provider**	Some visibility via EMR or reporting but not readily available or is manual. Limited interfaces or integrations.
	Supplier	Technology is internal focused but there may be applications to support a more strategic approach (e.g., some quality data).
	Data	Medical device/ wearables available - few integrated with EMR. Limited data shared between suppliers and providers; sharing is manual, each has their own technologies that are not aligned. Methods and practices for data wrangling (cleansing, matching/alignment, classification, attribution, ...) are openly shared. Probabilistic correctness of data elements is understood/embraced.
Level 1 Beginning the Conversation	**Provider**	No access to longitudinal patient records. EMR not connected with patient apps, MMIS or Financial systems.
	Supplier	Closed EMR- difficult to integrate with SW/ HW platforms of vendor. Tools are focused on internal information (e.g., purchase history).
	Data	Medical device/ wearables available but are not integrated with EMR. Technologies / data not able to support decisions for either the supplier nor provider, no data alignment between entities. Knowledge discovery is difficult and dubious due to unreliable information preventing well founded decisions for all stakeholders.

![SMI logo]

Next Steps

- **Review feedback from today's discussion**

- **Submit Maturity Model to Physician Advisory Council for feedback**

- **Share final draft January/February - virtual council meeting**

SMI