



# IAM MSK TEST CASE

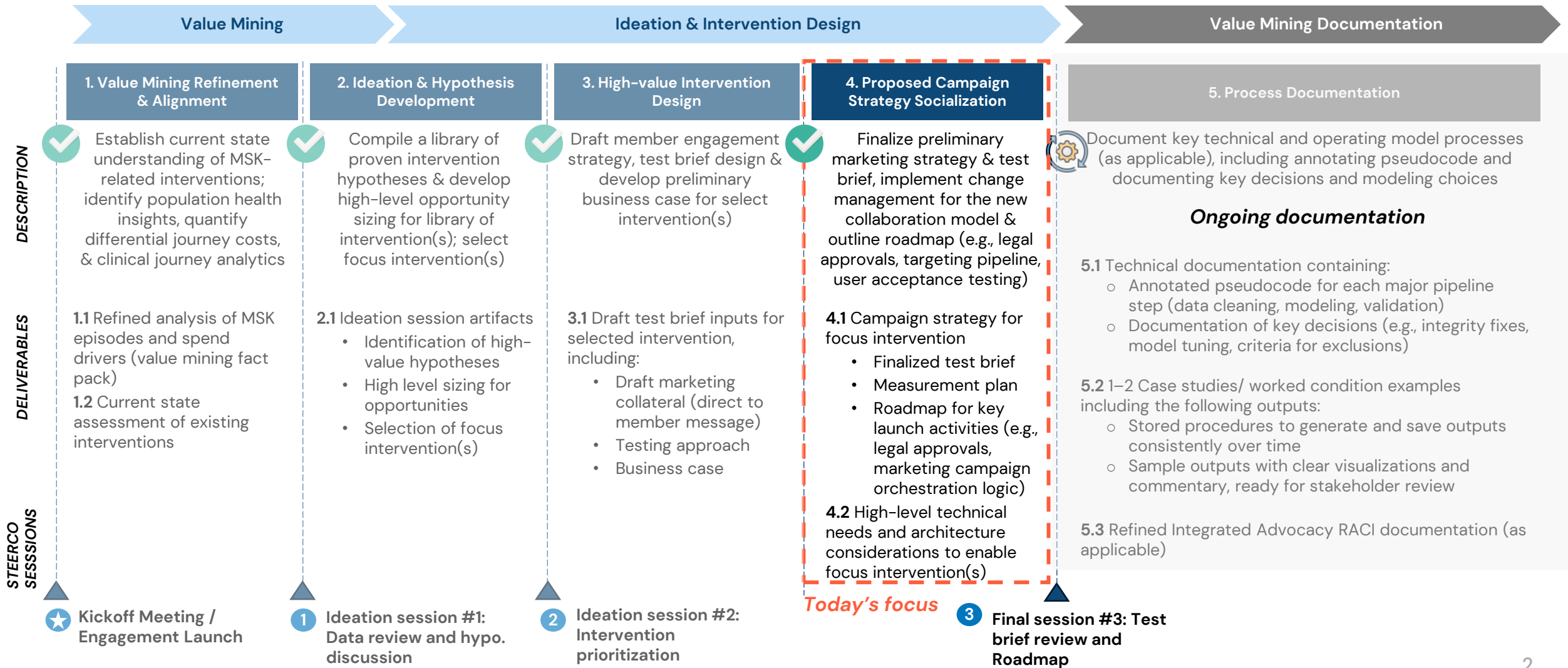
## TEST BRIEF FINAL DRAFT READ-OUT

Aligned as of 10/31



# We are currently in the process of wrapping up current scope of work with appropriate knowledge transfer and handoffs

## Key work buckets, deliverables, and sessions



Note: Preliminary milestones will be updated pending finalized project plan and alignment out of formal Kick-off on 9/15

# Agenda and Objectives

## Topic

## Timing

### 1. Intervention Overview

10 min.

Recap intervention prioritization and focus intervention details

### 2. Member Engagement Strategy

15 min.

Discuss channels of focus, design principles and example content

### 3. Business Case – Run Rate and Pilot Opportunity Sizing

20 min.

Business Case Methodology, sizing and assumptions

### 4. Experiment Design, Testing Approach and Measurement Plan

10 min.

Experiment design, testing and measurement timeline

### 5. Launch List / Roadmap

30 min.

Pathway Progression Prevention Launch Checklist

**For discussion:** Operational barriers and dependencies

**For alignment:** Tentative feasible launch date

## Objectives

- ✓ Memorialize key test brief elements and document any final open questions (#1-4)
- ✓ Discuss and document operational barriers dependencies (#5)
- ✓ Align on tentative launch date collectively (#5)



# Today, we are here to talk about the key elements of the test brief and bringing that closer to finalization

## Test Brief Blueprint: Pathway Progression Prevention for Lower Back Pain

### 1. Intervention Overview; 2. Engagement Strategy

Intervention Overview & Engagement Strategy	
<b>Hypothesis</b>	Encouraging early PT adoption/adherence and unnecessary MRI avoidance will reduce progression to stage 3+ leading to reduced imaging, surgery, and other costs for MSK members
<b>KPI</b>	<ul style="list-style-type: none"> <li><b>Leading Indicators:</b> Phone call answers, email open rate, click through rate</li> <li><b>Lagging Indicators:</b> Stage progression (includes Imaging, surgeries, specialist visits)</li> </ul>
<b>Meas. Approach</b>	<ul style="list-style-type: none"> <li>Single arm proportional T test, RCT</li> <li>Track stage progression</li> <li>Calculate ROI and behavior lift</li> </ul>
<b>Strategy</b>	<ul style="list-style-type: none"> <li><b>Test audience:</b> Commercial FI (HMO, PPO, SPPO, and POS)</li> <li><b>Cohorts:</b> High Risk ( 70<sup>th</sup> percentile) and Low Risk (between 20<sup>th</sup> and 70<sup>th</sup> percentile)</li> <li><b>Test variables:</b> Message segment vs control for high risk and low risk respectively</li> <li><b>Personalization variables:</b> Personal info (name), covered providers, clinical condition</li> <li><b>Test cells and size</b> (incl. holdout): ~28k (high risk) and ~48k (low risk) for each test cell</li> <li><b>Channels:</b> Email + direct mail (low risk), Email + direct mail (high risk), Email + direct mail + CM extender Call (high risk)</li> <li><b>Exclusions:</b> Do not contact, sensitive accounts, children, recent PT denial</li> </ul>

### 3. Business Case

Business Case (run rate 24 months post launch)	
<b>Total annual population size</b>	53K
<b>Expected Behavior Change</b>	0.4 – 0.8%
<b>Net Savings</b>	\$1.5 –1.7M
<b>Avg. savings per influenced member</b>	\$5.1K – 6.8K
<b>Channel costs</b>	\$110K
<b>At-scale ROI<sup>3</sup></b>	14.3

Business Case (pilot*)	
<b>Audience size</b>	72K
<b>Population Type</b>	Commercial FI (PPO, HMO, SPPO, POS)
<b>Channels utilized</b>	Email, Direct Mail, CM Extender Call
<b># outreach touchpoints</b>	4 – 5
<b>Expected Behavior Change</b>	0.4 – 0.7%
<b>Net Savings</b>	\$1.5-2.0M
<b>Channel costs</b>	195K
<b>Avg. savings per influenced member</b>	\$5.1K – \$6.8K

### 4. Measurement Plan

Proposed pilot schedule	
<b>Pilot kickoff date</b>	DATE
<b>Pilot launch date (in market)</b>	DATE
<b>Date ready for test debrief</b>	DATE

### 5. Launch List / Roadmap

Approval Checklist	
<b>Target Population Sized</b>	10/24
<b>Business Case (if needed)</b>	DATE
<b>Measurement Approach</b>	DATE
<b>Clear Call To Action</b>	DATE
<b>Marketing Message Approved</b>	DATE
<b>Do Not Contact Exclusion</b>	DATE
<b>Prior Contact Exclusion</b>	DATE

Draft Complete

Work in-progress

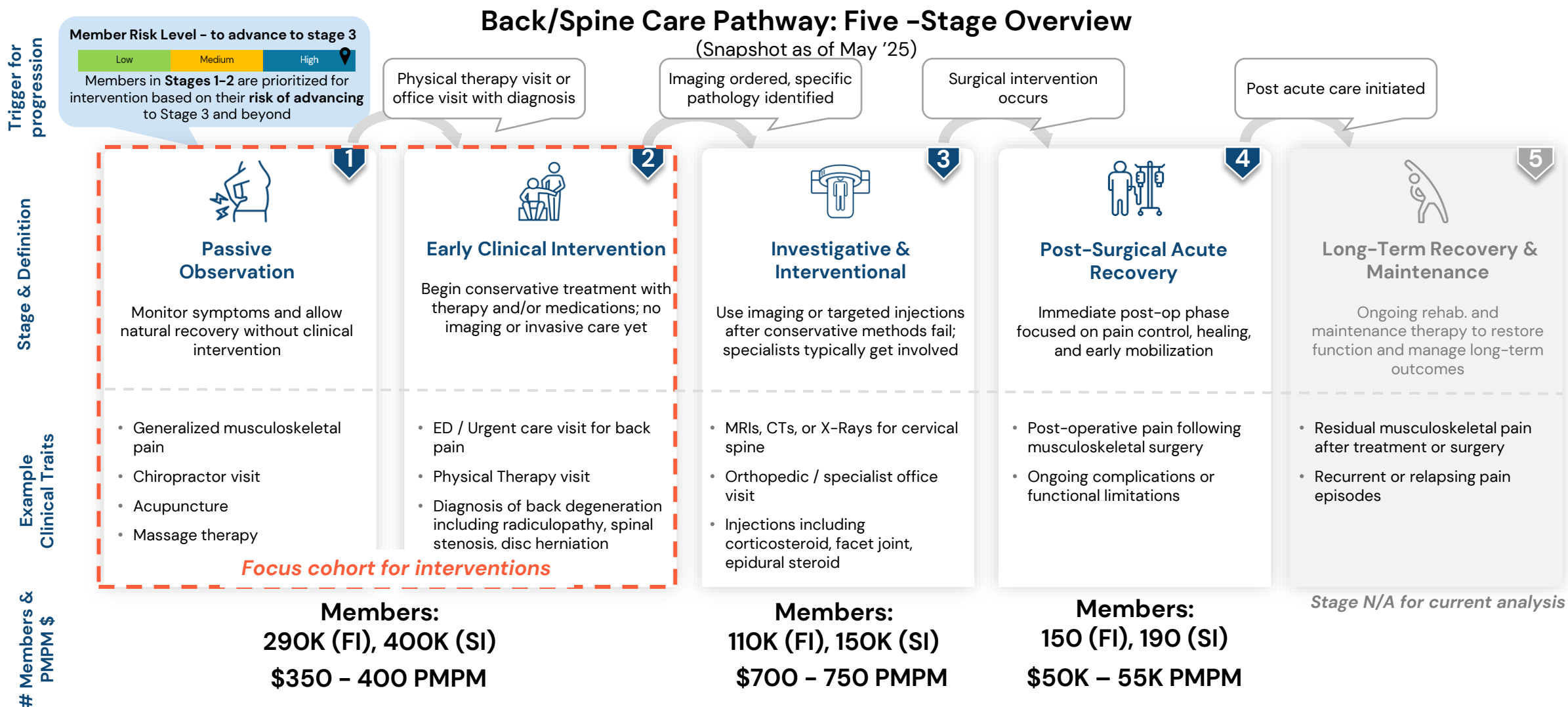
\* Pilot detail is reflective of two independent pilots; a 12-month observation window for low-risk members and a 6-month observation window for eligible high-risk members

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# 1. INTERVENTION OVERVIEW



# Through Ideation Session #1, we structured your MSK population by journey stage, providing a baseline for intervention design..



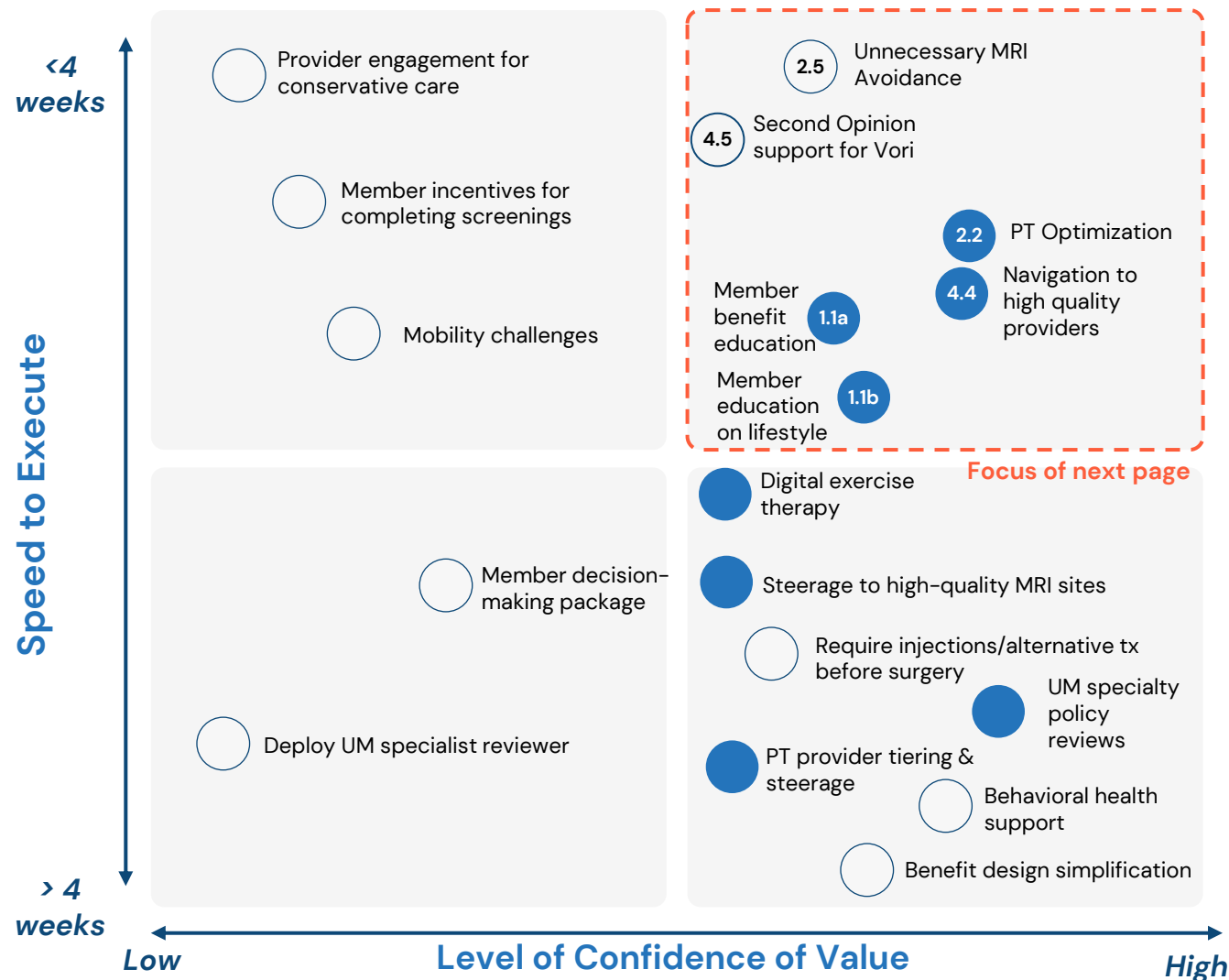
**Note:** Members may stay within a given stage or skip stages depending on how their condition is managed; intervention design efforts can be tailored to prevent stage skipping or progression within a given stage; data on this slide based on HMO claims/episodes only



# Initial prioritization highlights interventions ready for rapid launch and others that will require with additional preparation

## MSK Intervention – Level of Confidence vs Speed to execute

Note: Interventions placements with the quadrants are illustrative



### Commentary

#### Top right (priority) quadrant highlights

*What can we implement now with confidence?*

- **PT optimization:** Proven ROI, with vendor model ready to activate
- **Unnecessary MRI avoidance:** Simple UM trigger and tie to financial value
- **Second Opinion support for Vori:** Measurable cost impact, and existing vendor / workflow

#### Bottom right quadrant highlights

*What can we implement with higher level of confidence in potential value?*

- **Steerage to high-quality MRI sites:** Identification of established preferred site list and logic will take time
- **PT provider tiering & steerage:** Established PT provider tiering will take time

Key: ○ Other Interventions      ● Greatest hits

*Priority Interventions*

# The initial ideation session yielded a subset of priority interventions, we aligned on two finalists as focused intervention



## Focus Interventions identified in ideation session #1

Lever	Intervention Name	Intervention Details	When & Where Relevant Stage(s)	Level of Confidence in Value?	Can we execute in <4 weeks?	Can we reliably ID members?	Does it hinder CX?
Promote Preventative care	1.1a Member benefit education	General education on preventative care benefits to ensure members understand conservative care options	Early Clinical Intervention	Track engagement clicks, benefit utilization lift (PT / Hinge / Vori), and downstream use, but longer time horizon to measure value	Calls may not be the optimal channel to educate members about their benefits, pointing to digital channels which may lead to execution hurdles	Use staging/risk flags, inbound benefit calls, MyBlue visits as triggers, but may have limited precision	Generally improves confidence/trust when framed as "feel better / avoid unnecessary surgery"
	1.1b Member education on lifestyle	General education on preventative care, lifestyle change, and conservative care options	Early Clinical Intervention	Track participation in lifestyle programs and link to reduced ED/MRI/surgery utilization; but longer time horizon to measure value	Repurpose existing content; add MSK-specific messaging via social and digital placement	Use stage/risk indicators and comorbidities (obesity, diabetes, smoking) to ID target members, but may have limited precision	Generally positive impact; builds trust through testimonials and peer stories
	2.2 PT Optimization	Encourage early physical therapy initiation and adherence for symptom relief	Early Clinical Intervention	Requires follow-up to determine value of select pro-vendors; but PT adherence has been proven to yield material ROI via avoided imaging/surgery and visit completion	Outbound phone campaign using Navigator or Service personnel; however, digital means will come with restrictions	Can ID members who have enrolled in PT (e.g., Hinge) via enrollment file; however, ID of PT candidates can be accomplished via PT claims which are not subject to 3-month lag	Channel dependent; personalized outreach maintains trust and engagement
Divert unnecessary services	2.5 Unnecessary MRI Avoidance	Provide clear education on when MRI is clinically needed and its out-of-pocket cost impact	Pre-Surgical Preparation	MRI avoidance is directly measurable; clear, well-documented cost cascade associated with avoidance	CM call / outreach can be implemented with relative ease, additional validation on Carelon auth data transmission required	Use UM queue from Carelon, risk/stage, and "MRI before conservative care" signals	If framed as education/shared decision-making ("learn before you scan") rather than denial, risk is mitigated
Steer to right/ high-quality providers	4.4 Navigation to direct members to high quality providers	Use navigation tools to guide members to high-performing orthopedic specialists	Early Clinical Intervention	Several studies point to success of high-performing providers yielding lower PMPM costs and improved outcomes	Existing provider unit cost scoring exists today and list of high-quality MSK providers already defined	ID through pre-surgical flags, imaging queues, or UM authorization events; focus on "pending surgery"	Improves experience when framed with clinician alignment and testimonials
	4.5 Second Opinion Support for Vori	Refer surgery-bound members to Vori for a second opinion and shared decision support	Pre-surgical preparation	BCBSMA has not independently measured ROI - evidence from vendor literature suggests strong potential savings	Workflow can be triggered at UM auth or referral; routing and consult scheduling can begin quickly using existing pathways.	ID second-opinion candidates via stage and pre-surgical flags	Cost structure / inconsistent may be an impediment to member experience

# We selected a combined intervention, Pathway Progression Prevention (PPP) for design



	Option 1: PT Optimization only	Option 2: Unnecessary MRI Avoidance (Pre-Auth) only	Option 3: Pathway Progression Prevention (1+2)
<b>What is it?</b>	Encourage PT enrollment and adherence through education on conservative care benefits and adherence incentives (e.g., copay waivers, one time gift cards)	Predict members at high risk of unnecessary MRI and reach out prior to authorization request to promote conservative care as an effective, lower cost alternative	Identify members at risk of progressing to Stage 3+, encourage PT initiation or adherence, and educate members on proper MRI use cases to avoid unnecessary care and stage progression
<b>How much value will it deliver?</b>	<b>High</b> – Requires follow-up to determine value of select pro-vendors; but PT adherence has been proven to yield material ROI via avoided imaging/surgery and visit completion	<b>Moderate / High</b> – MRI avoidance is easily measurable; clear, well-documented cost cascade associated with avoidance; however, engagement channel tactics require exploration / testing	<b>High</b> – Combining both opportunities will enable for comprehensive value capture associated with members at risk of progressing to stage 3 <i>(See intervention details individually for Option 1 and Option 2 expected value)</i>
<b>How do we deliver it? (Channels available for rapid execution; ~4 wks.)</b>	<ol style="list-style-type: none"> <li>Marketing / Other Digital Email Outreach</li> <li>HMM Email Outreach</li> <li>Telephonic outreach (Navigation or Service)</li> <li>Paper Mail</li> </ol>	<ol style="list-style-type: none"> <li>Telephonic outreach (CM or Navigation)</li> <li>HMM Email Outreach</li> <li>Marketing / Other Digital Email Outreach</li> <li>Paper Mail</li> </ol>	<i>*Refer to options 1 and 2 for preferred channel order</i>
<b>What potential delivery risks may arise?</b>	<ul style="list-style-type: none"> <li>May not be a sufficient population size to test and measure the impact of the intervention</li> <li>PT outcomes (e.g., reduced surgeries) may take months to manifest and measure</li> </ul>	<ul style="list-style-type: none"> <li>May not be a sufficient population size to test and measure the impact of the intervention</li> </ul>	<ul style="list-style-type: none"> <li>Additional design complexity / channel coordination may not be favorable with tight delivery timelines</li> </ul>

**Selected Intervention**

**Next Steps:**

- Select appropriate channels
- Refine sizing
- Define testing approach
- Finalize cohorts & triggers
- Operationalize msg, & delivery



# Using a variety of channels, tactics, and messages, PPP nudges members to start or continue PT and avoid unnecessary MRIs

## Pathway Progression Prevention – Intervention Summary

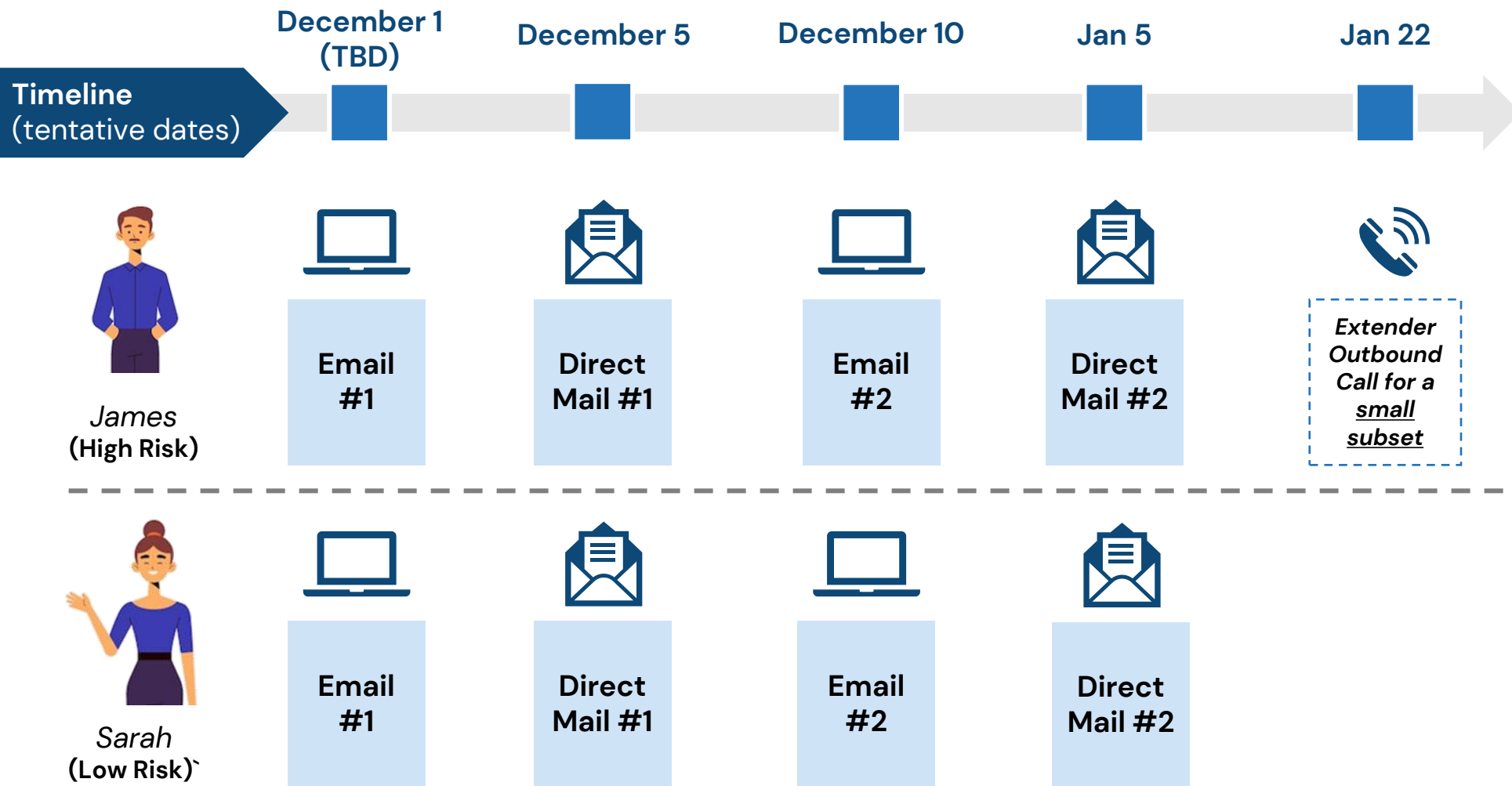
	High Risk	Low Risk					
<p>What channels are we using?</p>	Direct Mail                      Email                      CM (for pilot)	Direct Mail                      Email					
<p>What is our call to action?</p>	<p><b><i>Start OR adhere to PT and avoid unnecessary MRIs</i></b></p>						
<p>What tactic are we deploying?</p>	<p>Lower cost and cheaper than surgeries</p>	<p>Education around efficacy; improve convenience</p>					
<p>What personalization element can we use?</p>	<table border="1"> <tr> <td>Covered / Rec. PT Providers</td> <td>Clinical Condition</td> <td>Personal Info / Demographics</td> </tr> </table>	Covered / Rec. PT Providers	Clinical Condition	Personal Info / Demographics	<table border="1"> <tr> <td>Covered / Rec. PT Providers</td> <td>Clinical Condition</td> </tr> </table>	Covered / Rec. PT Providers	Clinical Condition
Covered / Rec. PT Providers	Clinical Condition	Personal Info / Demographics					
Covered / Rec. PT Providers	Clinical Condition						
<p>What can we potentially say? (Examples)</p>	<p><i>“Don’t let your back pain lead to costly scans or tests that don’t speed recovery – early physical therapy is a lower-cost, effective first step.”</i></p>	<p><i>“Over 70% of members with back pain symptoms improve in 4–6 weeks using PT alone. No stressful imaging needed!”</i></p>					

Tactics, personalization elements & specific messages to be tailored further by marketing/nudge/ other relevant teams



# Members in both low and high-risk cohorts will receive emails and direct mailing over 4-6 weeks

## Pathway Progression Prevention: Suggested Member Outreach Timeline (7 Weeks)



- Considerations:**
- + Spaces out member outreach of any kind by 5 days at a time to reduce member abrasion
  - + Avoids outreach during holiday season (12/20 – 1/5) to maximize potential for member engagement
  - + Resumes telephonic outreach after open enrollment period to avoid overburdening Services / CM teams
  - Delays time to measurement by at least an additional 4 weeks

# Intervention outcomes can be measured based on several operational, clinical and financial indicators

## Key performance indicators for Pathway Progression Prevention (PPP) Intervention



### Operational (Leading)

- Email open rate or click through rate
- Engagement rate for extender calls (# of people who pick up the phone)



### Clinical

#### Stage Transition Rate (Primary)

- % of members progressing to Stage 3+ (test vs. control)
- % of members remaining in Stage 1-2 (test vs. control)

#### Potential Additional Indicators

- % of members starting / completing PT
- MRI utilization rate
- % of members progressing to pain specialist, injection, and/or surgery



### Financial (Lagging)

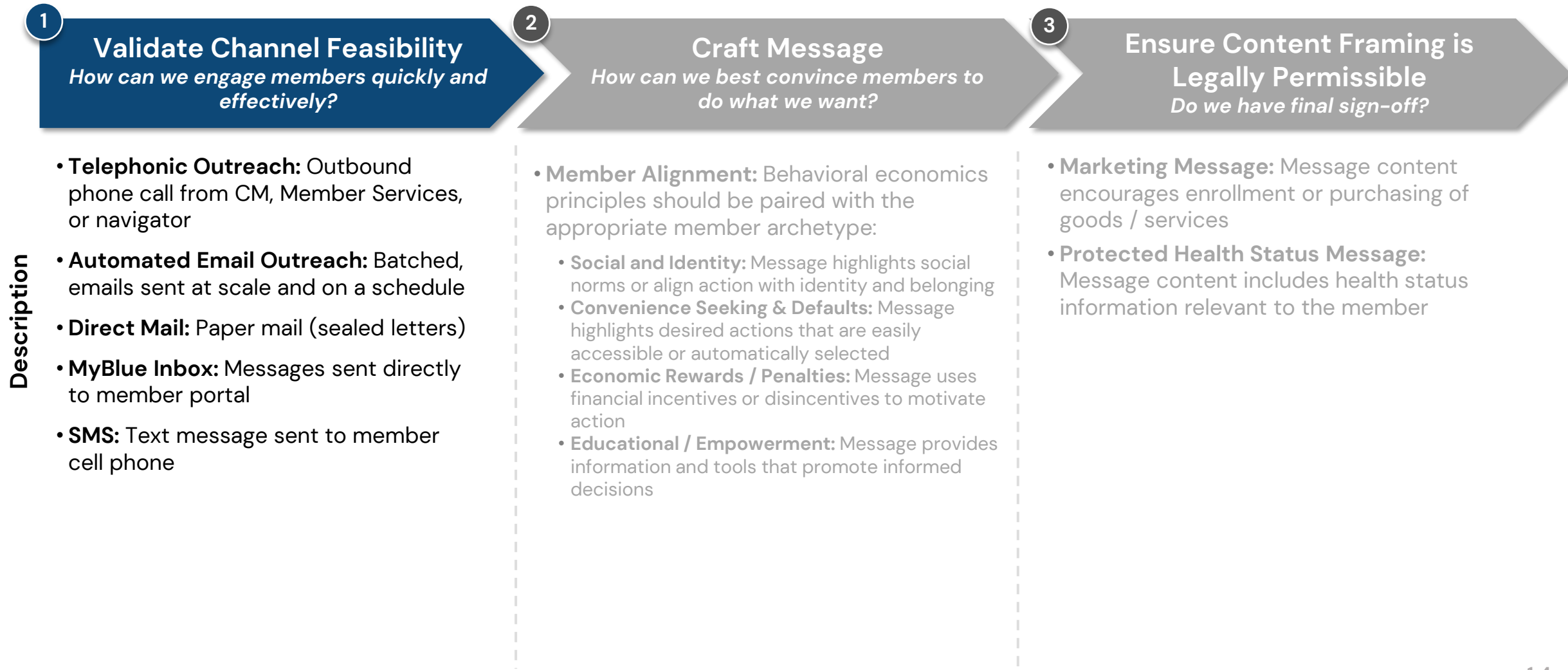
- Change in PMPM for members enrolled in Pathway Progression versus baseline
- Average total cost for LBP episode
- Estimated savings from avoided MRIs
- Cost per engaged member
- Program ROI

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## 2. MEMBER ENGAGEMENT STRATEGY

# Defining a sound member engagement strategy consisted of 3 components – we started by evaluating which channels to use

## Member engagement strategy process





# First, we evaluated existing channels based on their operational feasibility

Key considerations by member outreach channel

Channel	 <b>Telephonic Outreach</b> (incl. follow-up email) (CM / Navigators / Service)	 <b>Automated Email Outreach</b>	 <b>Direct Mail</b>	 <b>MyBlue Inbox</b>	 <b>SMS</b>
<b>PHI and Benefit Details Allowed</b> Ability to include HIPAA protected health information or personal benefit information	✓	✓	✓	✓	✗
<b>Member Level Customization</b> Ability to use member-level attributes (like age and location)	✓	✗	✓	✓	✗
<b>Automated / Batch Delivery</b> Ability to be distributed automatically in large batches	✗	✓	✗	✗	✗
<b>Immediate Dispatch</b> Ability to send within minutes of clinical trigger	✗	✓	✗	✗	✗
<b>Real-time Alert</b> Ability to actively alert member when delivered	✓	✓	✓	✗	✓

Channels with higher operational feasibility

✓ Feasible / Allowed    ✗ Lower operational feasibility

★ Channel considered for experimentation



# We estimated the behavior change rate by channel to further narrow down which channels would be most effective

Member behavior change rates by risk cohorts and channel type

	Relevant Channels	Reach Rate <sup>1</sup>	✘ Engagement Rate <sup>2</sup>	✘ Channel Efficacy <sup>3</sup>	=	Effective Member Behavior Change Rate
High Risk	Direct Mail	100%	70%	3%		2.1%
	Service Call	90%	20%	5%		0.9%
	Email	41%	56%	3%		0.7%
	CM Call	90%	10%	7%		0.6%
	SMS	28%	30%	4%		0.3%
Low Risk	Direct Mail	100%	70%	2.5%		1.8%
	Email	60%	56%	2.5%		0.6%

Assumes PHI not needed in low-risk member emails

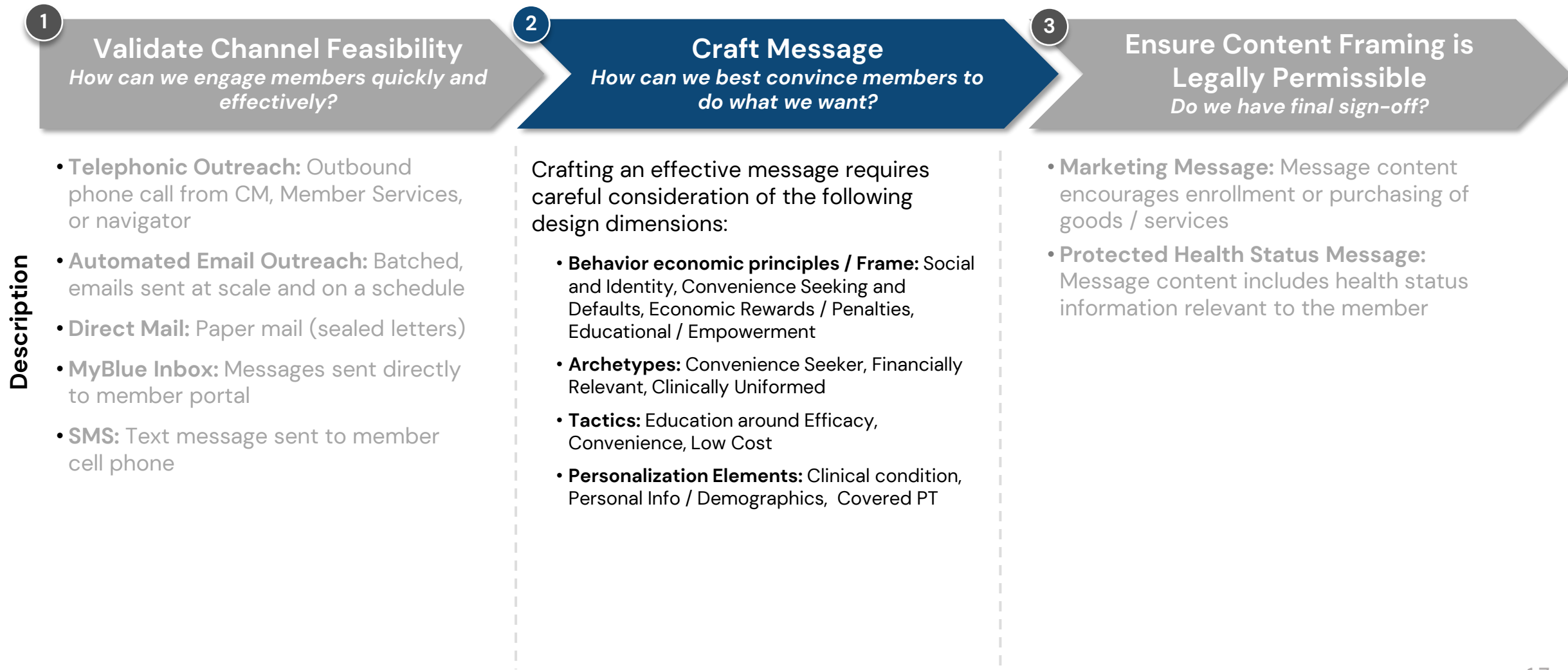
(1) Assumptions provided and approved by BCBSMA – SMS and email reach rates account for opt-in status (2) Service, direct mail, and SMS engagement rates represent industry standards and are vetted by BCBSMA (3) Channel efficacy assumptions are based on industry standards (i.e., performance of national health plans)

**Definitions:** **Reach Rate:** % of members we can successfully contact; **Engagement Rate:** % of members who answer the phone or open letter / email; **Channel Efficacy:** % of members who exhibit the desired behavior

# Intervention design will contemplate channel feasibility, tactical behavior change goals, and content compliance



## Member engagement strategy process



# For effective and targeted messaging design, we aligned on select focus areas across key design dimensions...



## Message Design Dimensions: For discussion

Dimension (Level 1)	1. Risk Level: Likelihood of moving to a higher stage	2. Channel: Medium to communicate potential interventions	3. Segment: People getting the message	4. Call to Action: Focus of member outreach	5. Archetype: Member cohort based on barrier to behavior change	6. Tactic: Messaging angle to create a desired effect	7. BE Principle / Frame: Applied principles to encourage behavior change	8. Personalization Elements: Integrated member data / customization
High	High	CM Phone Call (i.e., Extender)	No previous PT (6 months)	Start New PT Regimen	Convenience Seeker	Incentives	Authority	Deductible Level / Expected Costs
	Low	Service Phone Call	Currently PT Adherent	Ensure PT Adherence	Financially Relevant	Education Around Efficacy	Social Norms	Proximity to Care
Low	Low	Email	Recently Stopped PT	Avoid Unnecessary MRIs	Caught in Momentum	Default / Opt. In	Loss Aversion	Covered / Rec. PT Providers
	Low	Direct Mail		Consider other PT options + transition to alt. therapy (chiro/acupunc.)	Clinically Uninformed	Convenience	Gain Framing	Health Literacy
	Low	SMS				Low Cost/Cheaper Than Surg.	Reassurance	Clinical Condition
	Low	Fax (out of scope)		Start New PT + Avoid unnec. MRI			Commitment Device	Language
	Low	MyBlue Inbox (out of scope)		Adhere to PT + Avoid unnec. MRI				Personal Info / Demographics
								Channel Preference

Key Priority for randomization Priority for alignment

Proposed Focus Proposed de-prioritized

# ..using those design dimensions, here is an example member engagement collateral that can accelerate copy creation (1 of 2)



## Example Taglines and Member Marketing Collateral

ILLUSTRATIVE

### Example Message Framing / Tactic

Authority

"Most back pain gets better with time and gentle movement via PT. Unless you have serious 'red flag' signs like numbness, weakness, or trauma, experts recommend avoiding early MRI."

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Loss Aversion

"Don't let your back pain lead to costly scans or tests that don't speed recovery — early physical therapy is a lower-cost, effective first step."

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Loss Aversion

"An MRI could cost you up to \$800 – PT visits are usually a fraction of that"

### Industry Example Design

**Could you be overpaying for imaging?**  
Using an outpatient imaging center can equal big savings

**You could save**  
**\$735**  
on imaging at an outpatient center

Health care costs are always top of mind and imaging is a common expense you may be facing. But the cost of these scans – MRI, CT, PET scan, and others – can vary a lot depending on where you go

Your doctor may not always know the cost of imaging, and hospital staff is likely to send you to the hospital's imaging center. But you're always free to choose a more affordable imaging center.

Want to switch to a lower cost location?  
Click to see a breakdown of your personalized savings estimate

See savings

**You can access nearby, high quality in-network imaging**

- Total Imaging**  
123 Main St, Tampa FL (555) - 555-5555
- SunCare Imaging**  
788 Cedar St, Tampa FL (123) - 456-5555
- Lifespan Imaging**  
44 Hillsborough Ave, Tampa FL (888) - 555-5555
- TMM Outpatient Imaging**  
876 Pinellas Rd, Tampa FL (800) - 555-5555

**How to switch to a lower cost imaging center**  
Call or go online to see your personalized savings report and make the switch

Log into your portal account and follow the instructions

Or

Call members services to discuss your options and potential savings at 888-555-5555

**Loss Aversion Framing:** Specific savings estimate is a compelling hook, can be based on average cost for clinical services avoided

**Covered / Recommended Providers:** Personalized call to action with specific providers promotes behavior change conversion; can be achieved through BCBSMA provider search link as customized lists embedded in message are infeasible for initial implementation

# ..using those design dimensions, here is an example member engagement collateral that can accelerate copy creation (2 of 2)



## Example Taglines and Member Marketing Collateral

ILLUSTRATIVE

### Example Message Framing / Tactic

Authority

*“New back pain? Clinical experts recommend PT first – avoid unnecessary imaging and start recovery sooner”*

Gain

*“Over 70% of members with back pain symptoms improve in 4–6 weeks using PT alone. No stressful imaging needed!”*

Convenience / Reassurance

*“Search for a trained physical therapist nearby that can help you safely return to your routine; avoiding bed rest and staying active is key for early back pain relief, and can help you avoid the hassle of future imaging follow-ups”*

Convenience

*“Book your first PT session online in under 2 minutes.”*

### Industry Example Design



**Authority Framing:** Framed with data backed, educational messaging that encourages trust

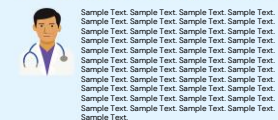
Health and wellness or prevention information

**It's not always easy, but it's worth it**

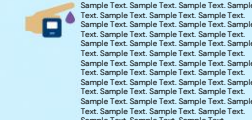
**Gain Framing:** Engaging, relevant, and visually appealing design encourages member understanding and action

**Straight from the experts - three steps towards better health**

**1. Talk to your provider**

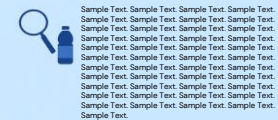


**3. Blood sugar monitoring**



**Educational Tactic:** Call to action is clear, with distinct, actionable steps to achieve measurable behavior change

**2. Diet and exercise**



**Did your provider prescribe a glucometer?**



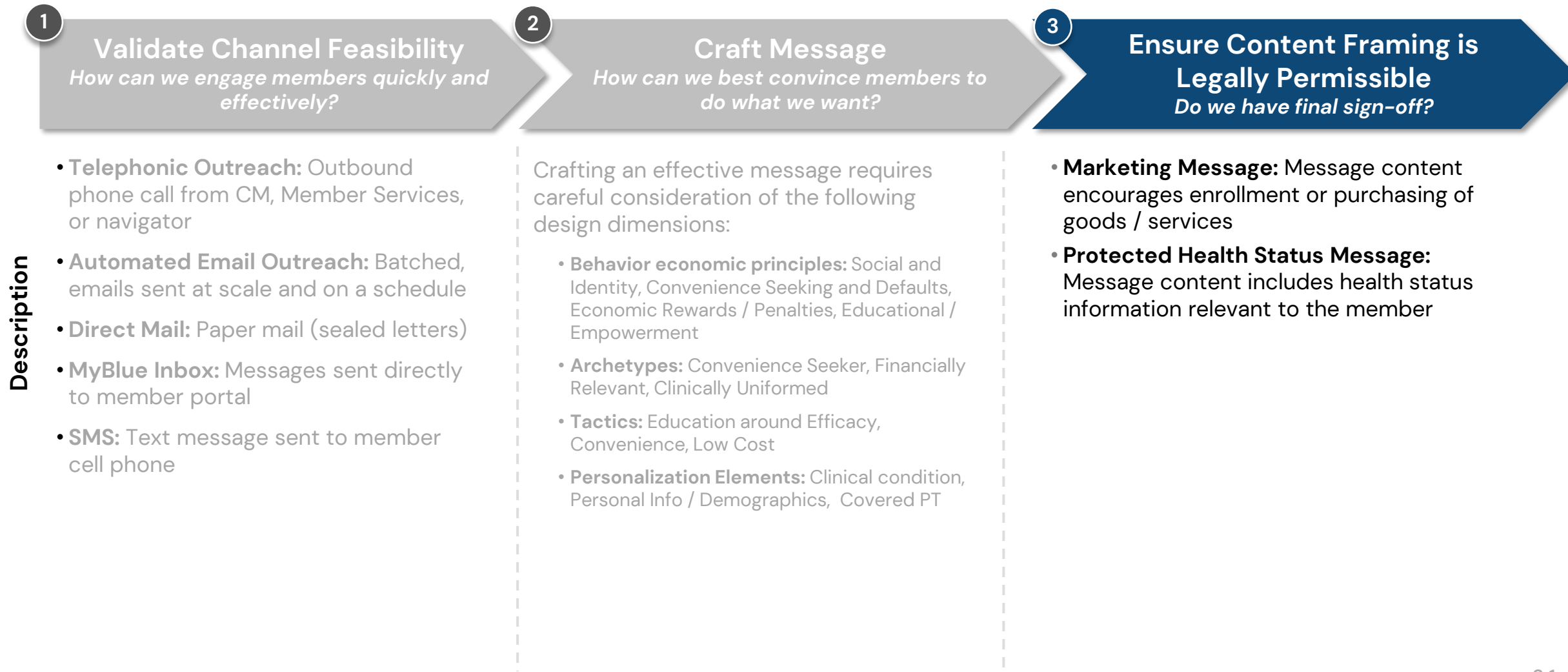
Order now >

\*When filled at an in-network pharmacy

# Intervention design will contemplate channel feasibility, tactical behavior change goals, and content compliance



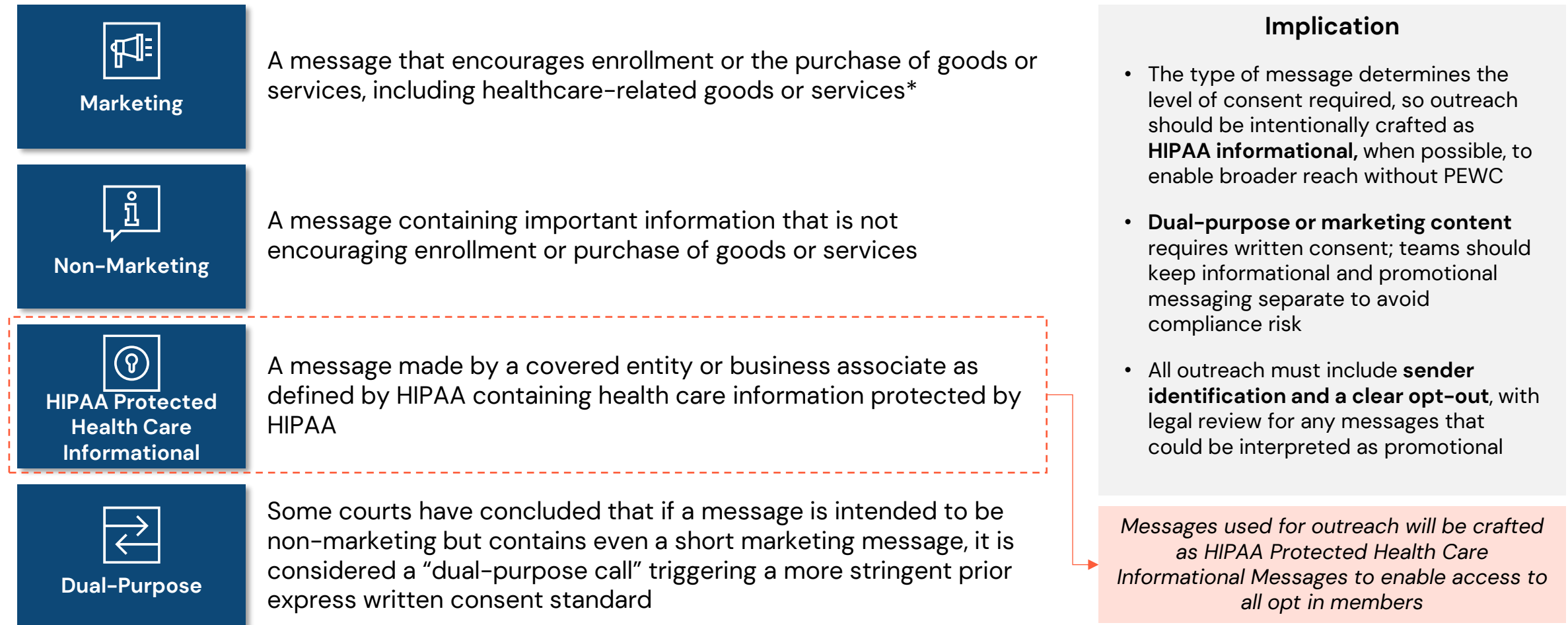
## Member engagement strategy process



# The message and channel used to deliver our intervention is partially dictated by legal requirements and restrictions (1 of 2)



## Legal Message classifications



Source: [Code of Federal Regulations](#)

\*Some courts have found that a healthcare message promoting a health-related good or service could be construed as a marketing message; hence requiring a legal review of outbound calls, texts and scripts

# The message and channel used to deliver our intervention is partially dictated by legal requirements and restrictions (2 of 2)



## Consent Requirements by Delivery Channels ( Market Perspective)

Delivery Channel		Message Type			
		Marketing Message	Non-marketing Message	HIPAA Protected Health Care Informational Message	Dual-Purpose Message
 Landline and Cellphone	Live, Manual calls	No consent required			
	Pre-recorded calls	Prior express written consent	No consent required (Landline), required for cellphone	Prior express written consent	Prior express written consent
	Auto-dialed Calls	No consent required (Landline), required for cellphone			
Email	No consent required				
SMS/Text Reminders	Prior express written consent				
Fax / DM	Prior express written consent	No consent required		Prior express written consent	

### Implication

- **Consent requirements differ by channel**, so systems must apply the correct rule for each – manual calls and emails may proceed freely, while autodialed, prerecorded, and text-based outreach need prior consent
- The **HIPAA informational route** enables compliant outreach through all channels, provided opt-out and frequency rules are followed
- Failure to meet **TCPA consent standards** can result in **fines of up to \$1,500 per message**, class-action exposure, and reputational harm, underscoring the need for strong consent tracking and audit controls

Source: [Code of Federal Regulations](#)

\*Some courts have found that a healthcare message promoting a health-related good or service could be construed as a marketing message; hence requiring a legal review of outbound calls, texts and scripts

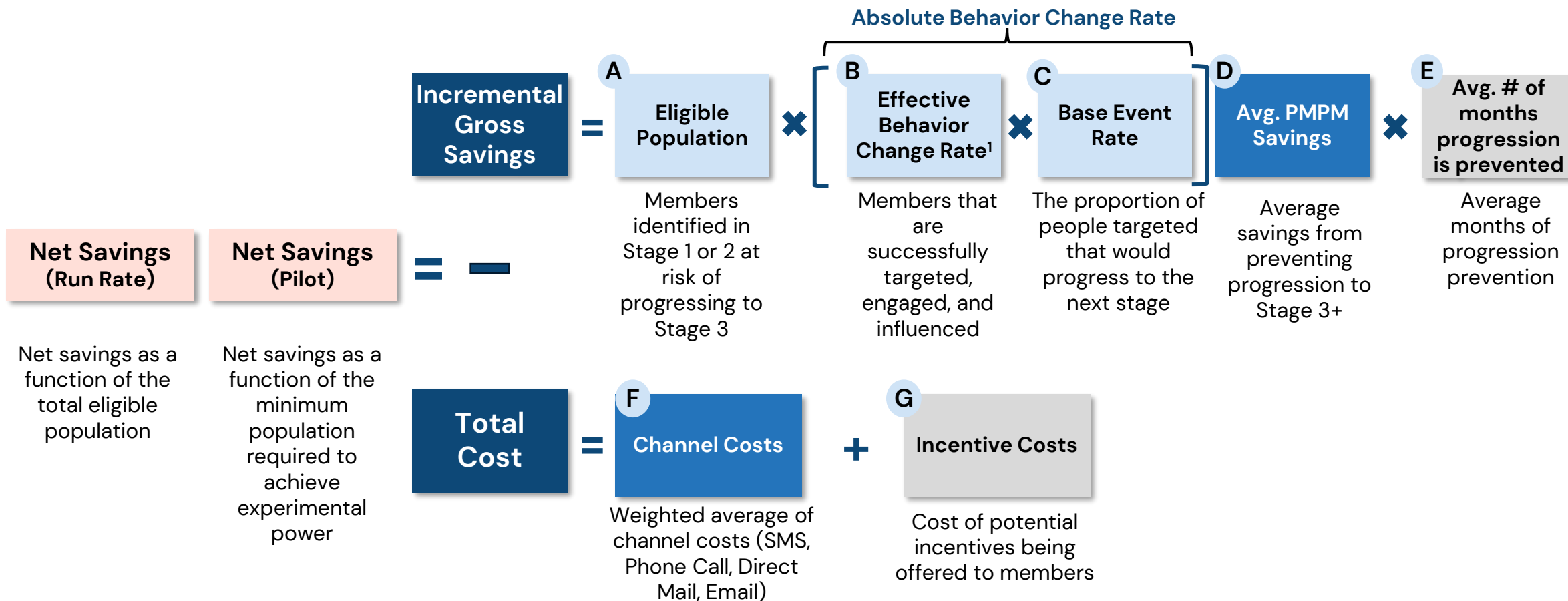
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## 3. BUSINESS CASE – RUN RATE AND PILOT OPPORTUNITY SIZING



# The business case for focus intervention is predicated on avoiding stage progression over time, net of any channel costs

## Pathway Progression Prevention: Business Case Model Map



Details available in the following slides

Details available in appendix

Details not available in current slides

<sup>1</sup>: The behavior change rate is multiplied by the risk group’s base rate to account for transitions that would not have occurred

The following variables will change based on the time horizon for progression

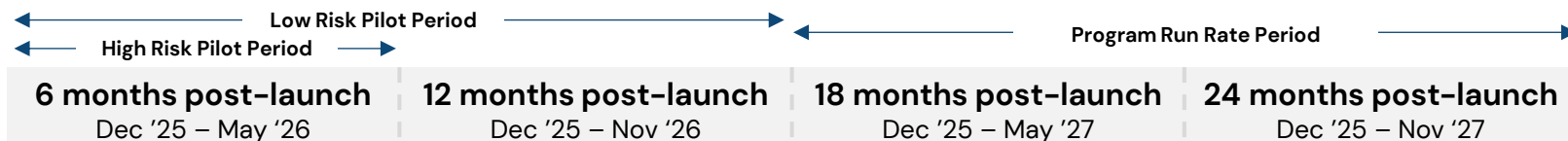
- A. Eligible Population
- B. Behavior Change Rate



# Over 2 years, the Pathway Progression Prevention intervention has the potential to generate \$3–4M in cumulative net savings

## Pathway Progression Prevention: Cumulative Business Case

(Assuming Dec 2025 start)



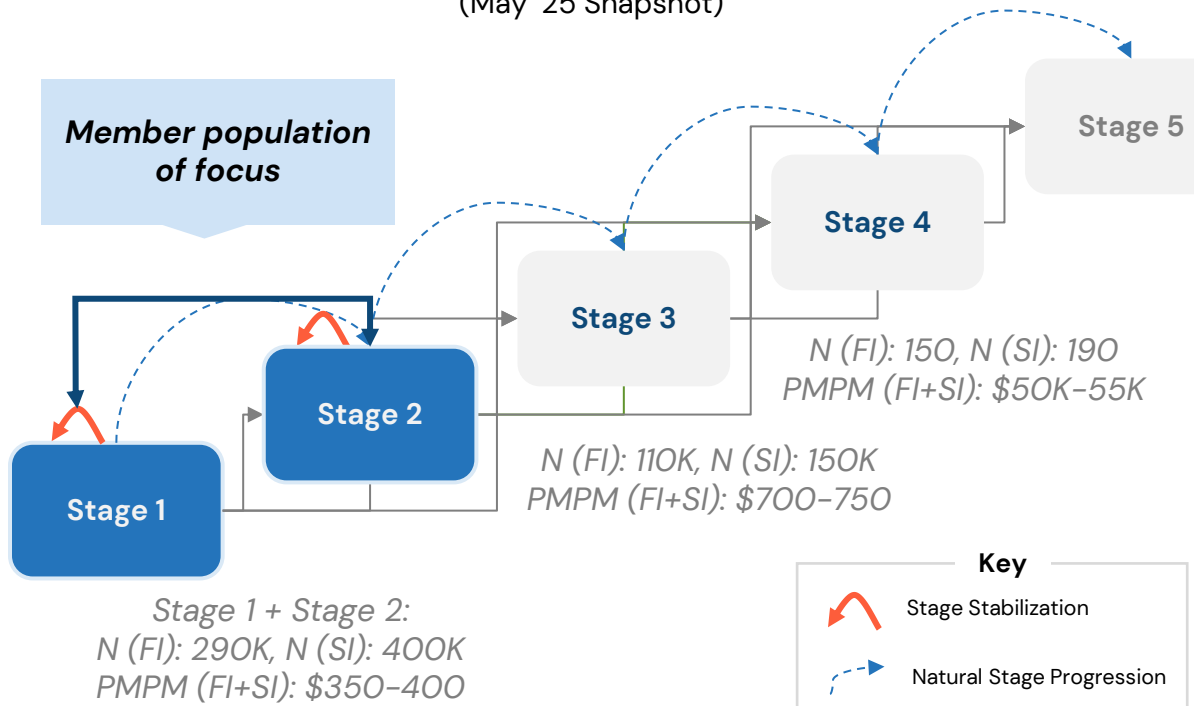
			6 months post-launch Dec '25 – May '26	12 months post-launch Dec '25 – Nov '26	18 months post-launch Dec '25 – May '27	24 months post-launch Dec '25 – Nov '27
<b>Incremental Savings</b>	A <sub>H</sub>	Eligible Population (High Risk)	34K	43K	53K	63K
	A <sub>L</sub>	Eligible Population (Low Risk)	53K	61K	78K	94K
	B <sub>H</sub>	Behavior Change % (High Risk)	.63%	.72%	.78%	.82%
	B <sub>L</sub>	Behavior Change % (Low Risk)	.37%	.37%	.37%	.37%
	T <sub>A</sub> = A * B	Expected Avoided Transitions	410	537	701	865
	D	PMPM savings for stage stabilization	\$1.7K	\$1.7K	\$1.7K	\$1.7K
	E	# of months stabilized within stage	3–4	3–4	3–4	3–4
<b>Costs</b>	I = T <sub>A</sub> * D * H	<b>Gross Savings Realization*</b>	<b>0</b>	<b>\$2.0–2.7M</b>	<b>\$2.7–3.6M</b>	<b>\$3.4–4.6M</b>
	F	Channel Costs	\$0.2M	\$0.3M	\$0.3M	\$0.4M
	L	<b>Total Costs</b>	<b>\$0.2M</b>	<b>\$0.3M</b>	<b>\$0.3M</b>	<b>\$0.4M</b>
<b>Annual Net Savings</b>	I-L	<b>Net Savings</b>	<b>(\$0.2M)</b>	<b>\$1.7–2.4M</b>	<b>\$2.4–3.3M</b>	<b>\$3.0–4.2M</b>

\*Represents realization of savings including claims lag



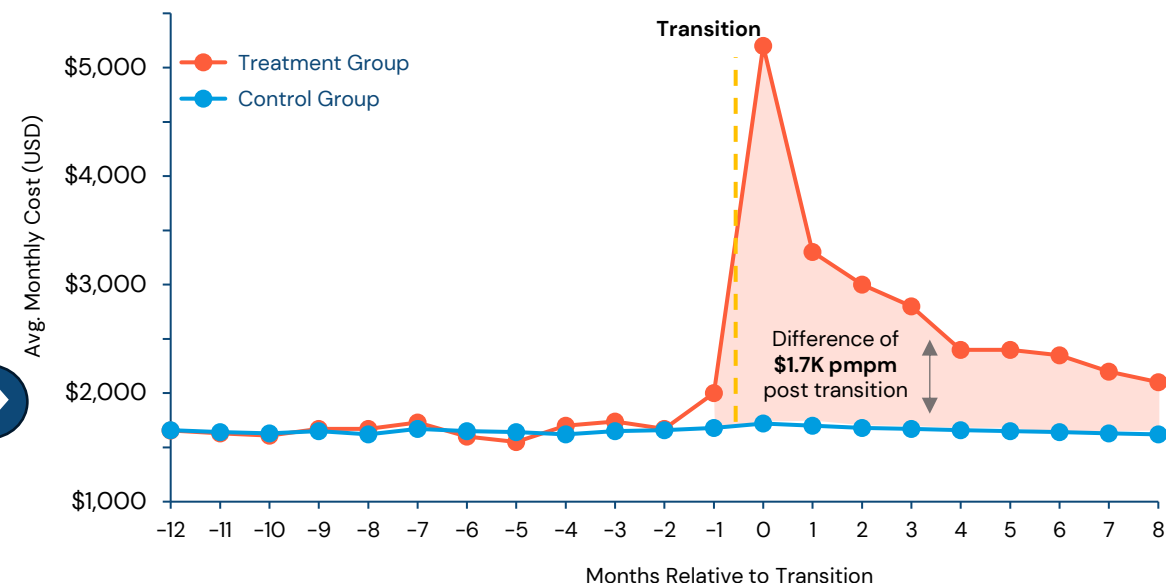
# Cost of stage stabilization was informed by quasi experimental analyses comparing those who did and did not progress stages

**Stage Progression Markov Chain Overview**  
(May '25 Snapshot)



**Note:** Members may stay within a given stage or skip stages depending on how their condition is managed; intervention design efforts can be tailored to prevent stage skipping or progression within a given stage

**Difference-in-Difference Stage Progression Analysis**



- Controlling for individual differences and time effects, we observed **~\$1.7K higher PMPM** in the treatment group compared to control group
- Members who progressed **demonstrated a significant cost spike** immediately after transition and then stabilized while **still remaining substantially higher than pre-transition baseline** (\$1-1.2K PMPM above baseline)

# After filtering on channel appropriateness and financial viability, channel costs for the intervention amounted to ~\$250K



## Channel Feasibility and Estimated Cost (12 months post)

	What channels do we have at our disposal?	Are channels appropriate for the intervention?	Is the channel financially viable and operationally feasible?	# of outreaches	Cost per outreach by channel <sup>1</sup>	Total cost
High Risk	Service Call	✓ Service Call	✗ Service Call			
	CM / Extender Call	✓ CM / Extender Call	✓ CM Call (6 mths.)	3.6K	\$12	\$43K
	Email	✓ Email	✓ Email	86K	\$.0015	<.1K
	Direct Mail	✓ Direct Mail	✓ Direct Mail	86K	\$1	\$86K
	SMS	✓ SMS	✗ SMS	176K	N/A	\$129K
	My Blue	✗ MyBlue				
Low Risk	Service	✓ Service Call	✗ Service Call			
	CM Call	✓ CM Call	✗ CM Call			
	Email	✓ Email	✓ Email	122K	\$.0015	\$<.2K
	Direct Mail	✓ Direct Mail	✓ Direct Mail	122K	\$1	\$122K
	SMS	✓ SMS	✗ SMS	244K	N/A	\$122K
	My Blue	✗ MyBlue	✗ MyBlue	Total ( High + Low Risk)		N/A

Some calculations may not add up due to rounding error

<sup>1</sup>Cost per outreach by channel sourced from BCBSMA data (CM/Service call rates) and industry benchmarks (Email, SMS, Direct Mail)

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## 4. EXPERIMENT DESIGN, TESTING APPROACH AND MEASUREMENT PLAN

# Experiment design was predicated on discrete learning objectives; however, we are prioritizing objective #1 in our design



**Pathway Prevention Progression:** Identify members at risk of progressing to Stage 3+ , encourage PT initiation or adherence, and educate members on proper MRI use cases to avoid unnecessary care and stage progression

## Key Learning Objectives (In order of relative importance)

**01**

### Intervention Efficacy

Test the intervention or intervention combination that is most effective at preventing stage progression



*Priority for experimentation*

**02**

### Channel Effectiveness

Test the channel or combination of channels that is most effective at driving our desired behaviors

**03**

### Segment Responsiveness

Test whether high vs. low-risk members exhibit different response patterns to PT and MRI messages across outreach channels



# Our experimentation plan was guided by discrete study criteria, two randomized test arms, and a 1-sided proportional T test



## Randomization Design

**Design of Evaluation:** An intent-to-treat RCT comparing members randomized between treatment and control



### Study Criteria

#### Inclusion:

- Members identified in Stage 1 or 2, 12 months prior to August 2025
- Commercial Fully Insured

#### Exclusion:

- Members who experienced regression into Stage 1 or 2
- Lowest 20<sup>th</sup> risk percentile – **for discussion**

#### Suppressions (TBD):

- Members who were previously denied PT
- Members approaching their 17<sup>th</sup> PT visit (PA required after this point)
- Children



### Study Cohorts

#### Study Group:

- ~180K active (in Stage 1/2 in the past 12 months) Commercial FI (PPO, HMO, POS, SPPO) members in Stage 1–2
- Total population required for testing  $\approx$  144K
- Segment by risk of stage transition:
  - Low Risk
  - High Risk

#### Test Arms (randomized)

- **Low Risk:** Control vs. T1 (2 DM + 2 Emails)
- **High Risk:** Control vs. T1 (2 DM + 2 Emails)

#### Non-randomized / powered:

- **High Risk:** Small group will receive 2 DM, 2 Emails, Extender call)

#### Minimum per arm to support power

- Low Risk: ~50% per arm ( $\approx$  48.3K)
- High Risk: ~30% per arm ( $\approx$  23.8K)



### Timeframe

#### Cohort identified using risk model and staging logic

#### Baseline Period:

- Members previous 6 months (i.e., used for matching with risk)

#### Study Period:

- 12 months after study start date



### Outcomes Metrics

#### Behavior Change:

- Initiation and adherence to PT, avoidance of MRI

#### Primary Outcomes

- Decrease in relative stage transitions (i.e., members progressing from Stage 1 or 2 to 3+) in control vs. treatment group

#### Clinical Metrics:

- PT initiation and adherence %
- MRI utilization rate

#### Medical cost

- Change in PMPM for members enrolled in PPP vs baseline
- Average total cost per back pain episode
- Estimated savings from avoided MRIs
- Cost per engaged member
- Program ROI



### Statistical Methods

#### 1-Sided Proportional T-test superiority, $\alpha=10\%$ :

- As shown in Equation 4 of Connor 1987; Chow, Wang, and Shao 2007 (Page 93).

- **Significance level:** 0.1

- **Power level:** 0.80

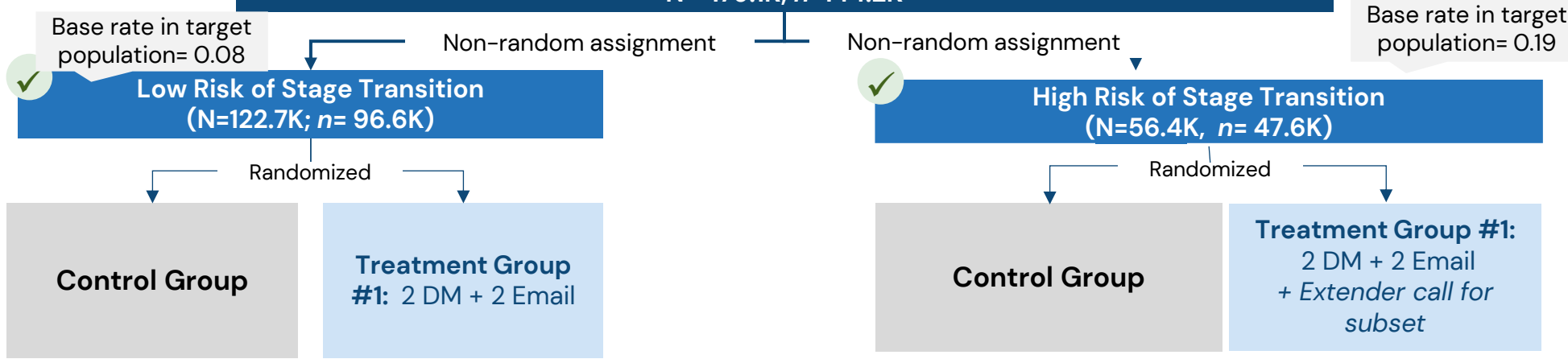
**Predictive Model** used to predict risk of progression for members in Stage 1 or 2



# After additional input from HMM and Service, we further adjusted our design based on team capacity and operational constraints

Proposed Experiment Design: (1-Sided Proportional T-Test for superiority,  $\alpha=10\%$ )

**Total Population Required to Power**  
N= 179.1K; n=144.2K



**Minimum Required**

50% n = 48.3K (5% sig: 84.2K)	50% n = 48.3K (5% sig: 84.2K)
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**Minimum Required**

50% n=23.8K	50% n=23.8K Extender call: n=3.6K <b>Note:</b> extender call group is not powered
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600 calls/month x 6 months, equivalent of 1 FTE

**Effect Size:** .37% absolute decrease in base rate  
**Months to measurement:** ~12

**Effect Size:** 0.63% (Grp. 1) absolute decrease in base rate  
**Months to measurement:** ~6

✓ Surpasses Power Calculation

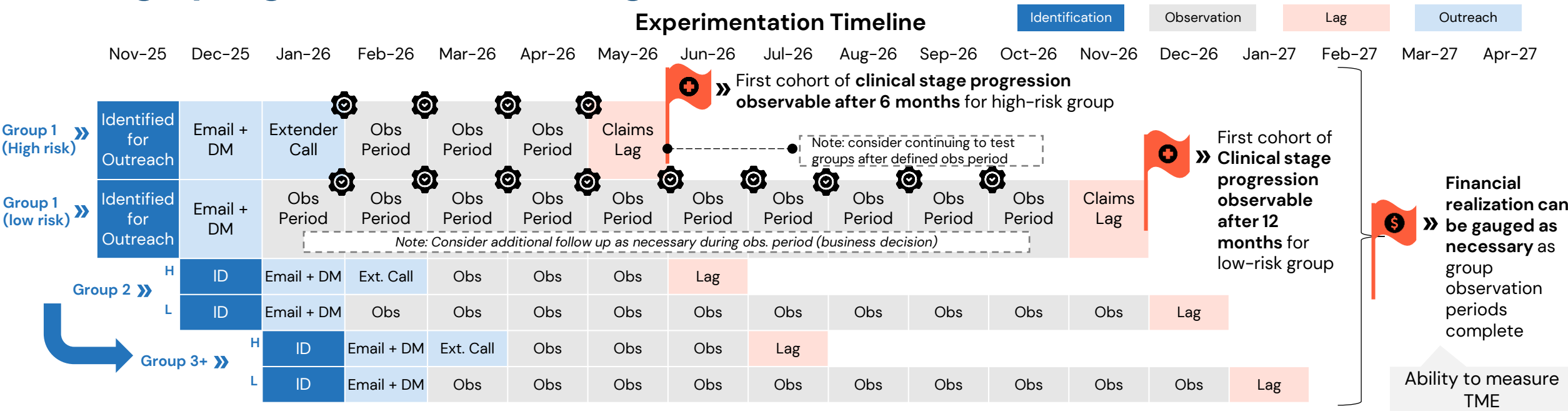
### What changed?:

- ✓ Treatment groups 2 and 3 were removed for the High Risk of transition group, leaving a singular treatment group and control group
- ✓ CM extender calls are included as a subset of the treatment group for high risk; volume of calls is limited to current capacity of 2 0.5 FTE extenders
- ✓ High Risk arm is observed on a 6-month window

Note: The total N accounts for both existing eligible members and newly identified members in Stage 1 or 2



# Our measurement design will allow for earlier observation of stage progression for the high-risk cohort



### Key

**End of Operational Obs. Period**

**Operational Metrics:** Email open rate, click through rate, call answer rate

**End of Clinical Obs. Period**

**Clinical Metric:** Stage progression; examples of stage 3+ triggers include imaging, surgery, and specialist visits

**Financial Obs. Period**

Difference in total claims spend (PMPM) for members in test vs. control group (i.e., TME)


### Assumptions


High Risk Experiment	Low Risk Experiment
<ul style="list-style-type: none"> <li><b>Horizon:</b> ~Powered for a 6 month observation period, with observation likely possible as soon as 5 months due to strong powering</li> <li><b>Outreached Threshold for Power:</b> 23.8K</li> <li><b>Channels:</b> Email + DM, Extender Call (for small, highest risk subset)</li> </ul>	<ul style="list-style-type: none"> <li><b>Horizon:</b> ~Powered for 12 month observation period due to larger effect size requirement</li> <li><b>Outreached Threshold for Power:</b> 48.3K</li> <li><b>Channels:</b> Email + DM</li> </ul>


# Additional Assumptions: Test and Measurement Design



## Experimentation Timeline Assumptions

1. Outreach Assumptions 	
1.1 Total starting backlog (High and low risk)	<b>N = 146,000</b>
1.2 Newly identified for outreach each month	<b>5,550</b>
1.3 Timing of dispatch of 2 DMs and 2 Emails	<b>Within 4 weeks of cohort ID</b>
1.4 Timing of dispatch of CM Call (High Risk Subset Only)	<b>Between 4–6 weeks after cohort ID</b>
1.5 Max Email / DM to be sent in a month (for pilot)	<b>20,000</b>
1.6 Max Extender calls per month	<b>600 (2 extenders at half time)</b>
1.7 # of months with Extender outreach	<b>6 months</b>

2. Effective BC Rates 	
2.1 Low Risk Treatment Group Effective BC Rate	<b>0.37%</b>
2.2 High Risk Treatment Group Effective BC Rate	<b>0.63%</b>
2.3 Highest Risk Group + Extender Effective BC Rate	<b>0.69%</b>

3. Realization 	
3.1 ID lag from claims (professional)	<b>7 days</b>
3.2 Claims runout for facility claims	<b>1–2 months</b>
3.3 Avoided stage transition realization	<b>Even distribution across observation window</b>
3.4 Savings per month of stage 3+ progression	<b>\$1,700</b>

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## 5. LAUNCH LIST / ROADMAP

# To launch a new MSK intervention in the coming weeks, a series of preparatory tasks must be completed



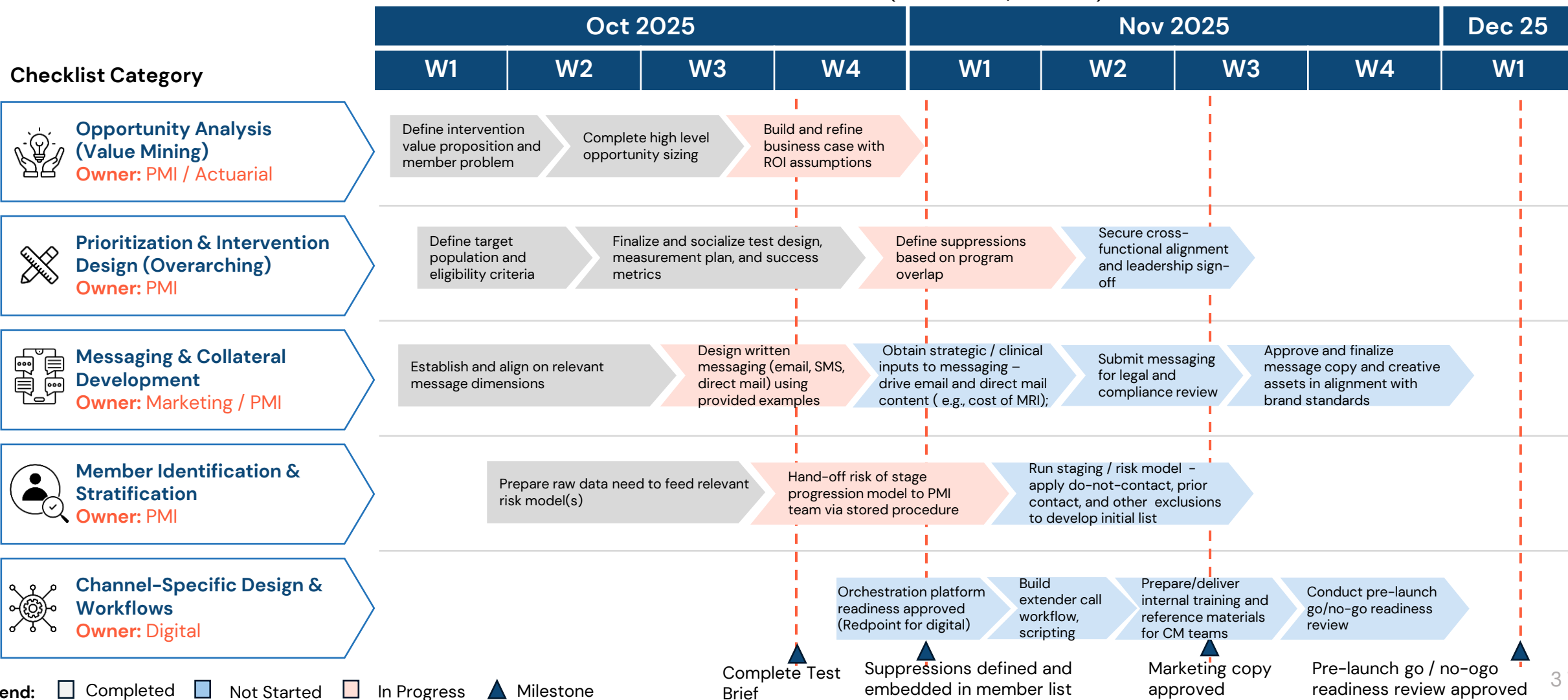
## Pathway Progression Prevention: Launch Checklist

	#	Task	Owner	Status	Date
1. Opportunity Analysis (Value Mining)	1.1	Define intervention value proposition and member problem	PwC	Complete	10/1
	1.2	Complete high level opportunity sizing	PwC	Complete	10/22
	1.3	Build and validate business case with assumptions for ROI including member exclusions	PwC	In Progress	10/28
2. Prioritization & Intervention Design (Overarching)	2.1	Define target population and eligibility criteria	PwC	Complete	10/22
	2.2	Finalize and socialize test design, measurement plan, and success metrics	PwC	Complete	10/28
	2.3	Define scaling thresholds and measurement timelines for pilot	PwC	Complete	TBD
	2.4	Secure cross-functional alignment and leadership sign-off	PwC / Leadership		TBD
3. Messaging & Collateral Development	3.1	Establish and align on relevant message dimensions (BE principles, tactic(s), call to action)	Summer L.		TBD
	3.2	Design written messaging (email, SMS, direct mail) using provided examples	Summer L. / PwC		TBD
	3.3	Ensure behavioral science principles and tactic(s) are decided upon across messages	Summer L.		TBD
	3.4	Submit messaging for legal and compliance review	Jennifer A-S		TBD
	3.5	Approve and finalize message copy and creative assets in alignment with brand standards	Summer L.		TBD
4. Member Identification & Stratification	4.1	Operationalize plan for continuous ID (trigger vs list based) and data refresh cadence	PwC		TBD
	4.2	Apply do-not-contact, prior contact, and behavior exclusions	Summer L. / Guru		TBD
5. Channel-Specific Design & Workflows	5.1	Build service call workflow, scripting and tactics / call to action, and escalation logic	Tara F.		TBD
	5.2	Orchestration platform readiness approved (Redpoint for digital, internal for DM)	Guru S	<b>To be discussed and refined</b>	TBD
	5.3	Prepare internal training and reference materials for service teams	Tara F. / PwC		TBD
	5.4	Conduct pre-launch go/no-go readiness review	Sandhya R.		TBD
6. Technology & Digital Asset Development	6.1	Defined timing and frequency parameters to inform Redpoint outreach	PwC		
	6.2	Establish member randomization process (e.g., Redpoint) per channel/tracking parameters	Mark F. / Guru		TBD
	6.3	Conducted UAT across all relevant channels	Marketing Ops		TBD
	6.4	Maintained version control for final creative and system assets	Marketing Ops		TBD
7. Execution & Delivery	7.1	Confirmation of leadership approval for launch	Rich L. / Anna G.		TBD
	7.2	Internal / external communications developed and distributed	PMO		TBD
	7.3	Service team trained on respective call scripts	Tara F.		TBD
	7.4	Deploy intervention across approved service and digital channels	TBD		TBD
8. Performance & ROI Measurement	8.1	Conduct review during pilot midpoint and optimize cadence or content	Deb V.		TBD
	8.2	Compare stage progression of test vs. control groups after observation period	Todd W.		TBD
	8.3	Calculate savings and ROI based on stage progression relative costs	PMI		TBD
	8.4	Document clinical indicators (PT completion, MRI rate, surgery rate)	PMI		TBD
	8.5	Gather member and service feedback post-launch using targeted surveys	Anna G.		TBD
	8.6	Document lessons learned and recommend next steps	Mark F.		TBD

# To launch a new MSK intervention in the coming weeks, a series of preparatory tasks must be completed (1/2)



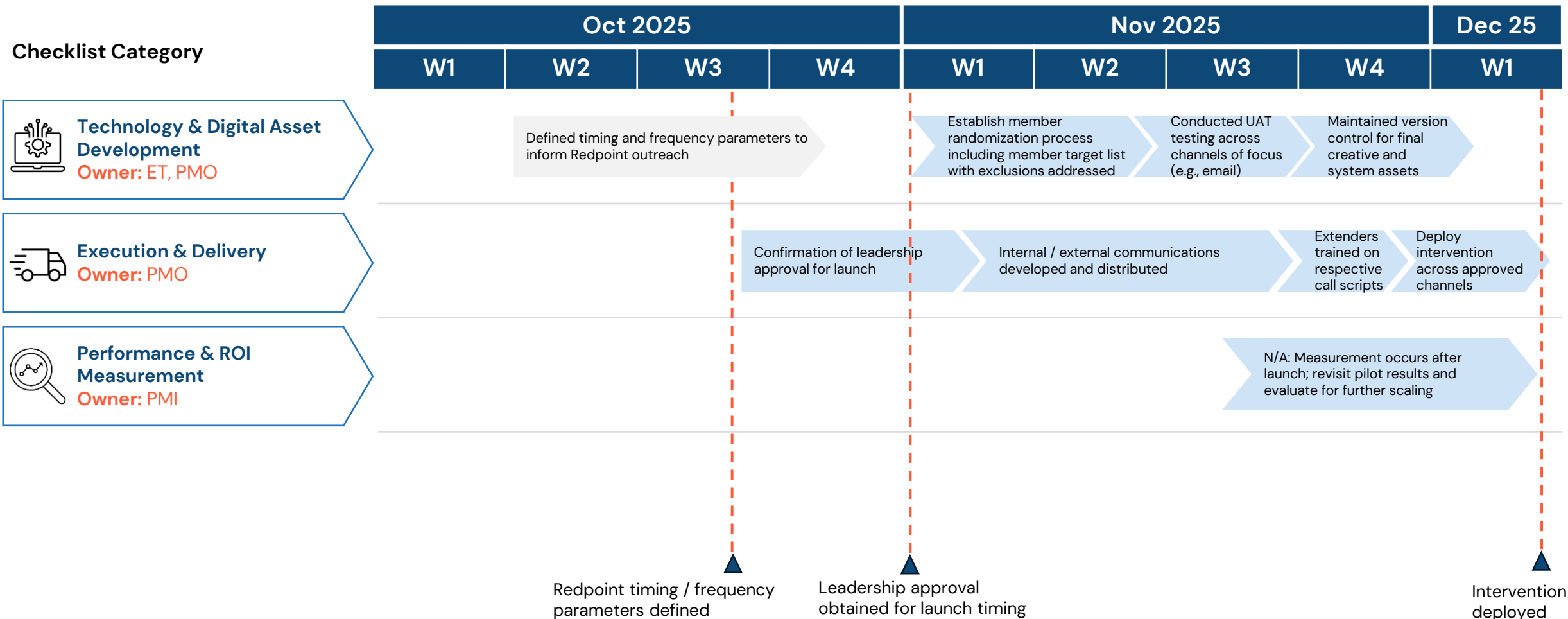
## High Level Roadmap- Pathway Progression Prevention (Assumes 12/1 Launch)



# To launch a new MSK intervention in the coming weeks, a series of preparatory tasks must be completed (2/2)



## High Level Roadmap- Pathway Progression Prevention (Assumes 12/1 Launch)



Legend:  Completed   Not Started   In Progress ▲ Milestone

# Next steps



## Key Next Steps

**1**

Finalize **technical** documentation of relevant code-set / models

**2**

Initiate outreach suppression process with relevant vendor partners (e.g., Vori / Hinge)

**3**

Ensure appropriate **knowledge transfer** and **handoffs**

- Data science session with Wei, Mark and Rebecca (11/4 tentatively)
- Validate measurement plan with Mike Guerriere

**4**

Obtain **clarity** on **launch date** dependencies