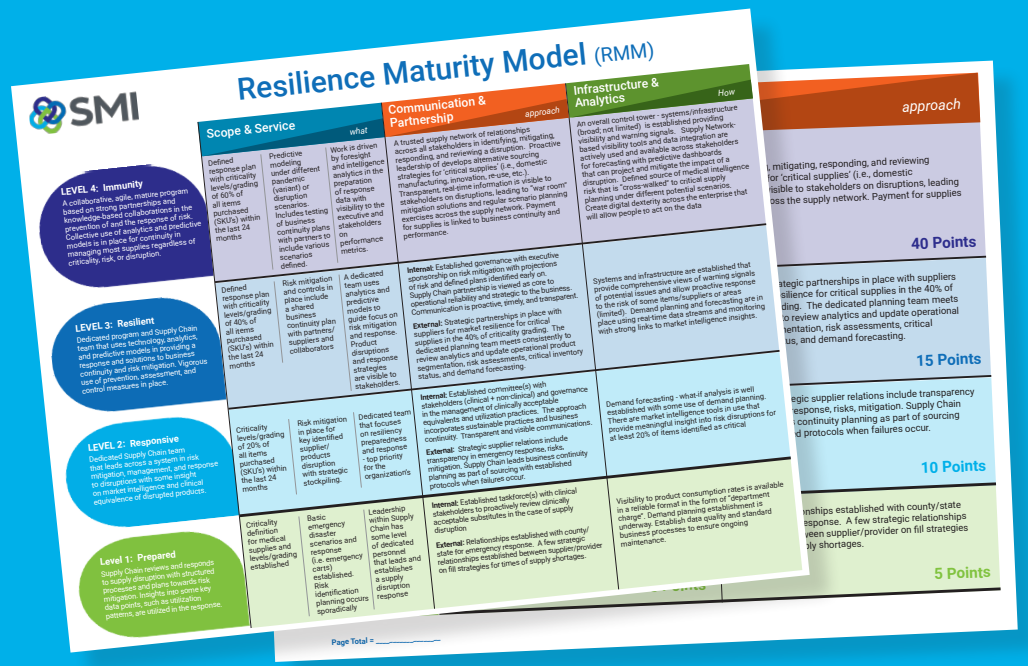
SMI Playbook

Planning for a Resilient Supply Chain for Healthcare in a Post-COVID World

May 2022

This SMI Playbook and Resilience Maturity Model (RMM) were produced by SMI members with guidance from Rob Handfield, Bank of America University Distinguished Professor of Supply Chain Management and Executive Director, Supply Chain Resource Cooperative, and students from NCSU



Planning for a Resilient Supply Chain for Healthcare in a Post-COVID World

Executive Summary

The COVID era has brought with it a new set of challenges never experienced prior to 2020. Although global supply chains have grown more efficient through improvements in software technologies, cloud computing, mobilization, etc., most organizations along the healthcare supply chain were not prepared for a challenge of this magnitude. Leaders are now thinking about how to plan for the future to create highly resilient supply chains that can withstand even catastrophic disruption.

It is against this backdrop that SMI and North Carolina State University conducted a study to better understand the current supply chain resilience plans of healthcare providers and suppliers. The question we sought to answer is:

What actions and plans are hospital providers and manufacturing partners developing and engaging in to create a more resilient supply chain, one that can withstand the future disruptions occurring in the supply of critical healthcare equipment and materials?

In addressing this question, NC State conducted interviews with SMI provider and industry partner members to benchmark organizational resilience plans. We combined these insights into different "clusters" of actions and engaged executives to pressure test these "clusters" for relevance and relative priority. The outcome of this research along with extensive discussion and review by the SMI Initiative Team led to the development of a Supply Chain Resilience Maturity Model (RMM) which we believe captures the current status of key resilience planning elements and priorities along with aspirational goals as the healthcare supply chain looks to the future.

To create a baseline, here is how the team defined Resiliency in the Healthcare Supply Chain:



Figure 1: Definition of Resilience

Resiliency is the degree to which a supply stream can reliably provide the right product at the right time at the right place. Resiliency is derived from preparedness, elasticity, and collaborative risk management.

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The Resilience Maturity Model

A central outcome of this research is the Resilience Maturity Model (RMM) which incorporates core fundamentals of preparation, responsiveness, and resiliency and is aspirational in nature with the ultimate target of "Collaborative Immunity". It captures the guidelines currently in place and under development by the industry to direct resiliency planning across the healthcare supply chain. We recognize that many providers and manufacturers are just starting their journey and have not yet reached the higher levels of maturity shown in this document, and the information is designed to be a pathway for the healthcare industry to build a more resilient supply chain.

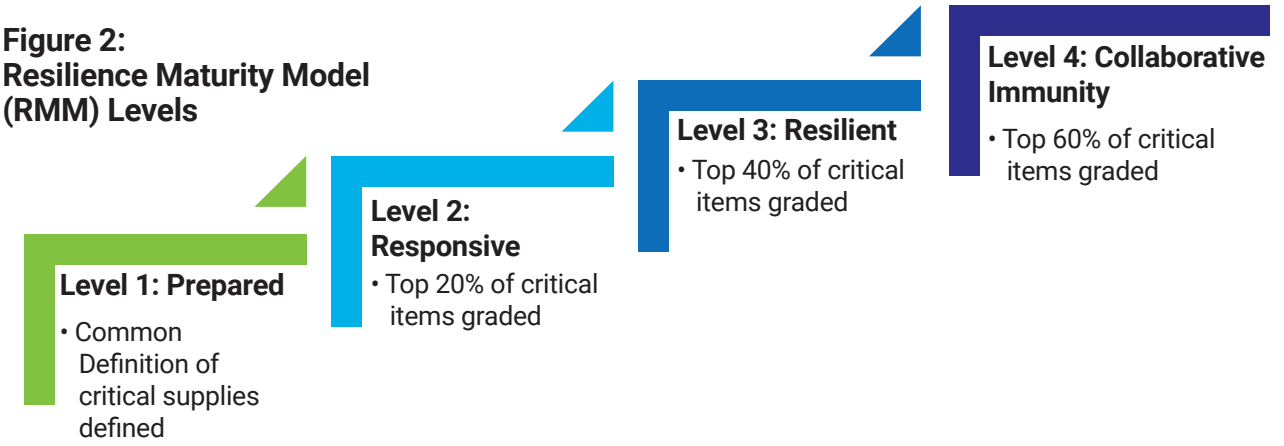
In developing the RMM, the team identified 4 key criticality levels that define the path towards optimal resilience. You can see these 4 criticality levels in Figure 2 below:

In addition, 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*

This RMM provides structure to organizations so they can develop their own Preparedness Playbook. The RMM also includes a scoring mechanism that allows organizations to assess their own resilience status so they can plan for next steps. By using the scoring mechanism in the RMM, you can identify your current progress toward a resilient supply chain and develop plans to achieve ever higher levels of resilience and aspire to immunity over the long term.

Figure 2:
Resilience Maturity Model (RMM) Levels



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The Levels of Resilience

Level 1: Prepared

At a basic level, the team should establish dedicated resources within the Supply Chain Organization that are tasked with reviewing and responding to supply chain disruptions. Ideally, this would involve establishing a cross-functional crisis response team to create and continually update contingency plans. The team should include people from security operations, emergency management, supply chain management, inventory and warehouse management, IT, with ad-hoc departments from legal, finance, audit, to quality and patient safety. One of the most important partnerships required is between clinical stakeholders (nurses and doctors) and supply chain professionals on taskforces or committees that review clinical acceptability of products and define criticality of each product.

Level 1 on the RMM allows organizations to accomplish these elements:

- Criticality levels/grading established for medical products
- Basic emergency disaster scenarios and response strategies (i.e., emergency carts) established
- Enhanced Demand planning under development based on future requirements and not simply past usage
- Leadership within Supply Chain has dedicated personnel that leads and establishes a supply disruption response

Level 2 – Responsive

Level 2 organizations have invested heavily in human capital and technology resources that allow for committed time on risk mitigation, response, and market intelligence in the response to and management of a disruption. A core element here that distinguishes this level of maturity is a dedicated team that operates across the organization to prevent impacts of disruptions, including establishing a risk management capability and a team dedicated to monitoring what is happening in the supply base through focused market intelligence. Ensuring that Supply Chain is a core part of leading this team is critical to future success.

At this level, organizations will seek market intelligence on supply risks from multiple sources. This could include discussions with trading partner representatives (e.g., sales reps, supply managers, auditors), news media, social media, state and federal emergency centers, public notification systems (such as the CDC Health Alert Network), and commercial supply-chain risk-monitoring services. The use of multiple sources can help the organization validate the intelligence it receives.

Level 2 allows organizations to accomplish the following:

- Criticality levels/grading of 20% of items marked of all purchases within the last 24 months
- Risk mitigation in place for key identified suppliers/ products disruption with strategic stockpiling Dedicated team that makes resiliency preparedness and response a top priority for the organization's executive team
- Supply Chain leadership of business continuity planning as part of sourcing with established protocols when failures occur

Planning for a Resilient Supply Chain for Healthcare in a Post-COVID World

The Levels of Resilience
cont.

Level 3 – Resilient

At this level, the dedicated team is even more closely aligned with other business functions across the organization and in the use of technology, analytics, and predictive models in providing business continuity. There are rigorous uses of prevention planning and controls on disruption in place that ensure continuity of core operations through any emergency.

Organizations in this group have robust levels of awareness and response in the mobilization of resources through thoughtful and creative prepositioned strategies. Organizations are applying analytics and technology to predictive models to better prepare for consequences of pandemics and other threats. They structure purchase contracts to ensure that they will be able to access emergency supplies, often at pre-determined prices, and they create expedited review and approval processes for contracts and agreements. Organizations are mapping their supply chains to identify critical suppliers and their capabilities and potential bottlenecks. They are tracing critical material stocks to the raw material level through real-time supply-chain systems.

The key components of Level 3 are:

- Defined response plan with criticality levels/grading of 40% of all items purchased within the last 24 months
- Risk mitigation and controls in place include a shared business continuity plan with partners/suppliers and collaborators with comprehensive views of warning signals
- Established governance with executive sponsorship on risk mitigation and projections of risk and defined plans in place for response to risk
- A dedicated team uses real time analytics and predictive models to guide focus on future demand planning to allow for risk mitigation and response. Product disruptions and response strategies are visible to stakeholders
- Product disruptions and response strategies are visible to stakeholders

Level 4 – Collaborative Immunity

Collaborative Immunity is an agile aspirational environment between suppliers, manufacturers, distributors, and providers based on strong partnerships and knowledge-based collaborations in the response to risk. Collective use of analytics and predictive models are in place for continuity in managing most supplies regardless of criticality, risk, or disruption.

To achieve real immunity from shortages of critical health and safety material and equipment that could disrupt their operations, organizations must join forces with others to transparently share information on shortages and share supplies of these critical goods. They recognize that the entire supply network must function to preserve the ongoing operations of all its members. These networks operate both vertically and horizontally.

Level 4 addresses these key elements of resilience planning:

- Defined response plan with criticality levels/grading of 60% of all items purchased within the last 24 months
- Predictive modeling under different pandemic or disruption scenarios. Includes testing of business continuity plans with partners to include various scenarios defined
- Testing of business continuity plans with partners to include various scenarios defined
- Use of foresight and intelligence analytics in the preparation and prevention of response data with visibility to the executives and stakeholders on performance metrics

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Resiliency Maturity Model Scoring Matrix

As noted on page 3, The RMM includes a scoring mechanism that allows organizations to assess their own resilience status so they can plan for next steps. With the goal of simplicity, points have been assigned for each maturity level across the key elements of 1) Scope and Service, 2) Communication and Partnership, and 3) Infrastructure and Analytics. The Scoring Matrix enables an organization to assess their current resiliency by assigning points across the elements of the RMM that culminates into a final overall score. The RMM Overall Scoring Table provides a Resiliency Maturity Level Indicator to help organizations identify their current progress toward a resilient supply chain and develop plans to achieve ever higher levels of resilience and aspire to immunity over the long term.

It is important to note that an organization can be at different maturity levels across the key elements, and points assigned commensurately. For example, an organization may score at maturity level 2 (Responsive) across Scope and Service, however Level 1 (Prepared) for Communication and Partnership. As important, the RMM Overall Score should not be interpreted as "Good or Bad," but directional to aid in an organization's resiliency journey to identify current status and line of sight needed for next steps to aspire towards immunity.

Getting Started

If your organization has not had the time to work on building a resiliency plan, you're not alone! The events of the past few months have put a lot of pressure on supply chain personnel. However, here are a few steps to think about in getting started.

• **Form a team** that includes people from security operations, emergency management, supply chain management, inventory and warehouse management, IT, with ad-hoc departments from legal, finance, audit, to quality and patient safety.

• **Set an objective** with a goal to initially pull together the right inventory and material data and begin to identify what they mean by "critical products." This should be defined both on supply availability, and medical necessity. The team should shoot to grade the criticality of the top 20% of items purchased within the last 24 months

• **Develop contingency plans** for single source items, develop risk mitigation plans for key identified suppliers/products disruption with strategic stockpiling.

• **Consider forming an on-going risk analysis / market intelligence team** to keep abreast of events that could impact supply of critical healthcare items.

• **Build a playbook** that identifies roles and responsibilities for future events.

These are **the essential** foundational elements for getting started with supply chain resiliency.

Planning for a Resilient Supply Chain for Healthcare in a Post-COVID World

Evolution of the Resiliency Maturity Model (RMM)

As a final note, as the world around us evolves quickly impacting the global supply chain, the one thing for sure is change will be constant. The SMI and NC State team's goal was to provide the industry a Resiliency Maturity Model Tool to help organizations access current resiliency and a roadmap to build toward higher levels of supply chain resiliency with the aspiration goal of immunity. Just as our world is rapidly changing we anticipate the RMM will evolve in the years to come to include market dynamics unforeseen at this time.

APPENDIX

1. The Resilience Maturity Model

2. The SMI Team

3. The interview process – questions asked

4.Quick Quiz input that contributed to the tool development

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SMI

The SMI Team



Questions asked of interviewees for the SMI Resiliency Maturity Model and playbook

In a post-pandemic world, how have healthcare supply chains changed forever?

Should we be exploring development of a localized, resilient supply base?

What is the playbook for operating in a world of increased supply chain risks?

How can we adapt to potential future supply chain disruptions and new healthcare threats on the horizon?

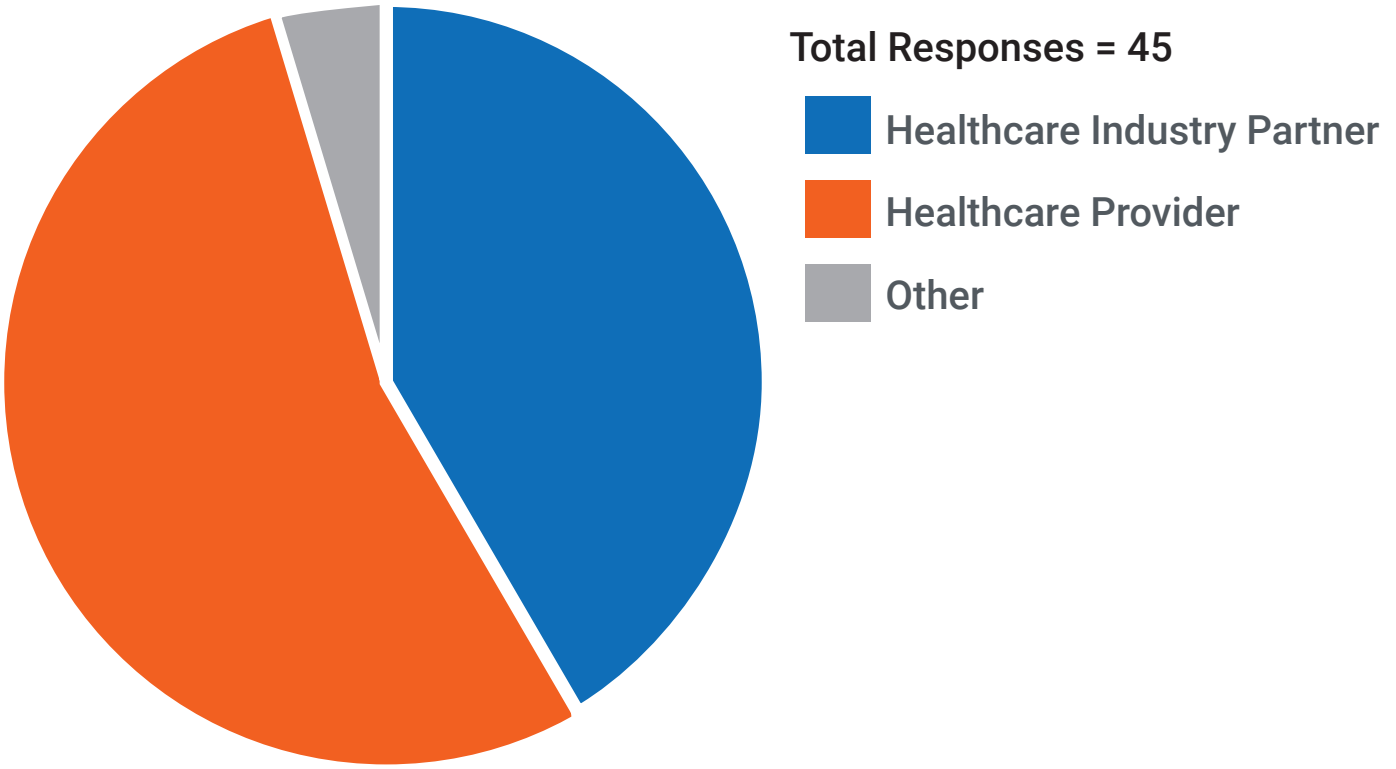
How to influence clinical decision-makers on the need for creating more redundancy and options in our healthcare supply base?

How to plan for emergency needs for given we will be faced with COVID variants for some time to come?

September 20, 2021

Quick Quiz Results

Priorities in Resilience and Transparency Planning

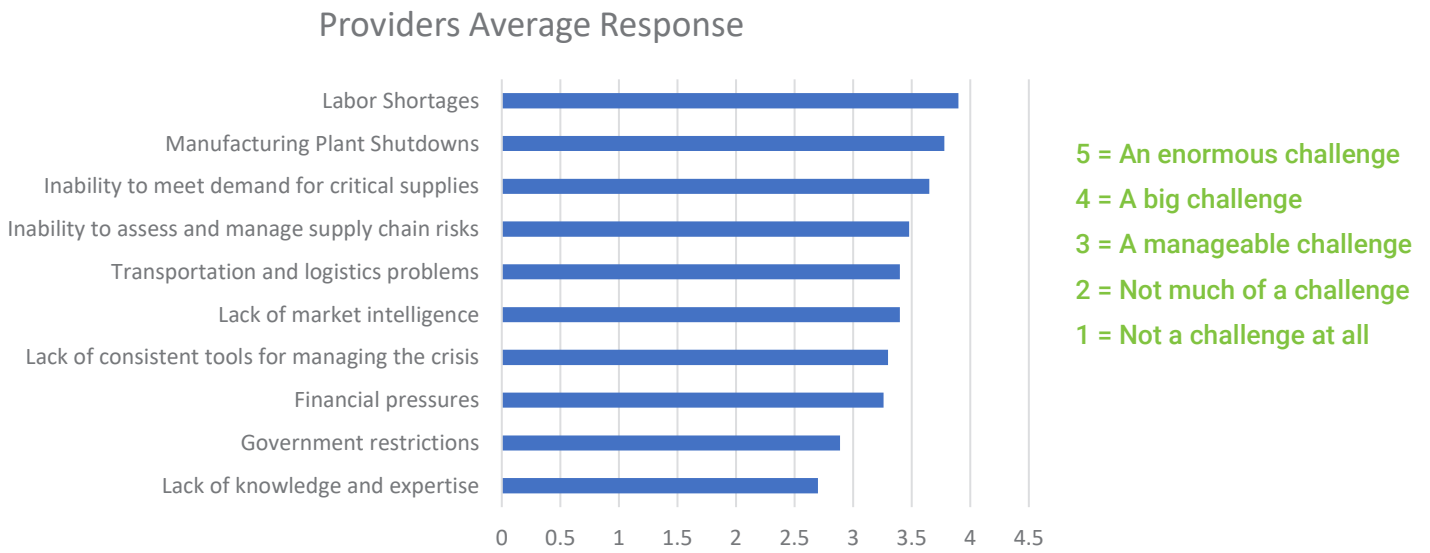


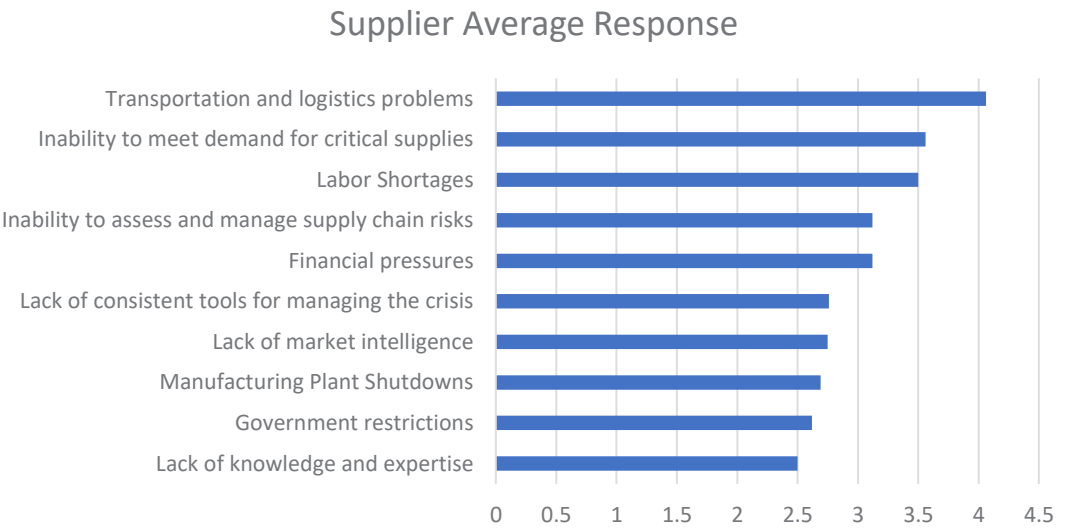
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September 20, 2021
Quick Quiz Results

Priorities in Resilience and Transparency Planning

What have been the greatest challenges faced by your supply chain during COVID?





Priorities in Resilience and Transparency Planning

September 20, 2021

Quick Quiz Results

What have been the greatest challenges faced by your supply chain during COVID?

Other provider challenges…

Team morale is suffering...

Managing for 18mos with no additional headcount

Lack of communication from Suppliers

Other supplier challenges…

Covid vaccine mandate and the impact it will have on our chronic Labor shortage.

Ramp up capabilities were limited by labor & ability to procure raw materials & products generated from increased production had to be allocated globally..

Inventory issues

September 20, 2021
Quick Quiz Results

Priorities in Resilience and Transparency Planning

How critical are each of the following for organizations in the early stages of building a supply chain resilience program? Please rank order the following options from 1 (most critical) to 6 (least critical):

PROVIDER RESPONSES	AVERAGE RANKING
Build out increased sourcing options	1
Invest in improved analytics	2
Increase competencies of our team for responding to resiliency issues	3
Increase stockpiles of critical items	4
Develop a supply chain resilience playbook	5
Add storage capacity for stockpiles	6

Most Critical



Least Critical

SUPPLIER RESPONSES	AVERAGE RANKING
Develop a supply chain resilience playbook	1
Increase stockpiles of critical items	2
Build out increased sourcing options	3
Invest in improved analytics	4
Add storage capacity for stockpiles	5
Increase competencies of our team for responding to resiliency issues	6

September 20, 2021
Quick Quiz Results

Provider Comments on Resiliency Challenges and Planning

Complex dynamic supply chains...tough to have real time insights. Supply chains need to built for Resilience end to end.

We are a US based manufacturer and the labor shortage due to stimulus/ unemployment benefits has crippled us. those states that are still supplying these checks we are still unable to hire/find workers.

Right now, with the current state of supplies, reaction is the only thing we have time for. We are trying to plan for the future, but current state is forcing the issue of immediate response while we try to figure out the longer term strategy.

Control the demand signal and the receipt/storage of critical supplies. Monitor point-of-use consumption.

Early stages were more firefighting due to unstable traditional channels. Longer term planning is focused on Risk Management and Resiliency maturing in a playbook.

Resiliency work needs to be collaborative with suppliers and providers

Biggest challenge is increasing transparency in the supply channel and staying ahead of other disruptions we are now experiencing. PPE seems to be in good shape.

Storage capacity and stockpiles for providers is seemingly a knee jerk reaction that doesn't really salute the predictability of the next pandemic or what materials will be critical then.

I'm not convinced that manufacturers and distributors are willing to provide the level of transparency needed to support provider-led resiliency programs. It's going to happen eventually, so vendors need to decide if it's going to happen with them or despite them.

September 20, 2021
Quick Quiz Results

Supplier Comments on Resiliency Challenges and Planning

Resiliency planning is not just ensuring API sourcing or securing a resin but managing all the components from A to Z in the process. (Manufacturing, regulatory/legal, financial, distribution, etc.). Because of these complexities it is hard to pivot quickly at times as market dynamics change.

It wasn't a matter of not understanding demand, it was unprecedented demand occurring in such as short time frame that was at a rate faster than most manufacturers could ramp up. Demand spike coincided with labor shortages & supply chain disruptions/increased lead time for raw materials along with other compounding factors.

The underlying issue is resiliency planning is done individually (by each provider/ supplier). When faced with unprecedented demand, limited production and low-end user inventory levels, the individual plans are ineffective. We need to encourage a stockpile build to encourage excess production.

Logistics have been a big challenge. We need to shorten the supply chain and drive more business to domestic mfg's. Add more automation to mitigate risk from labor shortages.

I am looking at this challenge through the lens of a Supplier trying to gain compliant access to a healthcare setting during a pandemic.

We are fortunate to have a domestic manufacturing base and commitment to business continuity discipline.

Need to be proactive and transparent in all key communications with customers and manufacturing partners.

Mitigating PacRim sourcing constraints, on-shoring to North America, building redundancy in manufacturing and sourcing.

Need to have all supply chain invest deeply in manufacturing capabilities in USA.

Resilience Maturity Model (RMM)

	Scope & Service *what*	Communication & Partnership *approach*	Infrastructure & Analytics *how*
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.	Defined response plan with criticality levels/grading of 60% of all items purchased (SKU's) within the last 24 months Predictive modeling under different pandemic or disruption scenarios. Includes testing of business continuity plans with partners to include various test scenarios defined. Work is driven by foresight and intelligence/ analytics in the preparation of response data with visibility to the executive and user stakeholders on performance metrics.	A trusted supply network of relationships in place across all stakeholders for identifying, mitigating, responding, and reviewing a disruption. Proactive leadership for developing alternative sourcing strategies for 'critical supplies' (i.e., domestic manufacturing, innovation, re-use, etc.). Transparent, real-time information is visible to stakeholders on disruptions, leading to "war room" mitigation solutions—regular scenario planning exercises across the supply network. Trading partner payment is linked to business continuity and performance.	An overall control tower system/infrastructure (broad; not limited) is established providing visibility and warning signals for any potential disruption. Supply Network-based visibility tools and data integration are actively used and available across stakeholders using forecasting and predictive dashboards that can project and mitigate the impact of a disruption. Defined source of medical intelligence risk exists that is "cross-walked" to critical supply planning under different potential scenarios. Digital dexterity in place at the system level that allows teams to analyze, understand, and act on the data.
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.	Defined response plan with criticality levels/grading of 40% of all items purchased (SKU's) within the last 24 months Risk mitigation and controls in place that include a shared business continuity plan with partners/ suppliers and collaborators A dedicated team uses analytics and predictive models to guide focus on risk mitigation and response. Product disruptions and response strategies are visible to stakeholders.	**Internal:** Established governance with executive sponsorship on risk mitigation with projections of risk and defined plans identified early on. Supply Chain partnership is viewed as core to operational reliability and strategic to the business. Communication is proactive, timely, and transparent. **External:** Strategic partnerships in place with suppliers for market resilience for critical supplies as in the 40% of criticality grading. The dedicated planning team meets consistently to review analytics and update operational product segmentation, risk assessments, critical inventory status, and demand forecasting.	Systems and infrastructure are established that provide comprehensive views of warning signals of potential issues to proactively respond to the risk of selected items/suppliers or areas (limited). Demand planning and forecasting are in place using real-time data streams and monitoring with strong links to market intelligence insights.
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.	Criticality levels/ grading of 20% of all items purchased (SKU's) within the last 24 months Risk mitigation in place for key identified suppliers/ products in advance of any potential disruption combined with strategic stockpiling. Dedicated team focused on resiliency preparedness and response which reflects as a top priority for the organization's executive team	**Internal:** Established committee/s with stakeholders (clinical + non-clinical) and governance in the management of clinically acceptable equivalents and conservation practices. The approach incorporates sustainable practices and business continuity. Transparent and visible communications. **External:** Strategic supplier relations include transparency in emergency response and risk mitigation. Supply Chain leads business continuity planning as part of sourcing with established protocols when failures occur.	Demand forecasting - what-if analysis is well established with some use of demand planning. Market intelligence tools are in use that provide meaningful insight into risk disruptions for at least 20% of items identified as critical
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.	The concept of Criticality is defined inclusive of levels and grading systems in preparation for grading specific items in higher levels of resilience. Basic emergency disaster scenarios and response (i.e. emergency carts) established. Risk identification planning occurs periodically. Leadership within Supply Chain has some level of dedicated personnel that leads and establishes a supply disruption response strategy.	**Internal:** Taskforce(s) established with clinical stakeholders to proactively review clinically acceptable substitutes in preparation for future supply disruption. **External:** Relationships established with county/ state in advance for future emergency response. A few strategic relationships are established between supplier/provider on fill strategies during times of supply shortages.	Visibility to product consumption rates is available in a reliable format in the form of the "department charge" process. Demand planning development is underway. Establish data quality and standard business processes to support effective responses to supply disruption.

INCREASING RESILIENCE

Scope & Service

what

	Criticality	Risk Mitigation	Dedicated Team
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.	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 or disruption scenarios. Includes testing of business continuity plans with partners to include various test scenarios defined. **40 Points**	Work is driven by foresight and intelligence/analytics in the preparation of response data with visibility to the executive and user 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 for 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 that 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 and response strategies are visible 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 equivalents for 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 suppliers/products in advance of any potential disruption combined with strategic stockpiling. **20 Points**	Dedicated team focused on resiliency preparedness and response which reflects as a 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 part of the response.	The concept of Criticality is defined inclusive of levels and grading systems in preparation for grading specific items in higher levels of resilience. **10 Points**	Basic emergency disaster scenarios and response (i.e., emergency carts) established. Risk identification planning occurs periodically. **10 Points**	Leadership within Supply Chain has some level of dedicated personnel that leads and establishes a supply disruption response strategy. **10 Points**

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Communication & Partnership

approach

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.	A trusted supply network of relationships in place across all stakeholders for identifying, mitigating, responding, and reviewing a disruption. Proactive leadership for developing alternative sourcing strategies for 'critical supplies' (i.e., domestic manufacturing, innovation, re-use, etc.). Transparent, real-time information is visible to stakeholders on disruptions, leading to "war room" mitigation solutions—regular scenario planning exercises across the supply network. Trading partner payment is linked to business continuity and performance. **40 Points**	
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.	**Internal:** Established governance with executive sponsorship on risk mitigation with projections of risk and defined plans identified early on. Supply Chain partnership is viewed as core to operational reliability and strategic to the business. Communication is proactive, timely, and transparent. **15 Points**	**External:** Strategic partnerships in place with suppliers for market resilience for critical supplies in the 40% of criticality grading. The dedicated planning team meets consistently to review analytics and update operational product segmentation, risk assessments, critical inventory status, and demand forecasting. **15 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 equivalents for disrupted products.	**Internal:** Established committee(s) with stakeholders (clinical + non-clinical) and governance in the management of clinically acceptable equivalents and conservation practices. The approach incorporates sustainable practices and business continuity. Transparent and visible communications. **10 Points**	**External:** Strategic supplier relations include transparency in emergency response, and risk mitigation. Supply Chain leads business continuity planning as part of sourcing with established protocols when failures occur. **10 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 part of the response.	**Internal:** Taskforce(s) established with clinical stakeholders to proactively review clinically acceptable substitutes in preparation for future supply disruption. **5 Points**	**External:** Relationships established with county/state in advance for future emergency response. A few strategic relationships are established between supplier/provider on fill strategies during times of supply shortages. **5 Points**

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Infrastructure & Analytics

how

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.

An overall control tower system/infrastructure (broad; not limited) is established providing visibility and warning signals for any potential disruption. Supply Network-based visibility tools and data integration are actively used and available across stakeholders using forecasting and predictive dashboards that can project and mitigate the impact of a disruption. Defined source of medical intelligence risk exists that is "cross-walked" to critical supply planning under different potential scenarios. Digital dexterity in place at the system level that allows teams to analyze, understand, and act on the data.

40 Points

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.

Systems and infrastructure are established that provide comprehensive views of warning signals of potential issues to proactively respond to the risk of selected items/suppliers or areas (limited). Demand planning and forecasting are in place using real-time data streams and monitoring with strong links to market intelligence insights.

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 equivalents for disrupted products.

Demand forecasting - what-if analysis is well established with some use of demand planning. Market intelligence tools that provide meaningful insight into risk disruptions for at least 20% of items identified as critical are in use.

20 Points

Level 1: Prepared

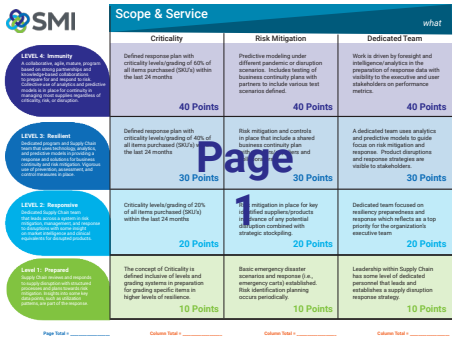
Supply Chain reviews and responds to supply disruption with structured processes and plans towards risk mitigation. Insights into some key data points, such as utilization patterns, are part of the response.

Visibility to product consumption rates is available in a reliable format in the form of the "department charge" process. Demand planning development is underway. Establish data quality and standard business processes to support effective responses to supply disruption..

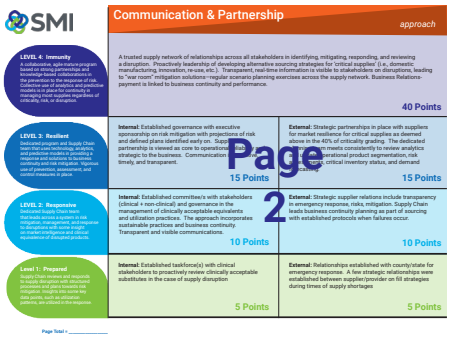
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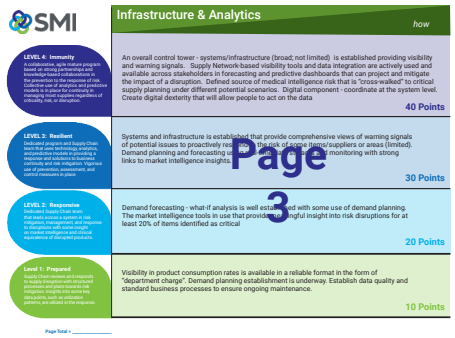
Resiliency Maturity Overall Scores



+



+



Scores are cumulative –
you can add performance going up in levels to get a total score

Please add up your scores on page 1, 2, and 3 to determine your current score on the Resiliency Maturity Model. Then you can see where you are on your resiliency journey here:

FINAL SCORE

0

Total Points	Resiliency Maturity Level Indicator
0-40 Points	Good Start
51-100 Points	Building stronger resilience
101-200 Points	Leading the way to a more resilient supply chain
>200 Points	Heading for resilience immunity