

MASTER

overview of design

methodology for

digital human

guided conversations

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objectives of the design principles and approach

The objectives of using the Design Principles for Themes and Topics:

- Provide a top down approach to documenting, ordering and analyzing the intents that are initially randomized when extracted from various articles, patient forums, research etc.
- Provide a method for ensuring that the intents are MECE – that is, Mutually Exclusive and Conceptually Exhaustive. Note that questions themselves might be applicable to many topics and are answered within the interaction context.
- Provide a mechanism for describing the potential scope of the Q&A database.
- Provide a mechanism for ensuring that each topic has sufficient intents to justify its inclusion.
- Provide a way of guiding practitioner, patient and carer inputs during codesign.
- Enable efficient development, build, operation and maintenance of the digital human capability.
- Maximize the effectiveness of the digital human capability in achieving the agreed use case and associated performance goals.
- Enable operation of the digital human in accordance with the approved Operating Model including, but not limited to:
 - Error identification and correction.
 - Implementing future modifications and enhancements including the addition of use cases.
 - Maximizing visibility of the capability for governance purposes.
- Minimizing key person risk by basing all design activities on a set of standardized principles, templates and accelerators.
- Documenting an easily understood framework for work to be performed by client SMEs.
- Enabling rapid and error free transfer of content between the AI corpus and external control/creation documents (such as spreadsheets).

developing a health corpus is not a web crawler exercise...

co-designed via lived and professional experience

- Industry Experience
 - NSW Health
 - Hong Kong Hospital Authority
- Use Case Experience
 - Patient Lived Experience over 13 years
 - Rehab x 3 USA and Australia
 - Mentoring other patients
- Domain Expertise
 - Developed patient education with Canberra Hospital Rehab Team over several years
 - Regular presenter cardiac rehab program
 - Regular presenter Heart Foundation Ambassador Program
 - Heart Support Australia Trained Facilitator
 - Qualified Rehab Trainer
 - Fitness Trainer with specialization in older adults and women
 - Occasional health presenter University of Canberra
 - Invited speaker Pharmaceutical Society of Australia and others
- Technology Experience
 - Research into Expert Systems
 - Large scale systems integration USA, Asia, Middle East and Oz
 - Global ERP health systems experience
- Commercial Experience
 - Successful sales of multi-million-dollar re-engineering and software projects around the world
 - Client executive for large systems projects
 - Chief Technology Architect for large systems projects in multiple industries

- Methodology
 - Proprietary digital human methodology for health
 - Deep co-design experience
 - Application of years of experience in consulting and systems with Big 4 consulting firms and global technology vendors to approach
- Corpus Content
 - Active member of heart patient on-line forums in Australia and overseas over 13 years
 - Developed hundreds of intents/questions/answers based on own experience
 - Review of hundreds of health and related websites and blogs over several years to extract relevant content and then rewrite to be compatible with digital human conversational format
 - Review of hundreds of health videos on government, insurer, hospital and vendor sites
 - Review of international language materials for heart health
- Liaison with industry bodies such as the Heart Foundation and Heart Support Australia on current and future trends in Cardiac Health
- Subscriptions to peer reviewed cardiac health publications and consolidation sites
- Reviewed hundreds of peer reviewed articles and research into cardiac health
- Attendee and speaker at national conferences of Heart Foundation and Australian Cardiovascular Health and Rehabilitation Association
- Member of Australian Cardiovascular Health and Rehabilitation Association
- Downloaded and reviewed multiple cardiac health applications

Unique knowledge and expertise in the application of technologies such as avatars and artificial intelligence to cardiac health including primary and secondary prevention, cardiac events and surgeries, hospitalization, recovery and rehabilitation.

selecting themes and intents for a proof of concept

how are intents, questions and answers derived?

Reference Organizations

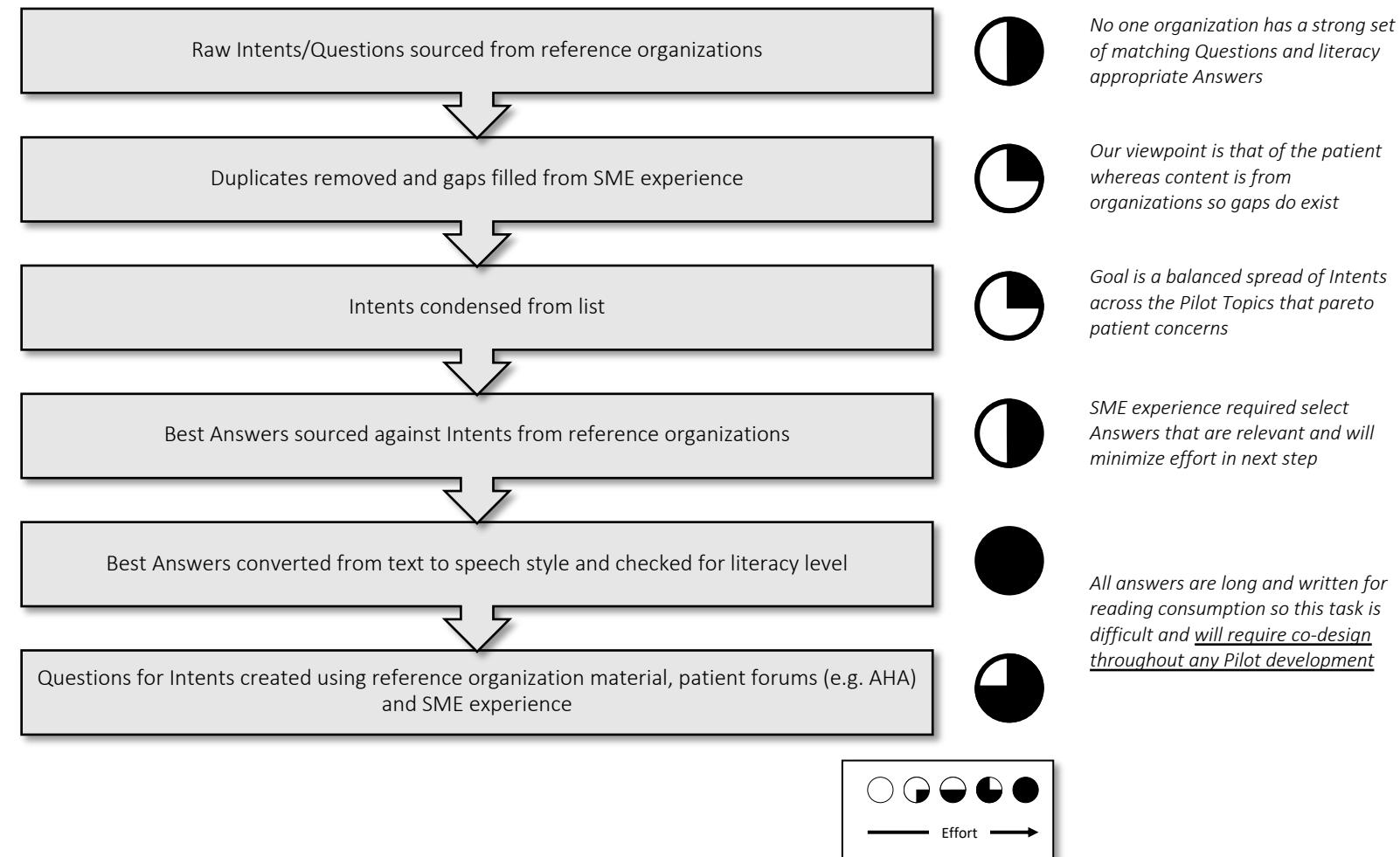
Note: this might not be the final 10. If there are gaps or too much duplication other sites might replace some in this list. Canadian site (Alberta Health) added as it is one of the best in the world for video content.



Process

Fundamental design principles include:

1. Minimizing rework when moving to full system
2. Making the end result globally applicable within cardiac care and maximally applicable within other relevant chronic conditions
3. Minimizing effort (and associated time and cost) to produce a winning Pilot



what are “themes” and “topics”

THEMES

Logical groupings of patient intents largely based on the ‘traditional’ cardiac lifestyle events and educational sessions.

THEME A | MY ONBOARDING

THEME B | MY MEASUREMENTS

THEME C | ABOUT MY CONDITION

THEME D | MY HOSPITAL STAY

THEME E | MY RECOVERY AT HOME (STRONG CARER FOCUS)

THEME F | MY CARDIAC REHAB PROGRAM

THEME G | MY MEDICATIONS

THEME H | WHAT WILL I EAT

THEME I | HOW WILL I MOVE

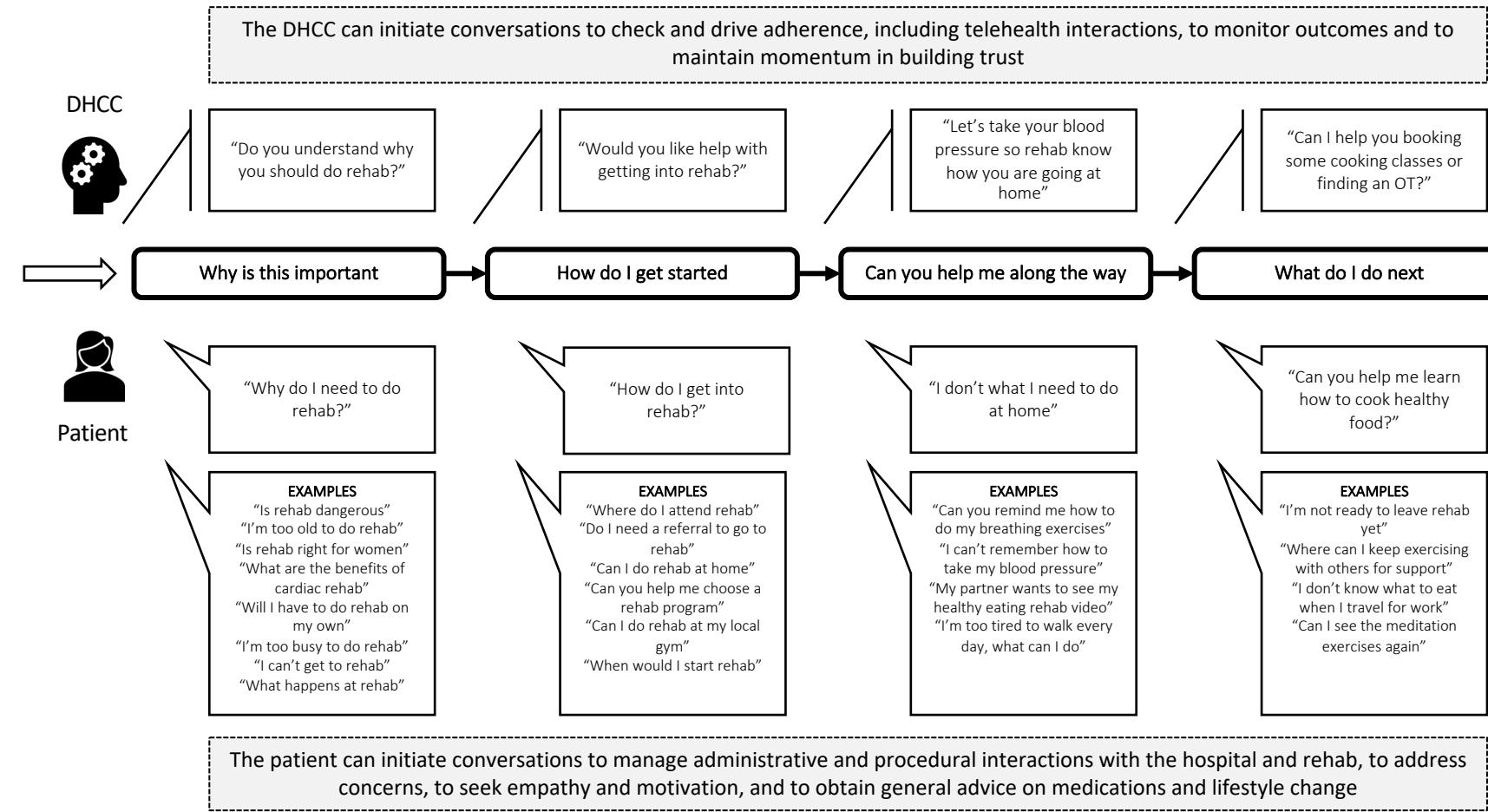
THEME J | MY SLEEP & RELAXATION

THEME K | I WILL QUIT SMOKING

THEME L | MY NEW NORMAL LIFE

TOPICS

The time/logic sequenced groups of intents that patients experience within each theme on their cardiac journeys. Each topic can be triggered by the patients themselves or by the digital human as part of conversational and physiologic tracking (code based) to ensure compliance and effectiveness. The sequencing of the topics works to address the barriers (including literacy and attitudes) to compliance with recommended recovery, medication and lifestyle regimens.



indicative set of themes for guided conversations

THEME A | MY ONBOARDING

1. What is my DHCC
2. How do I get started
3. How will I use DHCC day to day
4. What do I do if having a problem

THEME B | MY MEASUREMENTS

1. What do I need to measure
2. How do I measure these
3. When do I measure and report
4. What if I'm having a problem

Themes and topics required for activating Codes

Therapeutic and Lifestyle Themes and Topics for Patients

THEME C | ABOUT MY CONDITION

1. What is heart disease
2. How did I get heart disease
3. Can I get better
4. What does this mean for my life

THEME D | MY HOSPITAL STAY

1. How do I prepare for my hospital visit
2. Can you tell me about my surgery
3. I'm in hospital - what now
4. **What happens when I leave hospital**

THEME E | MY RECOVERY AT HOME

1. What can I expect when I go home
2. How do I prepare for going home
3. What will each day/week/month look like
4. What if something goes wrong at home

THEME F | MY CARDIAC REHAB PROGRAM

1. **Why should I do rehab**
2. **Can you help me get into rehab**
3. I'm on rehab ... but
4. What do I do after rehab

THEME G | MY MEDICATIONS

1. **Why should I take my meds**
2. **How do I get my meds**
3. How do I manage my meds
4. Help - I'm having trouble with my meds

THEME H | WHAT WILL I EAT

1. Why should I eat healthy
2. How do I get started with healthy eating
3. How do I manage my eating everyday
4. Help - I'm having trouble eating healthy

THEME I | HOW WILL I MOVE

1. Why should I move more
2. How do I start moving more
3. How can moving be part of my life
4. Help - I'm having trouble moving more

THEME J | MY SLEEP & RELAXATION

1. Why should I relax and sleep better
2. How do I start relaxing
3. How can relaxing & sleep be part of my life
4. Help - I still can't sleep or relax

THEME K | I WILL QUIT SMOKING

1. Why should I quit smoking
2. How can I quit smoking
3. How can I live life without smoking
4. I'm still smoking - can you help me

THEME L | MY NEW NORMAL LIFE

1. What can I do with my new heart
2. How can I safely try new things
3. What if something goes wrong
4. I'm afraid to try anything new - help me

*Some Themes transition from **Therapeutic** to **Lifestyle** focused. Theme H | What will I Eat starts off with a **Therapeutic** focus on eating for recovery and adopting a new healthy diet but then moves to a **Lifestyle** focus on take-out, dining out with family, eating when travelling, eating daily at work and business functions etc.*

*Theme L | My New Normal Life is largely **Lifestyle** based and therefore anticipated to derive revenues from promoting associated goods and services rather than from Codes and penalty/ litigation avoidance*

indicative set of themes for guided conversations

90 days

Hospital / Surgery



MY HOSPITAL STAY

1. Leaving hospital awareness
2. Leaving hospital risk assessment
3. Going home preparation
4. Info capture for discharge planning

WHAT WILL I EAT



1. Healthy eating awareness
2. Eating risk assessment (all & HF specific)
3. Eating first days at home



MY CARDIAC REHAB PROGRAM

1. Rehab awareness
2. Overcoming barriers to rehab
3. Prompting to register

HOW WILL I MOVE



1. Moving awareness
2. Moving risk assessment (all & HF)
3. Moving first few days at home



MY MEDICATIONS

1. Medications awareness
2. Meds risk assessment

MY RECOVERY AT HOME



1. What can I expect when I go home
2. What about my family
3. What I have to do – measurements etc.
4. What if something goes wrong at home



MY SLEEP & RELAXATION

1. Relaxation awareness
2. Relax / sleep risk assessment

I WILL QUIT SMOKING



1. Quit smoking awareness
2. Smoking risk assessment

Guided conversations:

- Transfer information and build patient awareness
- Capture data for medical team planning and action
- Enable risk assessment to prioritize planning & action
- Check and record patient understanding
- Provide a transcript for audit purposes

Recovery and Rehabilitation



MY RECOVERY AT HOME



1. Appointments
2. Wound care
3. **HELP PROTOCOL**

WHAT WILL I EAT

1. Eating during recovery & rehab
2. Dining out / take out / Order In
3. Transition from frozen to fresh
4. Adherence monitoring



MY MEDICATIONS



1. Ordering meds
2. Managing meds (reminders etc.)
3. Adherence monitoring

HOW WILL I MOVE

1. Restricted movement – sternum, stairs
2. Moving during recovery & rehab
3. Transition to community exercise
4. Adherence monitoring



MY MEASUREMENTS



1. What do I need to measure
2. How do I measure these
3. When do I measure and report
4. Adherence monitoring

MY SLEEP & RELAXATION

1. Transition to normal activity and rest
2. Advice and support
3. Adherence monitoring



I WILL QUIT SMOKING



1. Transition to life without smoking
2. Advice and support
3. Adherence monitoring

BEYOND 90 DAYS TRANSITION

1. Beyond 90 days awareness
2. Beyond 90 days risk assessment
3. Feedback good outcomes
4. Feedback non-adherence & actions



MY CARDIAC REHAB PROGRAM

1. Pressure to quit early
2. Reinforcement at home

determining scope

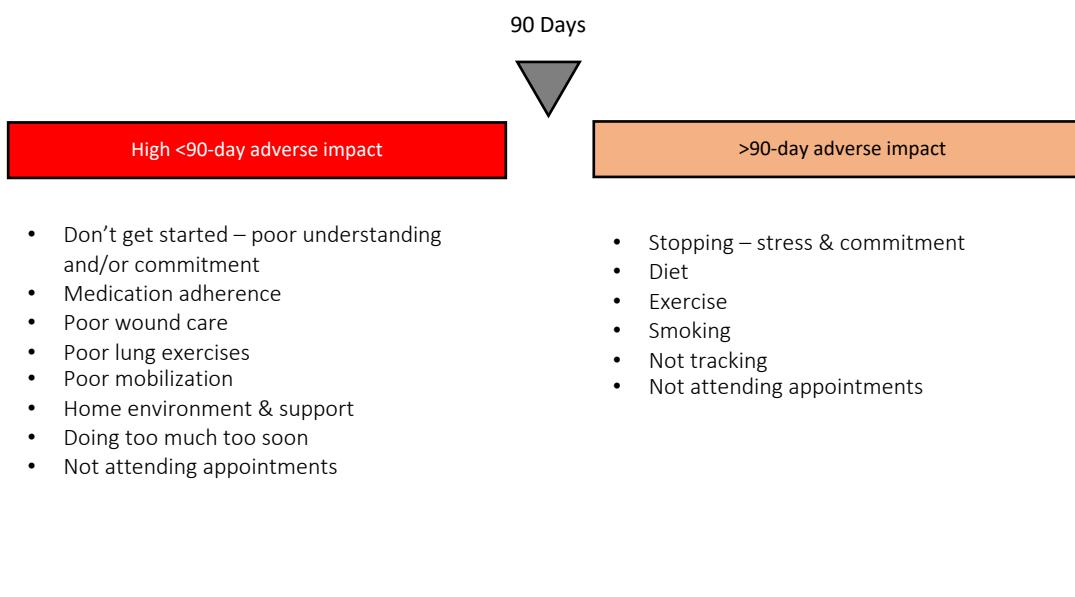
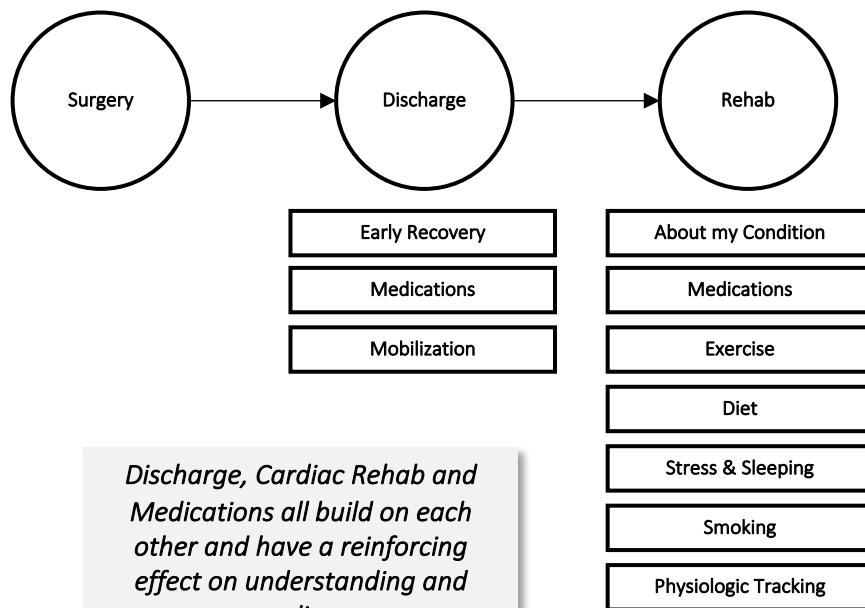
DISCHARGE | Importance:

- Initial awareness and preparation for key concerns & activities
- Establish commitment
- DHCC allows patient and carers to replay content when they get home

REHAB | Importance:

- Initial education and supervised practiced activities
- Further builds commitment
- DHCC makes demonstrations and education available after rehab finished

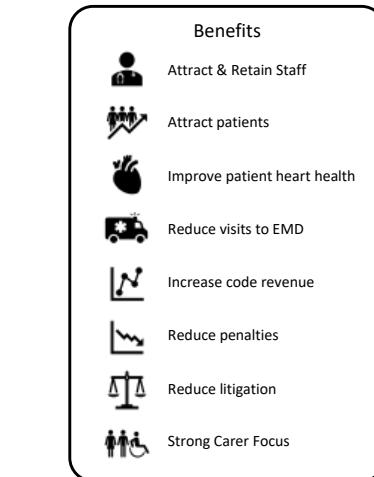
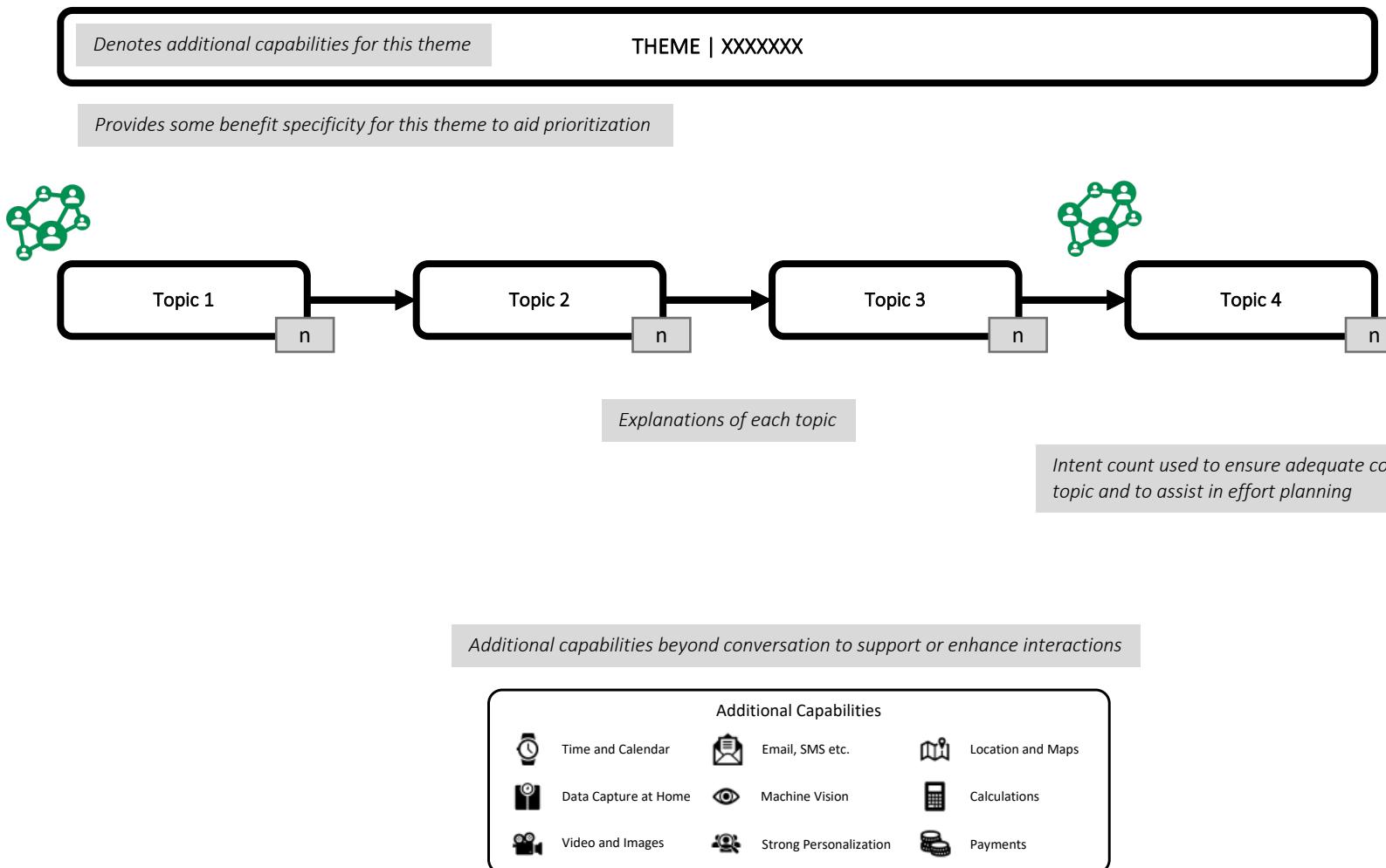
Discharge, Cardiac Rehab and Medications all have significant impacts on 90-day success rates and if not successful can lead to ACA penalties and litigation.


MEDICATIONS | Importance:

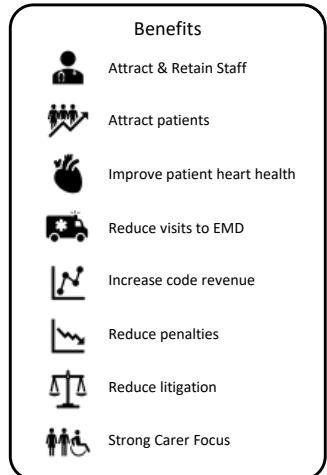
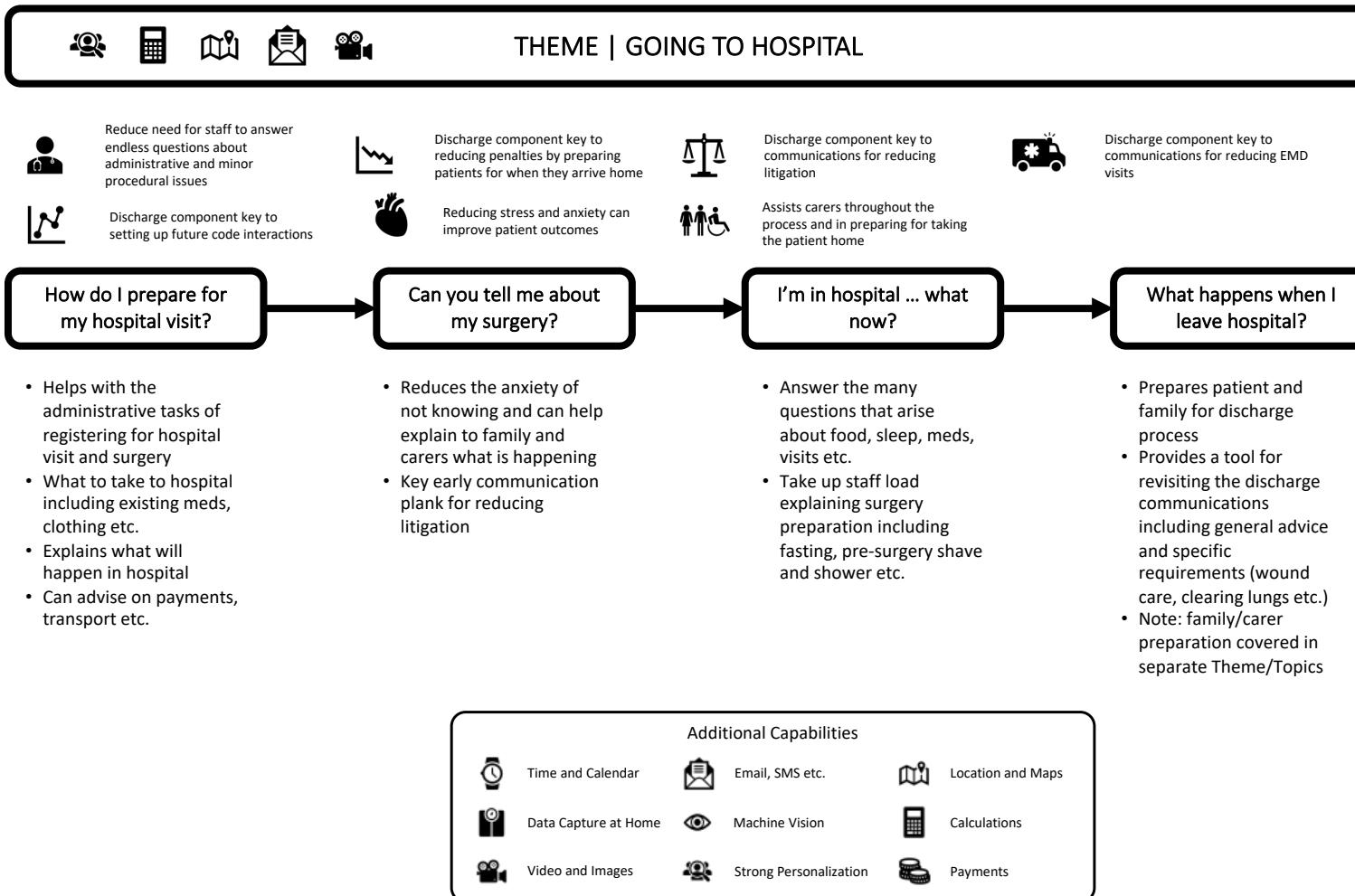
- Can have immediate adverse effect
- Adherence is a major contributor to poor outcomes
- Is 'safety belt' for poor diet

key to theme/topic representations

Benefit codes for early prioritization: note, not using brand benefits etc. at this time



intent themes & topics | going to hospital



intent themes & topics | cardiac rehab



 Reduce need for staff to answer endless questions about rehab and recovery from patients and their families

 Reduce ACA penalties by increasing rehab participation and comprehension

 Strong focus on communication to reduce litigation

 Increase code revenues for rehab participation

Should I do rehab?

- Answers the questions and concerns patients have about cardiac rehab (including not knowing it exists).
- Motivates patients to the next step – registering for cardiac rehab

Can you help me get into rehab?

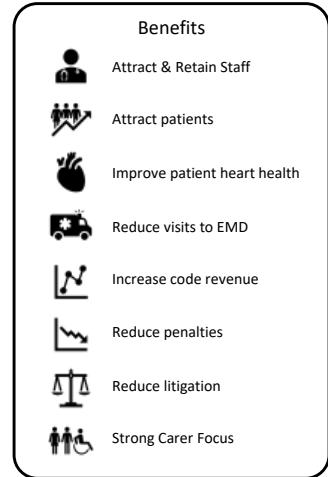
- Reduces the barriers to patients attending cardiac rehab including referral, registration, payment, transport
- Answers social question around support whilst attending, family participation etc.

I'm on rehab ... but?

- Aims to reduce patient drop out due to work and home pressures etc.
- Provides additional literacy appropriate information to aid understanding
- Addresses concerns about slow progress or inability to change (e.g. can't quit smoking)

What do I do after rehab?

- Provides emotional and informational support to reinforce the lessons of cardiac rehab
- Bridges the gap between rehab and autonomy where patients just do the right thing as part of normal life



Additional Capabilities

 Time and Calendar	 Email, SMS etc.	 Location and Maps
 Data Capture at Home	 Machine Vision	 Calculations
 Video and Images	 Strong Personalization	 Payments

intent themes & topics | medications

THEME | MEDICATIONS

 Reduce questions to staff about meds from patients and their families – gives consistent answers

 Reduce ACA penalties by increasing medication compliance

 Strong focus on meds communication and adherence to reduce litigation

 Increase code revenues for interacting with medical team with questions about side effects etc.

 Reduce visits to EMD from interactions and non-adherence

Why should I take my meds?

- Builds understanding of the importance of taking prescribed meds
- Addresses the concerns patients have about taking meds

How do I get my meds?

- Some people have never taken regular meds so covers the pharmacy process, prescriptions etc.
- Addresses cost issues, generics etc.

How do I manage my meds?

- How to take meds – morning, evening, with/without food etc.
- Avoiding interactions with foods and OTC drugs
- Tracking including pre-packs, pill boxes, apps etc.

Help – I'm having trouble with my meds?

- Concerns that meds are causing side effects to not working
- Avoiding patients taking 'drug holidays' and stopping meds

	Location/maps to help patients find closest drug store for their insurer for drugs, advice, OTC meds etc
	Timer function for medication reminders
	Replay video/images/text describing meds, how to take them, manage them etc. as covered in rehab
	Personalization – patient specific medications etc.
	Email information and reminders
	Machine vision to help patients identify their medications by looking at packaging

Additional Capabilities					
	Time and Calendar		Email, SMS etc.		Location and Maps
	Data Capture at Home		Machine Vision		Calculations
	Video and Images		Strong Personalization		Payments

Benefits	
	Attract & Retain Staff
	Attract patients
	Improve patient heart health
	Reduce visits to EMD
	Increase code revenue
	Reduce penalties
	Reduce litigation
	Strong Carer Focus

determining scope



- Reduce need for staff to answer endless questions about administrative and minor procedural issues
- Discharge component key to reducing penalties by preparing patients for when they arrive home
- Discharge component key to communications for reducing legal penalties
- Assists carers throughout the process and in preparing for taking the patient home
- Reducing stress and anxiety can improve patient outcomes
- Discharge component key to communications for reducing legal penalties
- Helps with the administrative tasks of registering for hospital visit and surgery
- What to take to hospital including existing meds, clothing etc.
- Explains what will happen in hospital
- Can advise on payments, transport etc.
- Reduces the anxiety of not knowing and can help explain to family and carers what is happening
- Key early communication plank for reducing litigation
- Answer the many questions that arise about food, sleep, meds, visits etc.
- Take up staff load explaining surgery preparation including fasting, pre-surgery shave and shower etc.
- Prepares patient and concerns patients have about cardiac rehab (including not knowing it exists).
- Motivates patients to the next step – registering for cardiac rehab
- Answers the questions and concerns patients have about cardiac rehab (including not knowing it exists).
- Motivates patients to the next step – registering for cardiac rehab
- Aims to reduce patient drop out due to work and home pressures etc.
- Provides additional literacy appropriate information to aid understanding
- Answers social question around support whilst attending, family participation etc.
- Provides emotional and informational support to reinforce the lessons of cardiac rehab
- Bridges the gap between rehab and autonomy where patients just do the right thing as part of normal life
- Builds understanding of the importance of taking prescribed meds
- Addresses the concerns patients have about taking meds



- Reduce need for staff to answer endless questions about rehab and recovery from patients and their families
- Reduce ACA penalties by increasing rehab participation and comprehension
- Strong focus on communication to reduce litigation
- Increase code revenues for rehab participation
- Reduces the barriers to patients attending cardiac rehab including referral, registration, payment, transport
- Motivates patients to the next step – registering for cardiac rehab
- Provides patient and concerns patients have about cardiac rehab (including not knowing it exists).
- Motivates patients to the next step – registering for cardiac rehab
- Aims to reduce patient drop out due to work and home pressures etc.
- Provides additional literacy appropriate information to aid understanding
- Answers social question around support whilst attending, family participation etc.
- Provides emotional and informational support to reinforce the lessons of cardiac rehab
- Bridges the gap between rehab and autonomy where patients just do the right thing as part of normal life



- Reduce questions to staff about meds from patients and their families – gives consistent answers
- Reduce visits to EMD from interactions and non-adherence
- Reduce ACA penalties by increasing medication compliance
- Strong focus on meds communication and adherence to reduce litigation
- Increase code revenues for interacting with medical team with questions about side effects etc.
- Concerns that meds are causing side effects to not taking
- Avoiding interactions with foods and OTC drugs
- Tracking including prepacks, pill boxes, apps etc.
- Some people have never taken regular meds so covers the pharmacy process, prescriptions etc.
- Builds understanding of the importance of taking prescribed meds
- Addresses the concerns patients have about taking meds
- How to take meds – morning, evening, with/without food etc.
- Some people have never taken regular meds so covers the pharmacy process, prescriptions etc.
- Builds understanding of the importance of taking prescribed meds
- Addresses the concerns patients have about taking meds
- How to take meds – morning, evening, with/without food etc.
- Concerns that meds are causing side effects to not taking
- Avoiding interactions with foods and OTC drugs
- Tracking including prepacks, pill boxes, apps etc.

What happens when I leave hospital?

- Prepares patient and family for discharge process
- Provides a tool for revisiting the discharge communications including general advice and specific requirements (wound care, clearing lungs etc.)
- Note: family/carer preparation covered in separate Theme/Topics

Should I do rehab?

- Answers the questions and concerns patients have about cardiac rehab (including not knowing it exists).
- Motivates patients to the next step – registering for cardiac rehab

Can you help me get into rehab?

- Reduces the barriers to patients attending cardiac rehab including referral, registration, payment, transport
- Answers social question around support whilst attending, family participation etc.

Why should I take my meds?

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How do I get my meds?

- Some people have never taken regular meds so covers the pharmacy process, prescriptions etc.
- Builds understanding of the importance of taking prescribed meds
- Addresses the concerns patients have about taking meds
- How to take meds – morning, evening, with/without food etc.

intents and questions are selected from these topics to positively impact patient and understanding over the first 90 days

Questions and answers, including on medications, will be tested in the controlled environments of discharge and rehabilitation

theme d | my hospital stay

THEME D | MY HOSPITAL STAY

1. How do I prepare for my hospital visit?

2. Can you tell me about my surgery?

3. I'm in hospital ... what now?

4. What happens when I leave hospital?

Qualifications & Assumptions

- This Topic would typically rely on prerequisite themes and topics to explain a patient's condition and personalize the DHCC with patient specific information so the Pilot interactions will need to accommodate these gaps without creating unnecessary temporary functionality.
- The Pilot will prioritize interactions that:
 - Motivate and assist patients to perform recommended actions at home (e.g. wound care) that meet the goal of reducing any unnecessary returns to hospital by stabilizing patient health
 - Establish the motivation and ability to perform the required measurements and reporting (against codes) to monitor patient progress
 - Educate the patient on the use of code interactions for scheduled provider interactions and when assistance is required.

- Process integrated with discharge activities
- Provides ability to revisit discharge information as reminder and for caregivers
- Provides repeatable guidance on measurement and reporting

Pilot Design Objective	
	Interactions to focus on those having high impact on <90-day adverse outcomes
	Clear literacy and numeracy appropriate communications to reduce litigation
	Strong communication of measurement / reporting requirements and use of devices (using video etc. in Pilot) plus other telehealth to drive code use
	Empower caregivers (e.g. family) to understand patient recovery procedures and any equipment so as to provide emotional and physical support
	Provide early information and advice to help minimize EMD visits (this will be more fully covered in Theme E My Recovery at Home which is not in Pilot)
	Provide empathic gestures and lexical content to conversation to reduce anxiety and gain commitment
	Look for opportunities to move interactions from staff to DHCC to demonstrate how burnout loads can be reduced (limited Pilot scope)

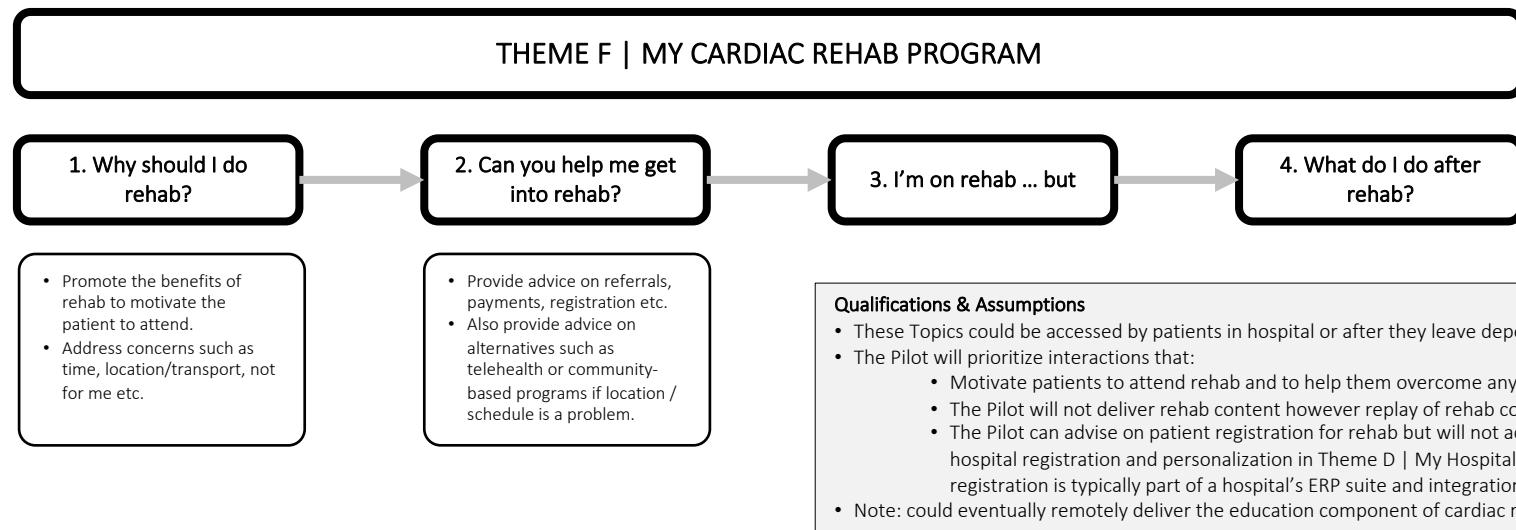
Additional Capability		Pilot Scope
	Demonstrate playback of video, image and text content as reminder and for caregivers/family and to reduce conversation complexity	IN
	Patient will be shown how to use measurement devices, report as required etc.	IN
	Calendar function would be used to record follow-up appointments etc. in DHCC – requires personalization	OUT
	Personalization would normally commence with Topic 1 and build through to 4 with specific discharge instructions	OUT
	Maps / location would be used to show where local services (drug store etc.) are located	OUT

Additional Capabilities	
	Strong Personalization
	Data Capture at Home
	Video and Images
	Time and Calendar
	Email, SMS etc.
	Machine Vision
	Location and Maps
	Calculations
	Payments

theme F | my cardiac rehab program

Denotes Pilot Scope

Denotes number of intents for topic



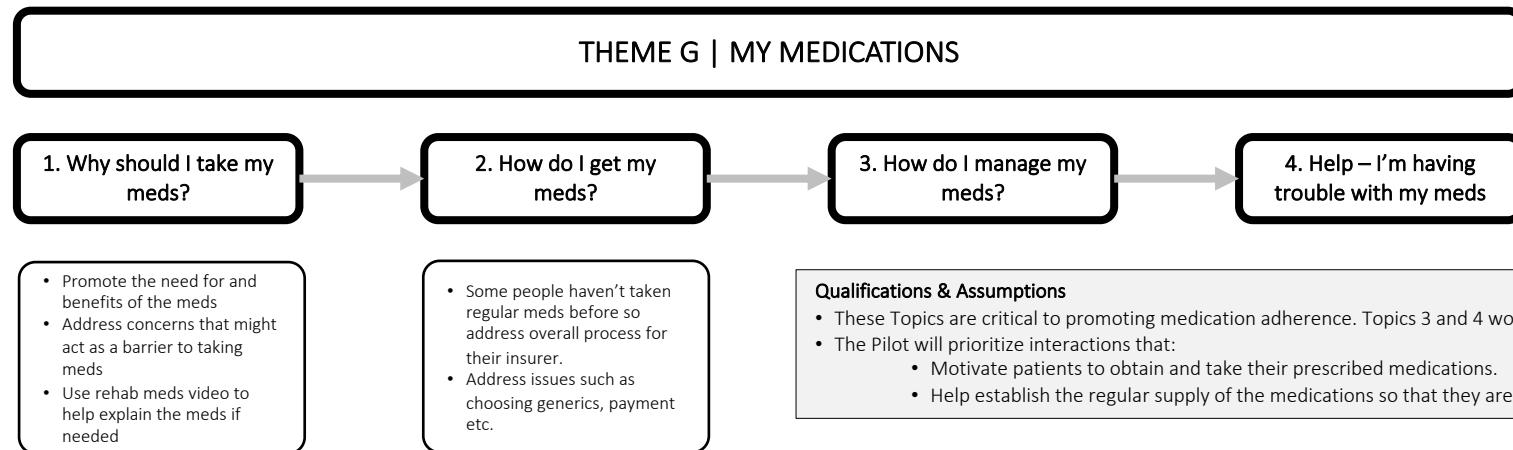
Design Objectives	
	Attract & Retain Staff
	Attract patients
	Improve patient heart health
	Reduce visits to EMD
	Increase code revenue
	Reduce penalties
	Reduce litigation
	Strong Carer Focus

	Pilot Design Objective
	Interactions to focus on those having high impact on <90-day adverse outcomes
	Clear record of patient being offered rehab and help with removing barriers to attendance using clear communications
	Include learning how to use telehealth and perform home physiologic measurements as part of benefits
	Empower caregivers (e.g. family) to understand patient cardiac rehab so as to provide emotional and physical support
	Use empathy to help overcome anxiety about attending cardiac rehab especially related to psychosocial factors.
	Look for opportunities to move interactions from staff to DHCC to demonstrate how burnout loads can be reduced (limited Pilot scope)
	Potentially draw fee paying rehab participants from other hospitals?

	Additional Capability	Pilot Scope
	Demonstrate playback of video to show how rehab can be delivered and replayed as part of the Why should I topic	IN
	Demonstrate how SMS/email can be used to provide reminders or additional information	IN?
	Calendar function would be used to remind patient of rehab appointments and 'homework' – requires personalization	OUT
	Personalization would normally commence with Topic 1 and build through to 4 with specific program tailoring	OUT
	Maps / location would be used to show where rehab services are located and transport options	OUT

Additional Capabilities	
	Strong Personalization
	Data Capture at Home
	Video and Images
	Time and Calendar
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	Machine Vision
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theme G | my medications



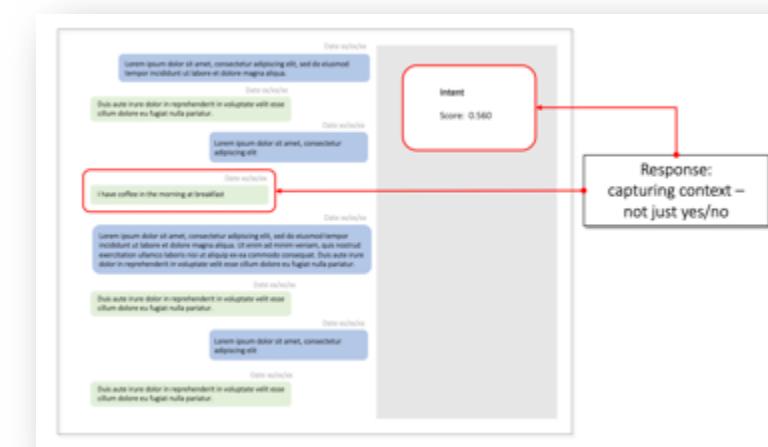
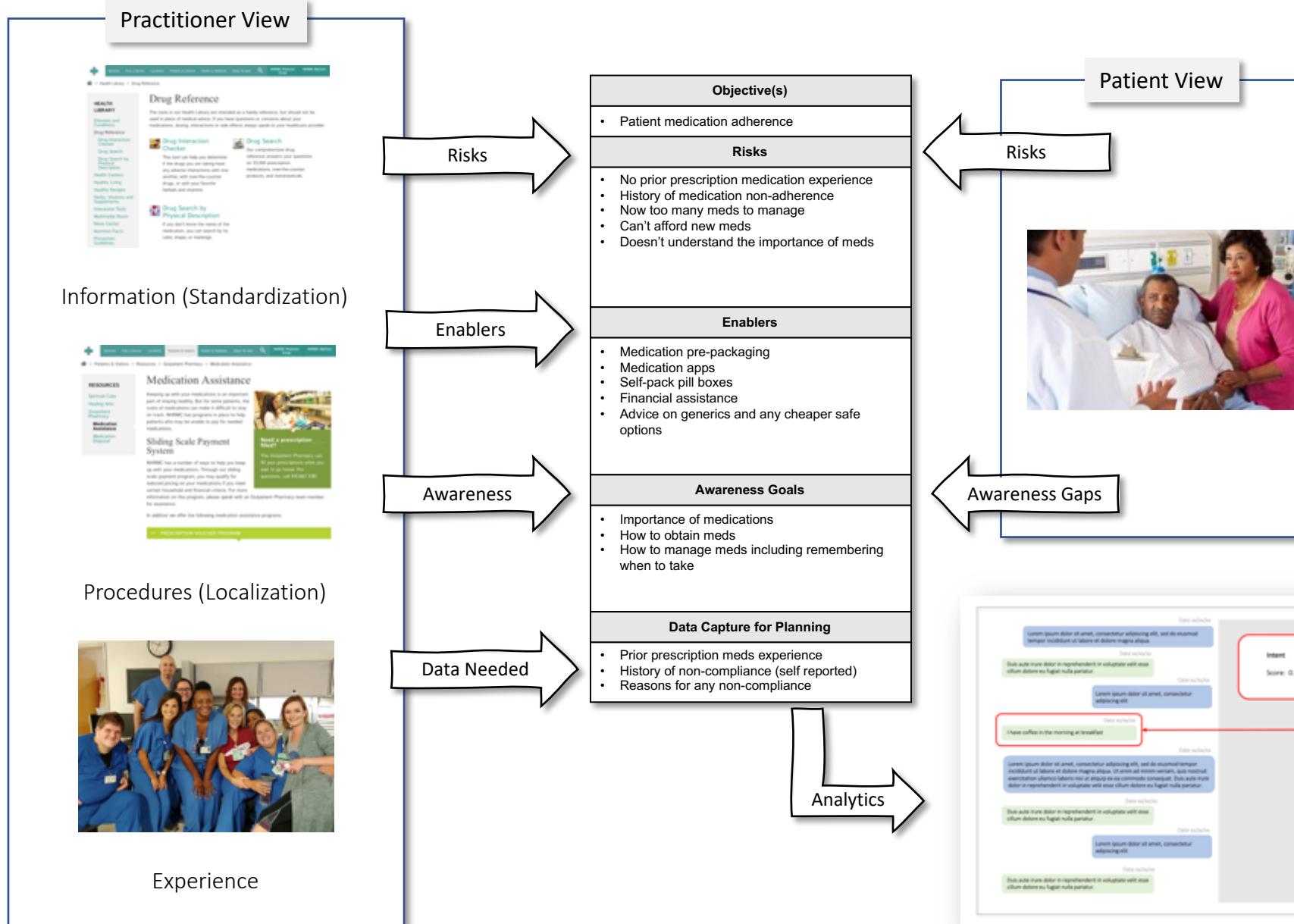
Design Objectives	
	Attract & Retain Staff
	Attract patients
	Improve patient heart health
	Reduce visits to EMD
	Increase code revenue
	Reduce penalties
	Reduce litigation
	Strong Carer Focus

	Design Objective
	Interactions to focus on those having high impact on <90-day adverse outcomes
	Clear literacy and numeracy appropriate communications to reduce litigation
	Promote code interactions if patient has concerns or requires assistance beyond those the DHCC can provide
	Empower caregivers (e.g. family) to understand patient medications so as to encourage adherence and provide emotional and physical support
	Provide a path to obtaining information about side effects to avoid EMD/hospital visits for side effects
	Provide empathetic gestures and lexical content to conversation to reduce anxiety about medications and promote adherence

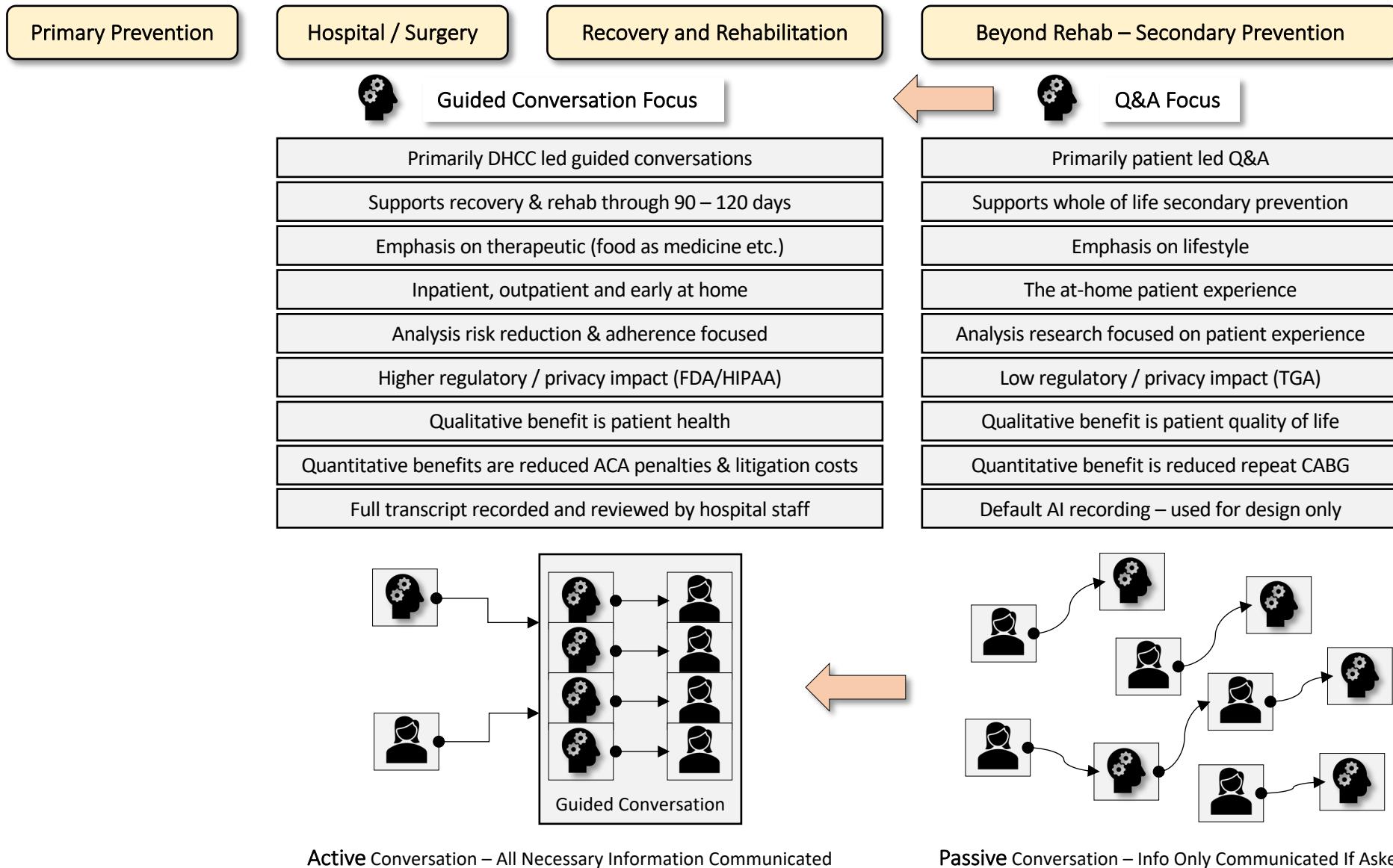
	Additional Capability	Scope
	Demonstrate playback of video in Topic 1 using typical rehab meds content (existing video content?)	IN
	Machine vision to recognize patient medications packaging. Recording of session for legal	OUT?
	Calendar function for medication taking and resupply reminders – requires personalization	OUT
	Personalization would normally commence with earlier Themes	OUT
	Maps / location would be used to show where local services (drug store etc.) are located	OUT
	Email/SMS would be useful for reminders and re-ordering as part of Topic 3	OUT

Additional Capabilities	
	Strong Personalization
	Data Capture at Home
	Video and Images
	Time and Calendar
	Email, SMS etc.
	Machine Vision
	Location and Maps
	Calculations
	Payments

codesign | combining the patient and practitioner views



difference between “guided conversations” – and Q&A



codesign for creating a guided conversation – ‘in hospital’ medications conversation

A



1. Medications awareness
2. Meds risk assessment

Comments:

- This conversation can provide valuable information to the discharge team. Patients with no prior experience will need more help with any replenishment processes.
- Prior non-adherence history or difficulties with managing meds is a flag for the rehab team to keep an eye on.
- Don't assume that 'smart business people' will be adherent. Health illiteracy can affect anyone. Medication pre-packaging can be useful simply because people are very busy or travel a lot.

Objective(s)
<ul style="list-style-type: none"> • Patient medication adherence
Risks
<ul style="list-style-type: none"> • No prior prescription medication experience • History of medication non-adherence • Now too many meds to manage • Can't afford new meds • Doesn't understand the importance of meds
Enablers
<ul style="list-style-type: none"> • Medication pre-packaging • Medication apps • Self-pack pill boxes • Financial assistance • Advice on generics and any cheaper safe options
Awareness Goals
<ul style="list-style-type: none"> • Importance of medications • How to obtain meds • How to manage meds including remembering when to take
Data Capture for Planning
<ul style="list-style-type: none"> • Prior prescription meds experience • History of non-compliance (self reported) • Reasons for any non-compliance

B

Conversation Design

- Welcome
- Context
- Data capture 1 – “Do you take any prescription medications now or have you taken them in the past?”
- Awareness - When you leave hospital we'll give you your medications to take home and explain how to get more before they run out.
- Data capture 2 – “In the past, have you always taken prescription or other medications from your pharmacist every day?”
- Awareness – Some heart patients find it hard to remember to take their meds when they get home so before you leave hospital we'll show you some ways to always remember to take your meds every day.
- Data capture 3 – “Are there any things that you think might stop you taking your medications?”
- Awareness – Don't forget, you must never stop or take less of your meds without talking to your doctor. That can make you very sick.
- Check understanding throughout conversation
- Thanks and close

C

Map to DHCC

- Check complexity (ensure comprehension) and reduce content if needed (transfer to another theme or conversation)
- Convert conversation into DHCC format
- Check pace, flow etc. – adjust as necessary
- Choose overall emotional overlay – ‘calm’, ‘upbeat’, ‘concerned’ etc.
- Add emotions and expressions to conversation
- Team test
- Independent test (e.g. nurse or SME)
- Sample patient test
- Review analysis results from tests to ensure reporting requirements are being met

A

1. Hospital core team develops objectives for each Theme.
2. They then identify the Risks & Enablers; Awareness Goals and Data Capture requirements for each objective. SME input used where necessary (e.g. dietician)
3. These are reviewed by core team leadership to ensure reduced readmission and litigation cost goals are supported.
4. Supporting themes are identified to reduce size and complexity of any one conversation.

B

1. Some hospital core team members trained in dialogue design and supported by language specialist.
2. Person to person test of each conversation before sending to DHCC team.

C

1. Some hospital core team members trained in emotions for dialogue design and supported by psychologist where necessary.
2. DHCC team does build and advises dialogue changes where required for pace and flow.

the “view” analysis and conversation are captured in tables

Illustrative example – MEDS

A

MEDICATIONS	
HOSPITAL / SURGERY (Inpatient)	RECOVERY / REHAB (At Home)
Objective	Objective
Patient medication adherence	Patient medication adherence
Risks	Risks
No prior prescription medication experience	Real or perceived side effects
History of non-adherence	Family / peer pressure to quit
Now too many meds to manage	Critical media reports
Can't afford new meds	Can't get to drug store
Don't understand importance of meds	Hospital / Surgery Identified Risks
Enablers	Enablers
Medication Pre-Packaging	Medication Pre-Packaging
Medication apps	Medication apps
Weekly/daily pill boxes (self-pack)	Weekly/daily pill boxes (self-pack)
Financial assistance pathways	Financial assistance pathways
	Family awareness information
	Online ordering & delivery
Awareness Goals	Awareness Goals
Importance of medications	Side effects requiring emergency action
Introduction to obtaining and managing meds	Not all 'side effects' from the meds
	Educate family on importance of meds
	Never stop or reduce without talking to doctor
	Online ordering processes (discharge team)
Data Capture for Planning	Data Capture for Planning
Prior prescription meds experience	Any side effects (refer to doctor/pharmacist)
History of non-compliance	Any non-adherence & reasons
Reasons for non-compliance (if yes above)	Any other concerns (e.g. taking too many meds)

B

MEDICATIONS	
Conversation Element	Conversation (Hospital / Surgery)
Welcome	Hi, I'm DHCC and I'd like to talk to you today about something that is very important for all heart patients.
Context (Awareness)	When you leave hospital you will be given some very important medications to take. These help you to keep your heart healthy and you will need to take them every day for the rest of your life.
Data Capture (Prior prescription medication experience)	Tell me, do you take any prescription medications now or have you taken them in the past?
Awareness	Ok. When you leave hospital we'll give you your medications to take home and explain how to get more before they run out.
Data Capture (Prior non-adherence)	Tell me, in the past, have you always taken prescription or other medications from your pharmacist every day?
Awareness	Thanks for that. Some heart patients find it hard to remember to take their meds when they get home so before you leave hospital we'll show you some ways to always remember to take your meds every day.
Data Capture (Potential Non-Adherence)	Are there any things that you think might stop you taking your medications?
Awareness	I often get interesting answers to that question! Some patients worry about taking too many meds or how their meds might make them feel and we'll talk to you about those before you go home. Don't forget, you must never stop or take less of your meds without talking to your doctor. That can make you very sick.
Check Understanding	Before we finish I just want to ask if you now understand how important your medications are and how you must take them as told by your doctor.
Check Understanding	And do you understand that you must never stop or take less of your meds without first talking to your doctor?
Close	Thank you for talking to me about your meds today. Don't forget, you will be told how to get your medications before you leave the hospital. If you live with a family member ask them to be with you on the last day in hospital and we'll tell them about your meds too so they can help you take them.

C

Map to DHCC



codesign process for creating a guided conversation – ‘in hospital’ home safety

A

Core Theme



MY HOSPITAL STAY

1. Leaving hospital awareness
2. Leaving hospital risk assessment
3. Going home preparation
4. Info capture for discharge planning

Supporting Themes



WHAT WILL I EAT

1. Healthy eating awareness
2. Eating risk assessment (all & HF specific)
3. Eating first days at home



HOW WILL I MOVE

1. Moving awareness
2. Moving risk assessment (all & HF)
3. Moving first few days at home

Objective(s)
• Patient Physical Safety
Risks
• Travel – home from hospital, medical appointments, cardiac rehab, groceries • Stairs – access to home, upstairs bedroom • Lifting/Pushing – luggage, children, when cooking, groceries, chairs/beds too high • Bathing – falls, burns, wound infection • Lives alone • Can't afford shower chair, stock foods etc.
Enablers
• Companion(s) who can drive the patient and lift for them • Equipment such as shower chairs • Live elsewhere for a few weeks • Stock or order healthy frozen meals online or order cooked meals • Paid companion (e.g. home care) if no family member
Awareness Goals
• How to use stairs safely • Bathing and wound care • Safe lifting and pushing • Safe travel (e.g. back seat, pillow etc.)
Data Capture for Planning
• Carer at home? • Driver who can carry items available? • Stairs at home?

B

Conversation Design

- Welcome
- Context
- Data capture 1 – “is there someone at home who can help around the house?”
- Data capture 2 – “is there someone at home who can drive you to ...?”
- Awareness – safe travel in a car
- Data capture 3 – “do you have to use stairs to get into your home or reach your bedroom?”
- Awareness – rest downstairs during the day - only sleep upstairs at night, don’t use arms to pull yourself up stairs etc.
- Data capture 3 – “do you have a shower at home”
- Awareness – need for shower chair, no hot water direct on wound etc.
- Check understanding throughout conversation
- Thanks and close

A

1. Hospital core team develops objectives for each Theme.
2. They then identify the Risks & Enablers; Awareness Goals and Data Capture requirements for each objective. SME input used where necessary (e.g. dietician)
3. These are reviewed by core team leadership to ensure reduced readmission and litigation cost goals are supported.
4. Supporting themes are identified to reduce size and complexity of any one conversation.

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1. Some hospital core team members trained in dialogue design and supported by language specialist.
2. Person to person test of each conversation before sending to DHCC team.

C

Map to DHCC

- Check complexity (ensure comprehension) and reduce content if needed (transfer to another theme or conversation)
- Convert conversation into DHCC format
- Check pace, flow etc. – adjust as necessary
- Choose overall emotional overlay – ‘calm’, ‘upbeat’, ‘concerned’ etc.
- Add emotions and expressions to conversation
- Team test
- Independent test (e.g. nurse or SME)
- Sample patient test
- Review analysis results from tests to ensure reporting requirements are being met

1. Some hospital core team members trained in emotions for dialogue design and supported by psychologist where necessary.
2. DHCC team does build and advises dialogue changes where required for pace and flow.

illustrative example – home safety

A

LEAVING HOSPITAL - HOME SAFETY	
HOSPITAL / SURGERY (Inpatient)	
Objective	
Patient physical safety	
Risks	
Lives alone	
Travel - home, appointments etc	
Stairs - home access, bedroom	
Lifting/pushing - bags, children, cooking	
Bathing - falls, burns, wound care	
Can't afford support and equipment	
Enablers	
Companion - driving, lifting etc	
Equipment - shower chair etc	
Stock freezer with frozen healthy meals	
Paid home care or care facility	
Awareness Goals	
How to use stairs safely	
How to lift/push safely	
How to travel safely	
Bathing and wound care	
Data Capture for Planning	
Status of carers and other supports	
Overall home safety - stairs etc	
History of falls/overall strength	

B

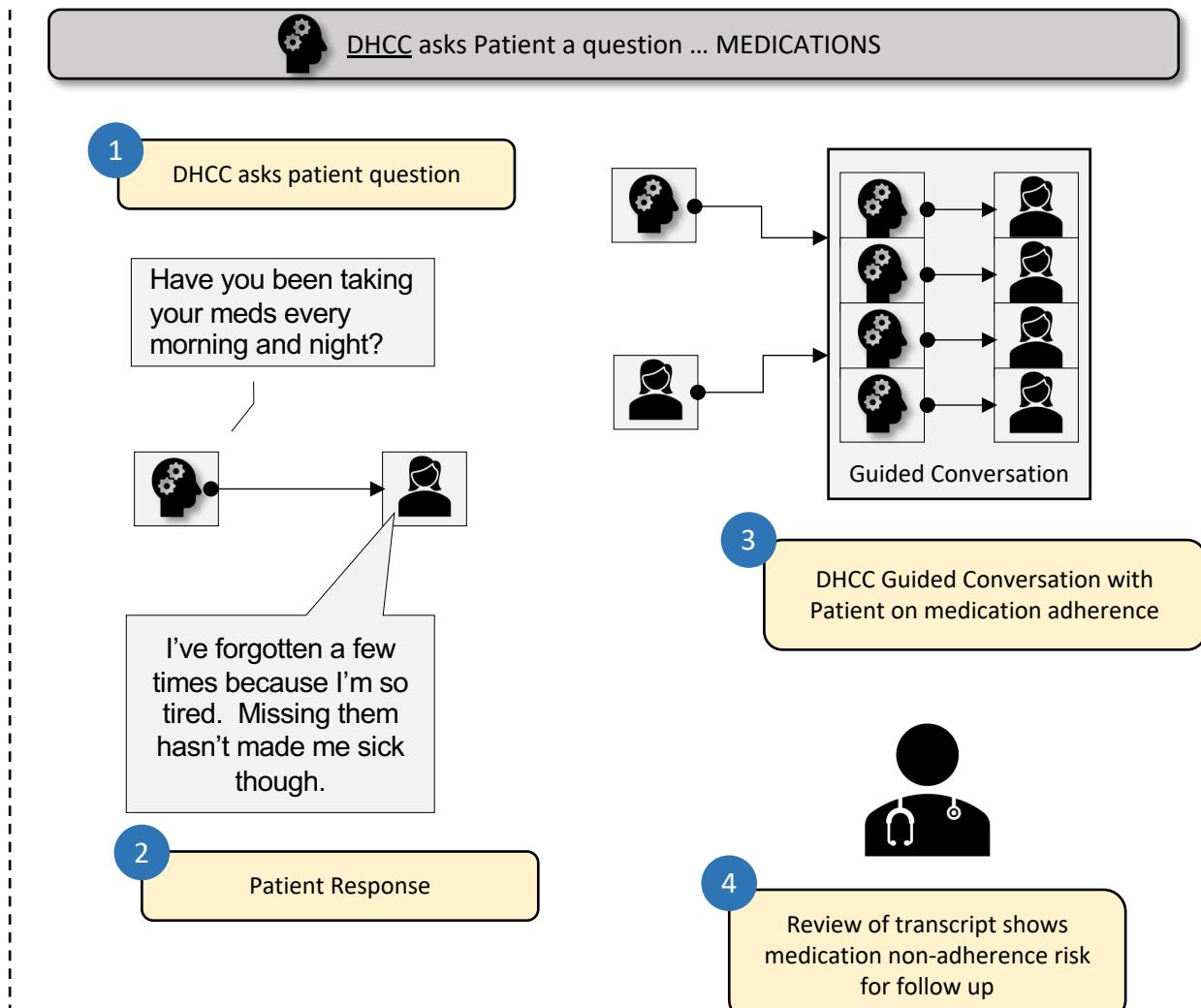
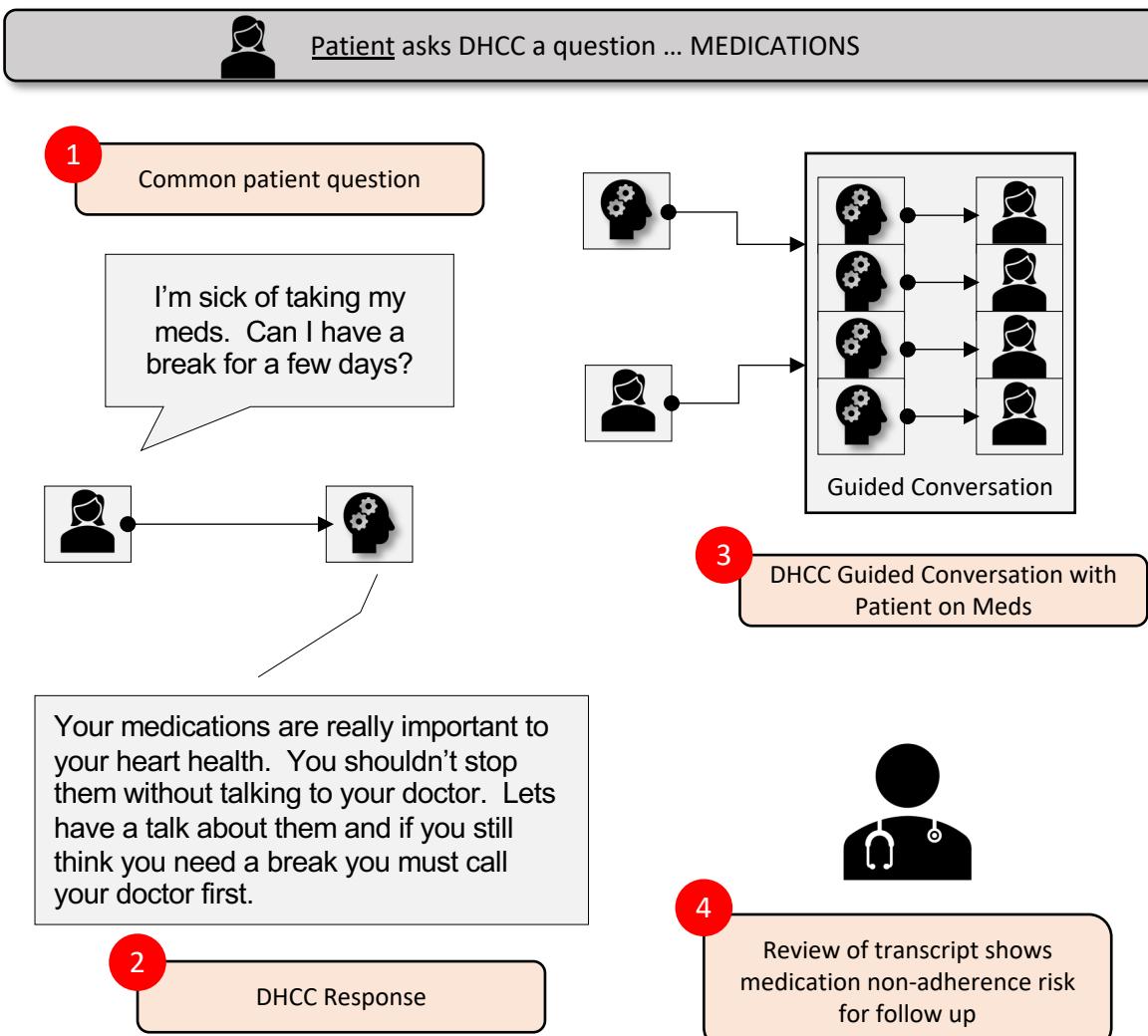
LEAVING HOSPITAL - HOME SAFETY	
Conversation Element	Conversation (Hospital / Surgery)
Welcome	Hi, I'm DHCC and I'd like to talk to you today about something that is very important for all heart patients.
Context (Awareness)	When you leave hospital you will be very sore and tired for a few weeks. You will also still be recovering from your surgery and not allowed to lift or push anything over a few pounds. You also aren't allowed to drive until your doctor says so. Is it ok if I ask you a few questions now to help you be safe at home?
Data Capture (falls history)	Ok. Have you ever fallen at home or when out. Do you get dizzy when standing or in the shower?
Data Capture (home support)	Ok, I'll make a note of that. Tell me, do you live with someone who is strong enough to look after you at home for a few weeks. They need to be able to do household chores and cooking
Data Capture (transport)	Thanks, I've got that. Now, do you have someone who can drive you home from hospital and take you to your medical appointments for a few weeks? It can be the same person helping you at home. They need to be able to help you by carrying any bags and support you walking to and from the car.
Awareness	If your home companion can't drive you can use a taxi or ride share and they can travel with you for support. Don't forget that when travelling in a car you need to sit in the back with a pillow or cushion between your chest and the seatbelt. This protects your chest wound in the case of sudden stop.
Data Capture (stairs)	Tell me, do you need to use stairs to get into your home or to go upstairs in your home?
Awareness	Thanks for that. If you have to use stairs try and make it just once or twice a day. Stop to rest every few steps and don't use your arms to pull yourself up. This can hurt your chest.
Data Capture (bathing)	Almost there, just a few more questions. Do you normally take a bath or a shower when washing yourself?
Awareness	Got that. You have to shower until the doctor says its ok to have a bath and this means no spas, saunas etc too. Don't have the water too hot and make sure you have a shower chair in case you are tired or dizzy. Finally, make sure a family member or your care companion is home in case you faint or fall.
Check Understanding	One last question. Do you now understand how important it is to have someone to look after you at home and to drive you until your doctor says you can do these things yourself?
Close	Thank you for talking to me about your home and travel safety today and answering my questions. One of the hospital team will talk to you before you go home to check that you can stay safe at home and when travelling.

C

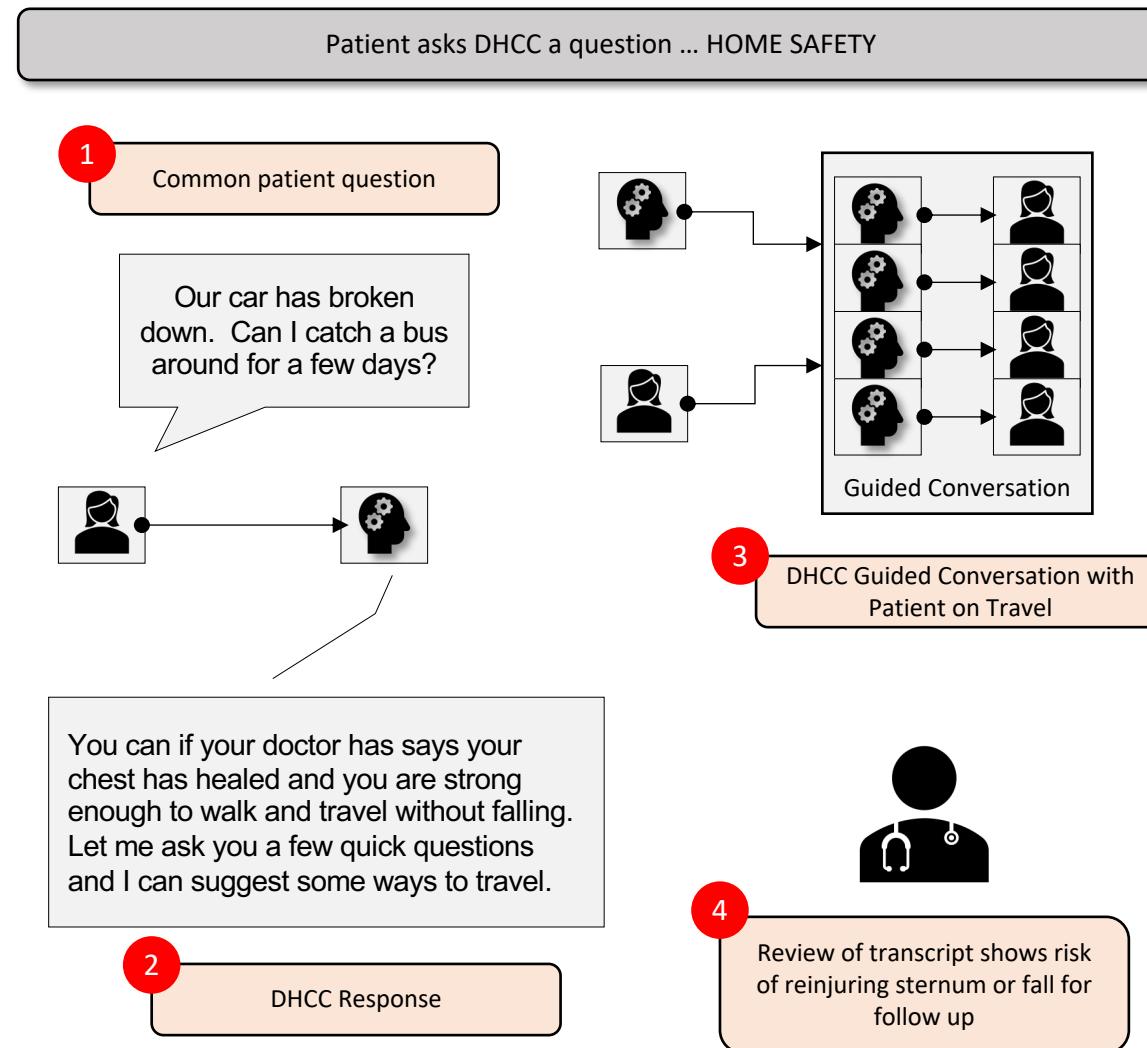
Map to DHCC



Q&A after leaving hospital triggering guided conversations / clinician support



Q&A after leaving hospital triggering guided conversations / clinician support



typical medication Q&A compiled for DHCC's AI corpus from raw patient questions

Patient Question /Concern	DHCC Response to Patient Question / Concern	Many ways patients express the question / concern – start with 10 training phrases	
INTENTS	RESPONSES	TRAINING PHRASES	TRAINING PHRASES
I want to know more about my <Medication_Synonyms>	Your prescription medications are very important for your heart health. If you want to know more about your medications you can do a virtual check-in with your doctor or pharmacist.	Where can I find out more about my <Medication_Synonyms>	Who can tell me about my <Medication_Synonyms>
I have side-effects from my <Medication_Synonyms>	If you are worried that you have side effects from your medications do a virtual check in with your doctor or pharmacist who can answer any questions you have. Don't forget, do not stop any medications until you have spoken with your doctor or pharmacist. If you feel very ill, have chest pain, or a high fever, or difficulty breathing even when seated or lying down, you should get immediate medical help.	I need help with side effects	I have <Symptom_Synonyms>
Why am I not on this <Medication_Synonyms>	Every patient is different and their doctor prescribes the medications they need. They are not missing out just because someone they know who has had the same operation is on different medications. Remember that patients cannot take someone else's heart medications as it is very dangerous.	My <Family_Member> is on <Medication_Synonyms> but I'm not	Everyone I know is on <Medication_Synonyms> but I'm not
I don't think my <Medication_Synonyms> are working	Some of a patient's heart medications work over a very long time. Patients can't tell if some of them are working just by how they feel today. That is why it is important for patients to have blood tests and other check-ups when their doctors tell them to. That is the only way to tell if these medications are working. Any patient who thinks their symptoms have returned you seek urgent medical attention.	I'm still sick	I still have my <Heart_Symptoms>
I've heard my <Medication_Synonyms> are dangerous	If you are worried about your medications you can do a virtual check in with your doctor or pharmacist who can answer any questions you have. Don't forget, do not stop any medications until you have spoken with your doctor or pharmacist. Stopping medications suddenly can be dangerous.	Can my <Medication_Symptoms> kill me	Can my <Medication_Symptoms> hurt me
I'm worried that I'm taking too many tablets	Your prescription medications are very important for your heart health. If you want to know more about your medications you can do a virtual check-in with your doctor or pharmacist.	Why am I taking so many <Medication_Synonyms>	I'm taking 10 <Medication_Synonyms> every day
I'm worried about long term side effects	If you are worried that you have side effects from your medications do a virtual check in with your doctor or pharmacist who can answer any questions you have. Don't forget, do not stop any medications until you have spoken with your doctor or pharmacist. If you feel very ill, have chest pain, or a high fever, or difficulty breathing even when seated or lying down, you should get immediate medical help.	Do I have to take my <Medication_Synonyms> forever	I've heard that taking <Medication_Synonyms> for a long time is dangerous
I don't know how to travel with my <Medication_Synonyms>	If you are travelling overseas you need to check if the countries you are visiting prohibit your medications. This is especially important for pain killers. You will need a letter from your doctor listing all medications and the dosages. It is a good idea to take unopened packages of your drugs. Customs officers might not let you take unpackaged drugs into the country. Always declare the drugs you are taking into the country. If you want to know more about travelling with your drugs you can do a virtual check-in with your doctor or pharmacist.	Can I take my <Medication_Synonyms> overseas	What do I do about my <Medication_Synonyms> when I go overseas for work
Can I take a holiday from my <Medication_Synonyms>	If you are worried that you have side effects from your medications or want to stop taking them for other reasons do a virtual check in with your doctor or pharmacist who can answer any questions you have. Don't forget, do not stop any medications until you have spoken with your doctor or pharmacist. Stopping medications suddenly can be dangerous.	I need to stop taking my <Medication_Synonyms> for a few weeks	I need to stop taking my <Medication_Synonyms> for a few days
Can I reduce the dose of the <Medication_Synonyms>	If you are worried about your medications you can do a virtual check in with your doctor or pharmacist who can answer any questions you have. Don't forget, do not stop any medications until you have spoken with your doctor or pharmacist. Stopping medications suddenly can be dangerous.	Can I take less of my <Medication_Synonyms>	Is it ok to cut my <Medication_Synonyms> in half to save money
Is there an alternative to the <Medication_Synonyms> I am taking	If you are worried about your medications you can do a virtual check in with your doctor or pharmacist who can answer any questions you have. Don't forget, do not stop any medications until you have spoken with your doctor or pharmacist. Stopping medications suddenly can be dangerous.	What other brands can I take	My current brand of meds are too expensive
Can I take multi-vitamins with my <Medication_Synonyms>	If you are worried that you might have interactions from your medications do a virtual check in with your doctor or pharmacist who can answer any questions you have. Interactions can be with other prescription drugs, with over the counter vitamins and remedies and with some common foods.	What multi-vitamins can I take	Can I take {list any common vitamins and supplements}

DHCC's knowledge and conversations overall = guided conversations + Q&A + emotions/expressions

MEDICATIONS	
Conversation Element	Conversation (Hospital / Surgery)
Welcome	Hi, I'm Hanna and I'd like to talk to you today about something that is very important for all heart patients
Context (Awareness)	When you leave hospital you will be given some very important medications to take. These help you to keep your heart healthy and you will need to take them every day for the rest of your life.
Data Capture (Prior prescription medication experience)	Tell me, do you take any prescription medications now or have you taken them in the past?
Awareness	Ok. When you leave hospital we'll give you your medications to take home and explain how to get more before they run out.
Data Capture (Prior non-adherence)	Tell me, in the past, have you always taken prescription or other medications from your pharmacist every day?
Awareness	Thanks for that. Some heart patients find it hard to remember to take their meds when they get home so before you leave hospital we'll show you some ways to always remember to take your meds every day.
Data Capture (Potential Non-Adherence)	Are there any things that you think might stop you taking your medications?
Awareness	I often get interesting answers to that question! Some patients worry about taking too many meds or how their meds might make them feel and we'll talk to you about those before you go home. Don't forget, you must never stop or take less of your meds without talking to your doctor. That can make you very sick.
Check Understanding	Before we finish I just want to ask if you now understand how important your medications are and how you must take them as told by your doctor.
Check Understanding	And do you understand that you must never stop or take less of your meds without first talking to your doctor?
Close	Thank you for talking to me about your meds today. Don't forget, you will be told how to get your medications before you leave the hospital. If you live with a family member ask them to be with you on the last day in hospital and we'll tell them about your meds too so they can help you take them.

MEDICATIONS	
Conversation Element	Conversation (Hospital / Surgery)
Welcome	Hi, I'm Hanna and I'd like to talk to you today about something that is very important for all heart patients
Context (Awareness)	When you leave hospital you will be given some very important medications to take. These help you to keep your heart healthy and you will need to take them every day for the rest of your life.
Data Capture (Prior prescription medication experience)	Tell me, do you take any prescription medications now or have you taken them in the past?
Awareness	Ok. When you leave hospital we'll give you your medications to take home and explain how to get more before they run out.
Data Capture (Prior non-adherence)	Tell me, in the past, have you always taken prescription or other medications from your pharmacist every day?
Awareness	Thanks for that. Some heart patients find it hard to remember to take their meds when they get home so before you leave hospital we'll show you some ways to always remember to take your meds every day.
Data Capture (Potential Non-Adherence)	Are there any things that you think might stop you taking your medications?
Awareness	I often get interesting answers to that question! Some patients worry about taking too many meds or how their meds might make them feel and we'll talk to you about those before you go home. Don't forget, you must never stop or take less of your meds without talking to your doctor. That can make you very sick.
Check Understanding	Before we finish I just want to ask if you now understand how important your medications are and how you must take them as told by your doctor.
Check Understanding	And do you understand that you must never stop or take less of your meds without first talking to your doctor?
Close	Thank you for talking to me about your meds today. Don't forget, you will be told how to get your medications before you leave the hospital. If you live with a family member ask them to be with you on the last day in hospital and we'll tell them about your meds too so they can help you take them.

MEDICATIONS	
Conversation Element	Conversation (Hospital / Surgery)
Welcome	Hi, I'm Hanna and I'd like to talk to you today about something that is very important for all heart patients
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Data Capture (Prior prescription medication experience)	Tell me, do you take any prescription medications now or have you taken them in the past?
Awareness	Ok. When you leave hospital we'll give you your medications to take home and explain how to get more before they run out.
Data Capture (Prior non-adherence)	Tell me, in the past, have you always taken prescription or other medications from your pharmacist every day?
Awareness	Thanks for that. Some heart patients find it hard to remember to take their meds when they get home so before you leave hospital we'll show you some ways to always remember to take your meds every day.
Data Capture (Potential Non-Adherence)	Are there any things that you think might stop you taking your medications?
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Check Understanding	Before we finish I just want to ask if you now understand how important your medications are and how you must take them as told by your doctor.
Check Understanding	And do you understand that you must never stop or take less of your meds without first talking to your doctor?
Close	Thank you for talking to me about your meds today. Don't forget, you will be told how to get your medications before you leave the hospital. If you live with a family member ask them to be with you on the last day in hospital and we'll tell them about your meds too so they can help you take them.

INTENTS	RESPONSES	TRAINING PHRASES	TRAINING PHRASES
I want to know more about my <Medication_Synonyms>	Your prescription medications are very important for your heart health, if you want to know more about your medications you can do a virtual check-in with your doctor or pharmacist.	Where can I find out more about my <Medication_Synonyms>	Who can tell me about my <Medication_Synonyms>
I have side-effects from my <Medication_Synonyms>	If you are worried that you have side effects from your medications do a virtual check-in with your doctor or pharmacist who can answer any questions you have. Don't forget, do not stop any medications until you have spoken with your doctor or pharmacist. If you feel very ill, have chest pain, or a high fever, or difficulty breathing even when seated or lying down, you should get immediate medical help.	I need help with side effects	I have <symptom_Synonyms>
Why am I not on this <Medication_Synonyms>	Every patient is different and their doctor prescribes the medications they need. They are not missing out just because someone they know has had the same operation or on different medications. Remember that patients cannot take someone else's heart medications as it is very dangerous.	My <Family_Member> is on <Medication_Synonyms> but I'm not	Everyone I know is on <Medication_Synonyms> but I'm not
I don't think my <Medication_Synonyms> are working	Some of a patient's heart medications work over a very long time. Patients can't tell if some of them are working just by how they feel today. That is why it is important for patients to have blood tests and other check-ups when their doctors tell them to. That is the only way to tell if these medications are working. Any patient who thinks their symptoms have returned you seek urgent medical attention.	I'm still sick	I still have my <Heart_Symptoms>
I've heard my <Medication_Synonyms> are dangerous	If you are worried about your medications you can do a virtual check-in with your doctor or pharmacist who can answer any questions you have. Don't forget, do not stop any medications until you have spoken with your doctor or pharmacist. Stopping medications suddenly can be dangerous.	Can my <Medication_Symptoms> kill me	Can my <Medication_Symptoms> hurt me
I'm worried that I'm taking too many tablets	Your prescription medications are very important for your heart health, if you want to know more about your medications you can do a virtual check-in with your doctor or pharmacist.	Why am I taking so many <Medication_Synonyms>	I'm taking 10 <Medication_Synonyms> every day
I'm worried about long term side effects	If you are worried that you have side effects from your medications do a virtual check-in with your doctor or pharmacist who can answer any questions you have. Don't forget, do not stop any medications until you have spoken with your doctor or pharmacist. If you feel very ill, have chest pain, or a high fever, or difficulty breathing even when seated or lying down, you should get immediate medical help.	Do I have to take my <Medication_Synonyms> forever	I've heard that taking <Medication_Synonyms> for a long time is dangerous
I don't know how to travel with my <Medication_Synonyms>	If you are travelling overseas you need to check if the countries you are visiting prohibit your medications. This is especially important for pain killers. You will need a letter from your doctor listing all medications and the dosages. It is a good idea to take unopened packages of your drugs. Customs officers might not let you take unpackaged drugs into the country. Always declare the drugs you are taking into the country. If you want to know more about travelling with your drugs you can do a virtual check-in with your doctor or pharmacist.	Can I take my <Medication_Synonyms> overseas	What do I do about my <Medication_Synonyms> when I go overseas for work
Can I take a holiday from my <Medication_Synonyms>	If you are worried that you have side effects from your medications or want to stop taking them for other reasons do a virtual check-in with your doctor or pharmacist who can answer any questions you have. Don't forget, do not stop any medications until you have spoken with your doctor or pharmacist. Stopping medications suddenly can be dangerous.	I need to stop taking my <Medication_Synonyms> for a few weeks	I need to stop taking my <Medication_Synonyms> for a few days
Can I reduce the dose of the <Medication_Synonyms>	If you are worried about your medications you can do a virtual check-in with your doctor or pharmacist who can answer any questions you have. Don't forget, do not stop any medications until you have spoken with your doctor or pharmacist. Stopping medications suddenly can be dangerous.	Can I take less of my <Medication_Synonyms>	It is ok to cut my <Medication_Synonyms> in half to save money
Is there an alternative to the <Medication_Synonyms> I am taking	If you are worried about your medications you can do a virtual check-in with your doctor or pharmacist who can answer any questions you have. Don't forget, do not stop any medications until you have spoken with your doctor or pharmacist. Stopping medications suddenly can be dangerous.	What other brands can I take	My current brand of meds are too expensive
Can I take multi-vitamins with my <Medication_Synonyms>	If you are worried that you might have interactions from your medications do a virtual check-in with your doctor or pharmacist who can answer any questions you have. Interactions can be with other prescription drugs, with over-the-counter vitamins and remedies and with some common foods.	What multi-vitamins can I take	Can I take [list any common vitamins and supplements]

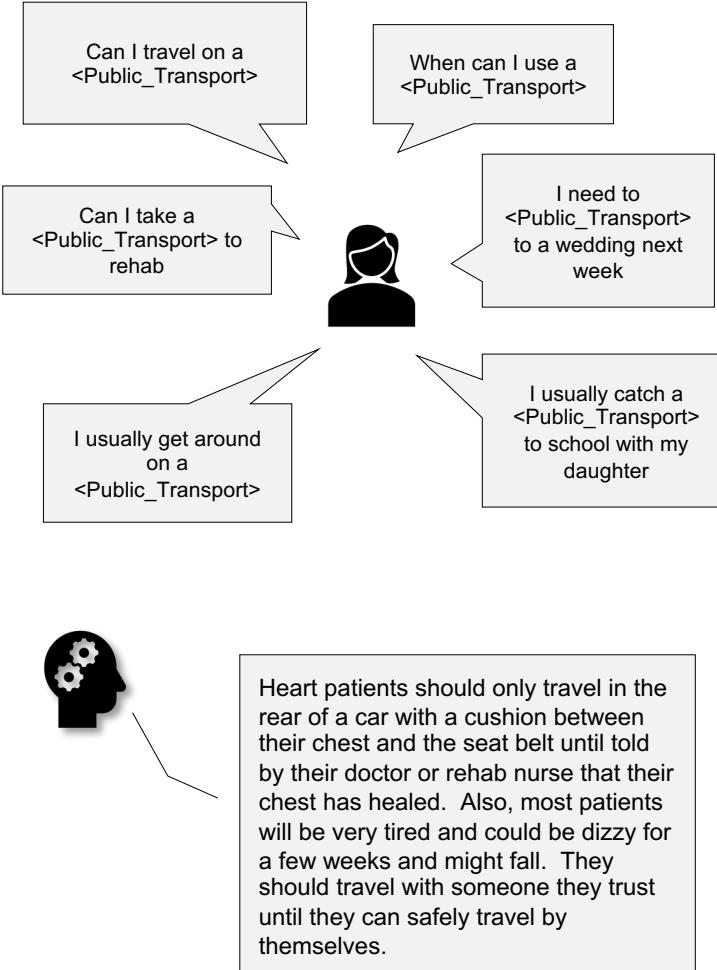
accelerator:

50 synonym sets to simplify patient questions / concerns & training phrases

ENTITY QUICK FIND	
Column Ref	ENTITY NAME
1	<Family_Member>
2	<Home_Synonyms>
3	<Doctor_Synonyms>
4	<Medication_Synonyms>
5	<Medical_Test_Synonyms>
6	<Problem_Synonyms>
7	<Recommended_Lifestyle_Changes>
8	<Relax_Synonyms>
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airline
bus
coach
ferry
fly
intercity
light rail
mass transit
metro
plane
rail
rapid transit
subway
train
tram
transit



localization can add to these

accelerator: sample raw patient questions and concerns | medications & cardiac rehab

COMMON MEDICATIONS QUESTIONS FROM PATIENT FORUMS	
I want to know more about my medications	how many times a day you have to take the medication
I have side-effects from my medications	the risks of taking the medication, including side effects
Why am I not on this medication	the total number of pills you take in a day
I don't think my medications are working	how well you perceive the medication to be working
I've heard my medications are dangerous	the cost of the medication
I'm worried that I'm taking too many tablets	Are expired drugs still safe to take?
I'm worried about long term side effects	Can grapefruit juice interact with my medications?
I don't know how to travel with my medications	How do I avoid errors when taking my prescriptions?
Can I take a holiday from my medications	How do I manage common drug side effects?
Can I reduce the dose of the medication	How do I prevent a drug interaction?
Is there an alternative to the medication I am taking	How do I remember to take my medications?
Can I take multi-vitamins with my medications	How do I stop my medication safely?
Can I take multi-vitamins with my condition	How to Safely Dispose of Your Old Medications
Does this supplement help reduce side effects	Imprint Code FAQs - For Oral Medications
I've heard my medication (painkiller) is addictive	Is pill splitting a safe way to save on prescription drug costs?
Is this food safe to have with my medications	Medical Conversions - How do I convert teaspoons to ml etc...?
I can't afford my medications	What are pharmaceutical salt names?
I've been told this medication doesn't work	What are the risks vs. benefits of medications?
How long do I need to take this medication for	What do these medical abbreviations mean on my prescription?
I have trouble remembering to take my medications	What is the Half-life of a Drug?
Why is it so important to take my medications?	What is the placebo effect?
Do we take our medications properly?	What is a generic drug
What are some of the consequences of not taking medications properly?	Are generic drugs as safe as brand name drugs
I don't always remember to take my medication. What should I do?	Why are generic drugs cheaper
How can I fit my medication into my schedule?	Are generic drugs always cheaper
I don't like taking my medication in front of people. What should I do?	Why do generic and brand name drugs look different
How should I store my medication?	Does every brand name drug have a generic drug
My medication doesn't seem to be working. What's going on?	What is a branded generic
I am worried about the side effects of the medication – what should I do?	Who can develop a branded generic
My medication tastes bad – what can I do?	Are branded generics more expensive than the generic
How can I make my medication easier to swallow?	What are authorized generics
My medication container is hard to open – what should I do?	My doctor says I am at risk of a heart attack or stroke. Why can a statin medicine help
Taking my medications away from home – what do I need to know?	Why can high cholesterol levels be harmful
What do I do with my medications if I don't need them anymore	How do statins lower cholesterol
how easy it is to take the medication	Who should be prescribed a statin
Is it true that statins give you diabetes	What about statins' side effects
I'm still not sure if I should take a statin, what should I do	Can statins cause muscle problems
Are statins the only way to manage absolute cardiovascular risk	Can statins cause memory loss

What is cardiac rehab	Is cardiac rehab right for me	What are the benefits of cardiac rehab
What is cardiac rehab	Is the cardiac rehab program tailored to my needs	What are the benefits of cardiac rehab
What happens in cardiac rehab	Isn't cardiac rehab one size fits all	Do I have to do rehab to get better
What happens at cardiac rehab	Is cardiac rehab for women	Will rehab help me get better
What should I expect during cardiac rehab	Is cardiac rehab for hispanics	Will rehab help me get back to where I was before surgery
Does cardiac rehab cover diet (eating)	Is cardiac rehab for African-Americans	Will I be able to play sport again after cardiac rehab
Does cardiac rehab cover exercise	I don't speak good english	Will I be able to run again after cardiac rehab
Does cardiac rehab cover stress	I can't write in english	Will rehab stop me having another heart attack
Does cardiac rehab cover quitting smoking	I can't read english	Will I need surgery again if I do cardiac rehab
Will cardiac rehab help me understand what happened to me	Will I have to do the same exercises as men	Will I be able to swim again after cardiac rehab
Will cardiac rehab help me understand my drugs (meds etc)	I have cancer (or other comorbidity)	Will I be able to go back to work after cardiac rehab
Does cardiac rehab cover getting back to work	I get too tired when I exercise	Will cardiac rehab help me
Where can I learn about cardiac rehab	It hurts when I exercise	Is cardiac rehab right for me
Is cardiac rehab one size fits all	I'm disabled	Who needs cardiac rehab
Will I exercise on my own at cardiac rehab	Isn't cardiac rehab for old people, I'm only <55	When do I do cardiac rehab
What qualifications do the cardiac rehab staff have	I'm too old for cardiac rehab, I'm >70	When do I do cardiac rehab
How often will I need to go to rehab		
How long does rehab last	How do I get on cardiac rehab	When do I do cardiac rehab
How long does each rehab session last		Can I do rehab later
	Do I need a referral from my doctor to start cardiac rehab?	Can I stop and restart cardiac rehab
Where can I do cardiac rehab	My doctor is always so busy. How can I get a referral with so little time to communicate?	When will I do cardiac rehab
Where can I do cardiac rehab	Can I bring someone with me to cardiac rehab	When will I start cardiac rehab
Do I do cardiac rehab at the hospital		How soon can I start rehab
Can I do cardiac rehab at home	Can someone come to cardiac rehab with me for support	When should I start cardiac rehab
What other options are there besides rehab	Can my family do cardiac rehab with me	What happens at cardiac rehab
I can't get to rehab		
How do I choose the right rehab program	I'm not sure about cardiac rehab	What will I do at rehab
Can I do rehab at my local gym		Do we learn what we can eat at rehab
Where can I get cardiac rehab	Are there any risks when doing cardiac rehab	I've heard you do exercise at rehab
Where do you do rehab	What happens if I have a heart attack at cardiac rehab	My friend told me you do tests at rehab

Patient Forums	Patient Forums - Web Address	Comment
Patients Like Me	https://www.patientslikeme.com/conditions/coronary-artery-disease	Great overall resource - includes research
Heart Sisters	https://myheartsisters.org/tag/online-patient-forums/	Great for female perspective
Heart Patient Discussion Forum	http://www.nrca.org/forumtopics/forumtopics.html	Has post count which is useful
American Heart Association	https://supportnetwork.heart.org/connect-with-people-like-me/heart/heart-attack/	Has answers from medics but often obtuse
HealthUnlocked	https://healthunlocked.com	Answers not mediated by medical staff

Other Resources (from Methodology)		
New Hanover Regional Medical Center	https://www.nhrmc.org/	Client site - varies by project
National Heart Foundation Australia	https://www.heartfoundation.org.au/	Industry body - Asia
American Heart Association	https://www.heart.org/	Industry body - US
Mayo Clinic	https://www.mayoclinic.org/	Virtual world for rehab
Cleveland Clinic	https://my.clevelandclinic.org/	Useful 'how to' (pulse, BP etc) in health library
Drugs.com	https://www.drugs.com	Great Q&A resource for medications
Kaiser Permanente	https://healthy.kaiserpermanente.org/	A leading insurer/provider across US
Alberta Health	https://www.alberta.ca/health.aspx	Best in class video content across most Themes/Topic
Northwestern Medicine	https://www_nm.org/	Great online heart health assessment
Columbia Surgery	https://columbiasurgery.org/	Columbia HeartSource
NPS MedicineWise	https://www.nps.org.au	Great medications resource
Cedars Sinai	https://www.cedars-sinai.org	Health library and 30 cardiology videos
Scripps Health	https://www.scripps.org/health-and-wellness	Useful background video content by practitioners
Veterans Affairs USA	https://www.va.gov/	Largest government provider in US

100's of questions and answers already sourced
from around the world

*There is no one source of information for
the corpus – research, deep experience
and codesign are critical*

sample rehab intents by topic – strictly illustrative – detail in corpus documents

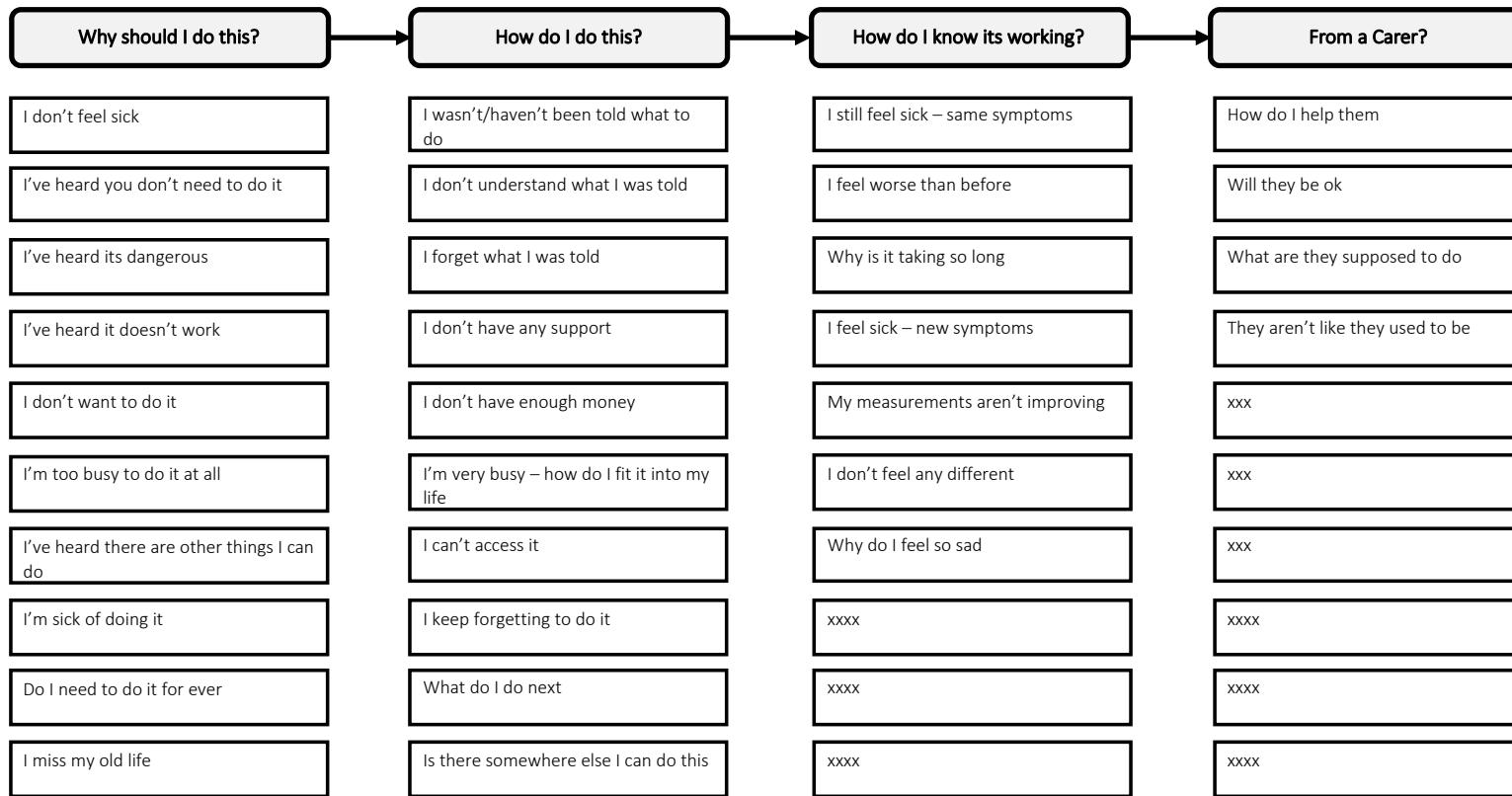
THEME CARDIAC REHABILITATION			
Should I do rehab?	Can you help me get into rehab?	I'm on rehab ... but?	What do I do after rehab?
What is cardiac rehab When will I do rehab I don't have the time to do rehab Do I have to do rehab to get better Can I do rehab later Where do you do rehab I'm too old to get any benefit from rehab I'm too sick to do rehab What other options are there besides rehab I'm too busy to do rehab What are the benefits of cardiac rehab What happens in cardiac rehab How does cardiac rehab help me How long does rehab go for Will rehab help me Who needs cardiac rehab How long is cardiac rehab What are the benefits of cardiac rehab What should I expect before cardiac rehab What should I expect during cardiac rehab What should I expect after cardiac rehab What happens at cardiac rehab Who should go to cardiac rehab Will I exercise on my own How often will I need to go How long does it last When should I start cardiac rehab What are the risks of cardiac rehab What qualifications do the cardiac rehab staff have Is cardiac rehab one size fits all Is the cardiac rehab program tailored to my needs Will cardiac rehab help me with everyday tasks at home	Do I need a referral from my doctor to start cardiac rehab? My doctor is always so busy. How can I get a referral with so little time to communicate? I can't get to rehab I don't have anyone to support me doing rehab How do I choose the right rehab program How do I get onto cardiac rehab Can I do rehab at my local gym How soon can I start rehab I can't afford rehab Where can I get cardiac rehab What should I consider when choosing a cardiac rehab program Can someone come to cardiac rehab with me for support Can my family do cardiac rehab with me Can I do cardiac rehab at home	I'm not ready to finish rehab Will I be asked to leave rehab if I can't stop smoking Can cardiac rehab show me where to get travel insurance Can I stay at cardiac rehab until I feel ready to leave	Where can I go after rehab What do I need to do after rehab

Illustrative only

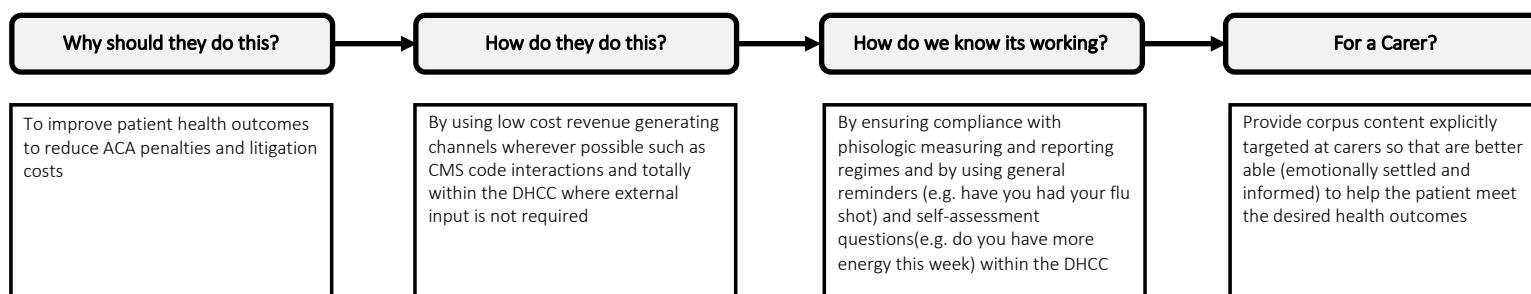
aligning patient intents/questions/answers



Patient



DHCC



Key Issues:

1. Balance is personality driven – a shy patient might require more DHCC initiated conversations whereas an extrovert might require the DHCC to ‘push in’ its conversational requirements to ensure they are met.
2. The mix could be subtly changed over time as the patient becomes more familiar with the DHCC
3. Psychologist input can help insert some simple baseline questions to determine broad personality type as part of initial personalization
4. Machine learning could then ‘drift’ the question mix for each personality type and (possible future functionality) tailor for each patient through personalization.

templates to develop & document intents and questions for corpus | full system development will use co-design

Intents	Answers	Specialized	Localizations Required			
		Yes/No	Administrative	Procedural	Terminology	Cultural
Do I need any equipment when I go home	You will be told by the hospital what things you will need, how to get them and if you will need to pay.	No	Who informs the patient and what is policy on free issue, loans and purchase			
Can I stay in hospital if I'm not ready to go home	Your hospital team will assess you to see if you are physically ready to go home. They can arrange counselling if you have concerns and can make arrangements for home support if needed.	No	Who will arrange counselling, make home support arrangements etc. and what payment required	Where do these sit in relation to discharge – prior, during etc. What are the home care options (if any) including special care home if unable to go to own home		

Intents	Answers	Follow On Intents		Included Content		
		Next Intent	Next Answer	Video	Image/Text	CMS Code Interaction
I keep forgetting to take my medications	That's ok, it can be hard to remember anything at all when you first come home after hospital. Your druggist can pack your meds so it's easier to remember and take them but you can also use a diary or an app. Would you like me to show you the rehab video on medications that can explain these to you?	Can I see it later, I'm too tired today	Yes, you can ask me anytime and I'll remind you tomorrow morning.	Yes		
I think my meds are giving me a rash	A mild rash can be a side effect from some heart meds but it usually goes away. If you are worried about it you can take a photo of the rash and send it to your doctor to have a look at it (CMS coded conversation).	I can't remember how to do that	That's ok, I'll show you how to take the photo and send it to your doctor.	Yes – how to take photo and send to doctor	Yes, as an alternative to the video	Yes

INTENT	Am I allowed to lift things when I get home	Do I need any equipment when I go home	How will I get home from hospital
ANSWER	Your chest can take up to 3 months to heal, like any broken bone so you need to be very careful. You will have been told what you can lift and how when you left hospital but I can remind you now if you like. You can't lift things like groceries, children and suitcases until cleared by your doctor.	You will be told by the hospital what things you will need and how to get them. {procedural and administrative localizations}	If you don't have family to pick you up and drive you home you can use a cab but make sure you sit in the back and place your cushion between your chest and the seatbelt. If you don't know how you will get home talk to the discharge nurse. Don't forget that you won't be able to carry any suitcases or equipment you are taking home so the cab driver or someone else will need to help
QUESTIONS	Can I lift my children when I get home	Do I need to buy anything for home	I don't know how I will get home
	Can I carry my children when I get home	Do I need to take anything home from the hospital	Can I catch a bus home
	Can I carry the groceries when I get home	Do my family need to buy anything for me to go home	My partner can't drive
	Can I lift weights at the gym		Can I walk home

- Team provides spreadsheet populated with Intents and Answers and indicator if specialized for cardiac (i.e. would need changes for cancer etc.). This indicator is important because have asked about deploying to other chronic conditions.
- Team documents any localizations information.

- Team will inventory available videos/images etc. with them so we know easy availability for Pilot – need to consider them licensing us to use these in Pilot for other potential customers
- Propose follow on intents/answers/content for the purpose of the Pilot so as to manage effort, usability and general applicability

- Team will brainstorm initial question variants
- Assess if sufficient volume and variation to feed the AI engine and machine learning

core SME design principles

Design Principle	Definition	Rationale
Reduce conversation complexity	Natural empathic conversations are supported by embedded features (video, images, maps, text etc.)	Overly conversational can be difficult to understand and more costly to produce. Also, some concepts cannot be simply explained using words.
Postponement	Postponement is where variation is delayed until required.	Any variations in the middle of an answer reduce efficiency and effectiveness. Offering a video replay or telehealth consultation at the end of an answer facilitates connection to the next step e.g. playing the video or seeking clarification. Also, this facilitates the later addition of video content, telehealth consultations etc. to answers that don't initially support them.
Ease of Modification	Ease of modification is the use of small modules that can be easily changed or replaced	Corpus content will change over time because of R&D, regulatory and policy changes and so on. Long conversations, long videos etc. can all be difficult to change. For example, changes to a long rambling video might require a full reshoot whereas changing a small discrete segment in a structured longer video can be achieved with editing tools. The same applies to answers and conversations.
Choose Conversation for Empathy	Certain intents and answers are emotionally loaded and conversation is preferred	Videos etc. are a 'one size emotion fits all' which is ok for supplementing many intents and answers. However, where empathy is critical for adherence etc. a lead in empathic conversation is required before using any video content followed by a short empathic clarification to check understanding and acceptance.
Consider Exit and Re-Entry Points	Every conversation needs to allow for the patient to exit and then, if required, re-enter	Exit points are mandatory for certain intents and answers that have an emergency component. For example, an intent to discuss a medication side effect will require an exit to an emergency pathway if the side effect is classed as dangerous (e.g. difficulty breathing, chest pain, bleeding). Re-entry points are required where the exit is temporary/non-emergency such as where the patient needs to go get a drink of water, wants to ask a side question etc.
Designing for Long Cycle Interactions	Psychologists are required to ensure that conversations over time meet design objectives	Each individual conversation can have a transitory emotional outcome but over time the cumulative result can turn a digital human from a role such as coach into a relationship such as mentor. This is especially true for more vulnerable patients. Psychologists advise on the empathy content of individual conversations and are also required to help design long cycle interactions with monitoring questions.
'Chunkories' of Memory	Answers and conversations should include no more than 3 to 5 concepts.	Research in the 80s identified the inability of humans to hold more than 3 to 5 concepts in their mind at the one time without writing them down. For very simple concepts such as lists the digital human might include 5 items such as don't smoke, eat healthy, exercise, don't stress and take your meds. However in most cases, and especially where some if/then logic is required less than 3 concepts should be used. If there is bounded rationality (see below) only introduce one concept at a time.
Bounded Rationality	Answers that are outside of the lived experience of a patient will be hard to understand	From the same research in the 80s, people struggle to believe or comprehend something that doesn't fit with their lived experience. Given the high prevalence of health illiteracy it is critical that anything new is introduced by itself, supported by analogy, and understanding is checked.
Nothing About Me Without Me	Users need to be included in all aspects of design and development, not just occasionally consulted	This is a humanitarian principle and is critical to usability and acceptance. This codesign principle is a critical component of the 'chain of proof' for reducing negligence claims in that a digital human to patient interaction in a transcript or recording can be proven to be fit for purpose because illiteracy, accessibility needs etc. have been met.
Specialization	Specialization is variations in intents and answers outside of the heart health domain but align in terms of Themes and Topics.	Where possible, removing specialization in the digital human cardiac coach intents and answers will enable much faster and cheaper expansion to other chronic conditions. Specialization should not be removed if it downgrades the effectiveness of the digital human cardiac coach
Localization	Localization is variations in intents and answers within the heart health domain that occur between organizations or regions. Localization can be administrative (e.g. will my insurance cover this, how much will it cost, who to contact etc.), procedural (how long does it go for, what do we do in a session etc.), terminology (physician vs doctor, physical therapist vs. physiotherapist etc.) and cultural (language, types of foods etc.)	Where possible, removing localization in the digital human cardiac coach intents and answers will better replicability. Localization should not be removed if it downgrades the effectiveness of the digital human cardiac coach.

standard lexicon for adding video and telehealth using “postponement”

I keep forgetting to take my medications

That's ok, it can be hard to remember anything at all when you first come home after hospital. Your druggist can pack your meds so it's easier to remember and take them but you can also use a diary or an app. **Would you like me to show you the rehab video on medications that can explain these to you?**

Yes

Show video

No

Okay. You can always ask me later if you want to see the video.

I think my medications are giving me a rash

A mild rash can be a side effect from some heart meds but it usually goes away. If you are worried about it you can take a photo of the rash and I can help you send it to your doctor to have a look at it (CMS coded conversation).

Yes

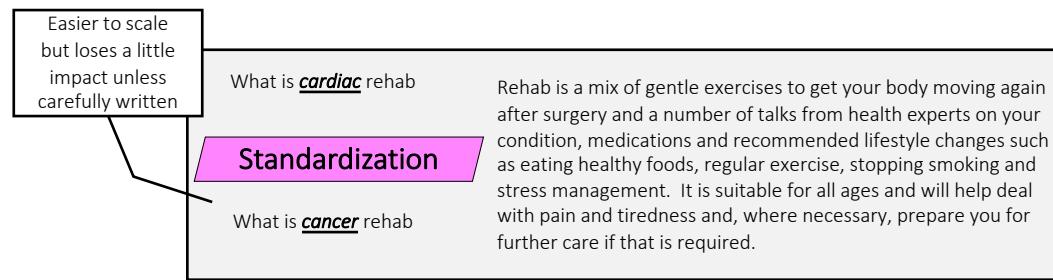
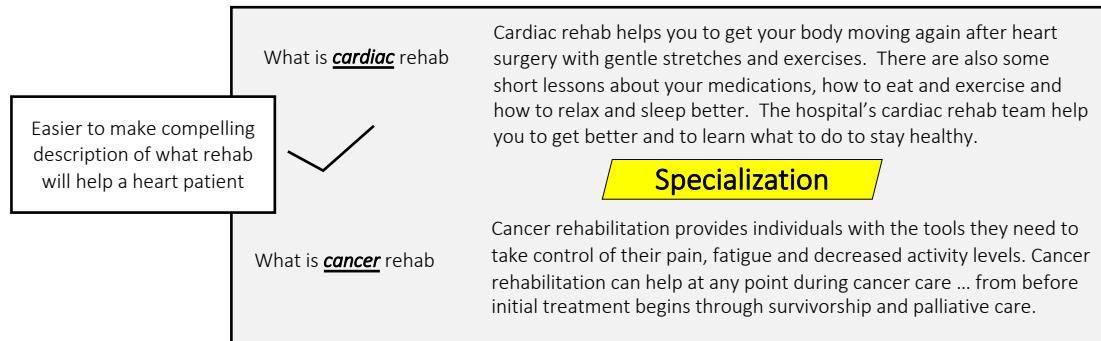
No

Initiate CMS coded conversation

Okay. If the rash is bleeding, or you have other symptoms such as pain or shortness of breath you should seek urgent medical attention.

design principles & patterns for replication and scale

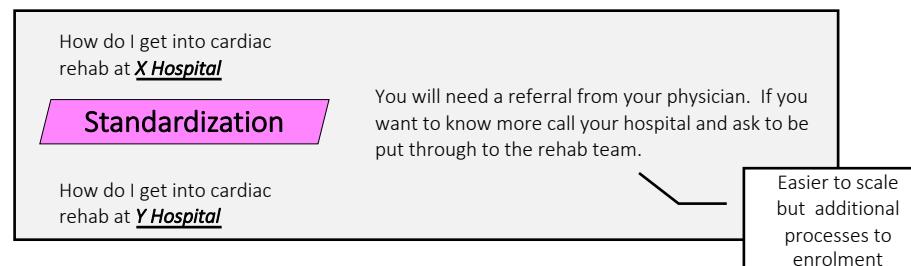
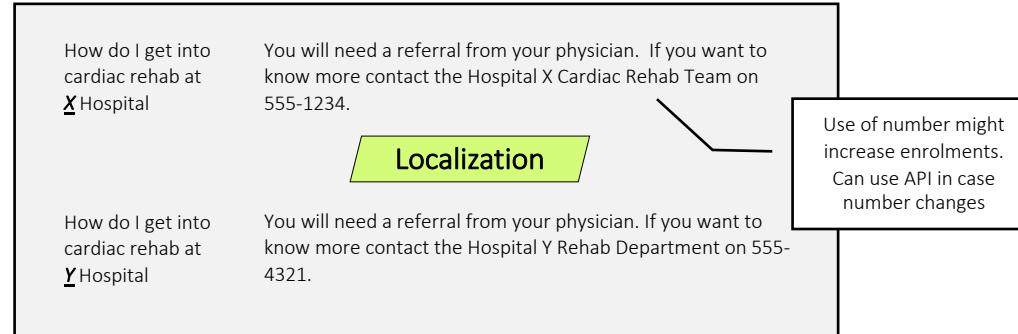
designing for specialisation – localisation – standardisation



- **Specialization** is variations in intents and answers outside of the heart health domain but align in terms of Themes and Topics.
- Where possible, removing specialization in the digital human cardiac coach intents and answers will enable much faster and cheaper expansion to other chronic conditions.
- **Specialization** should not be removed if it downgrades the effectiveness of the digital human cardiac coach.

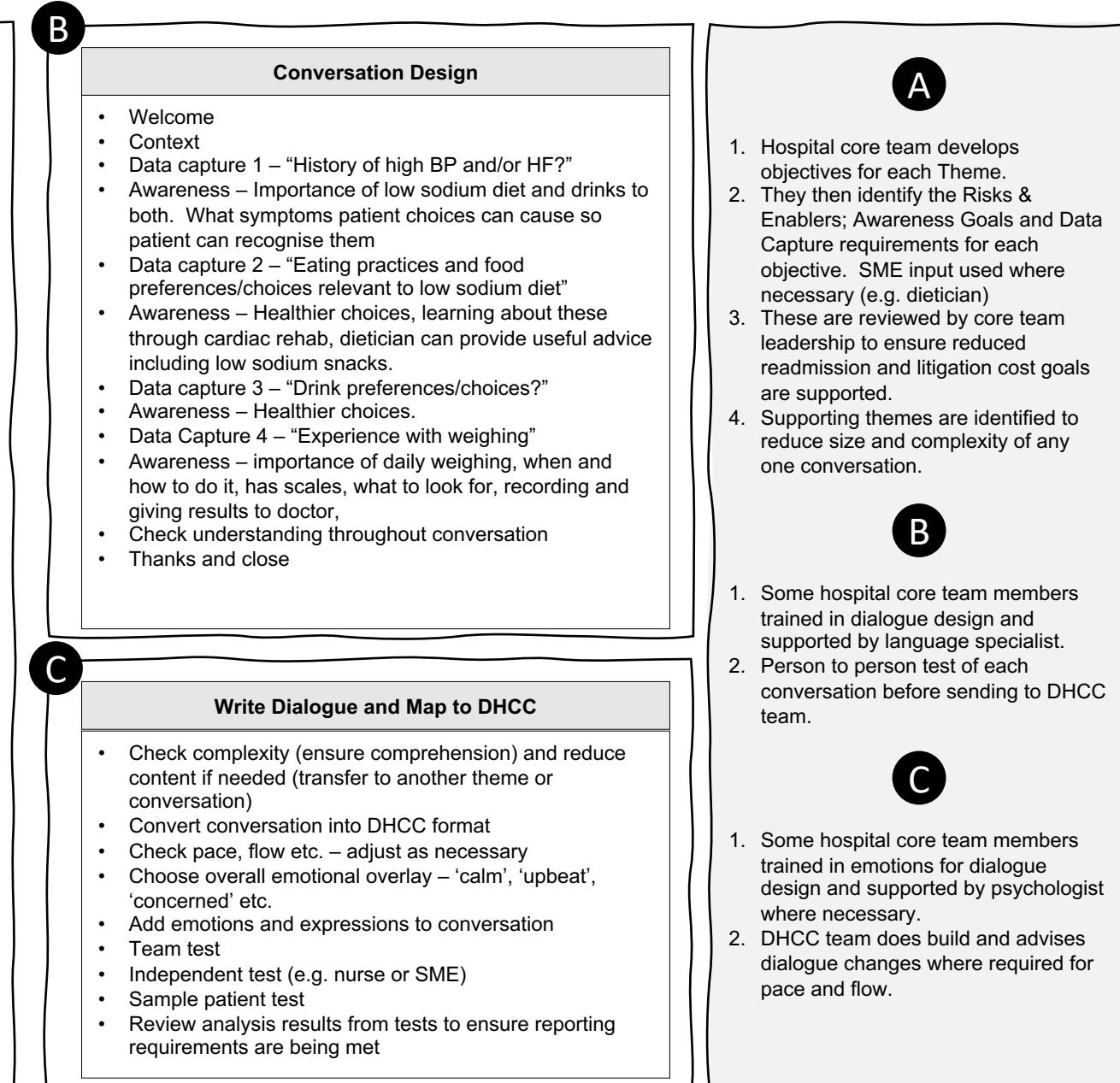
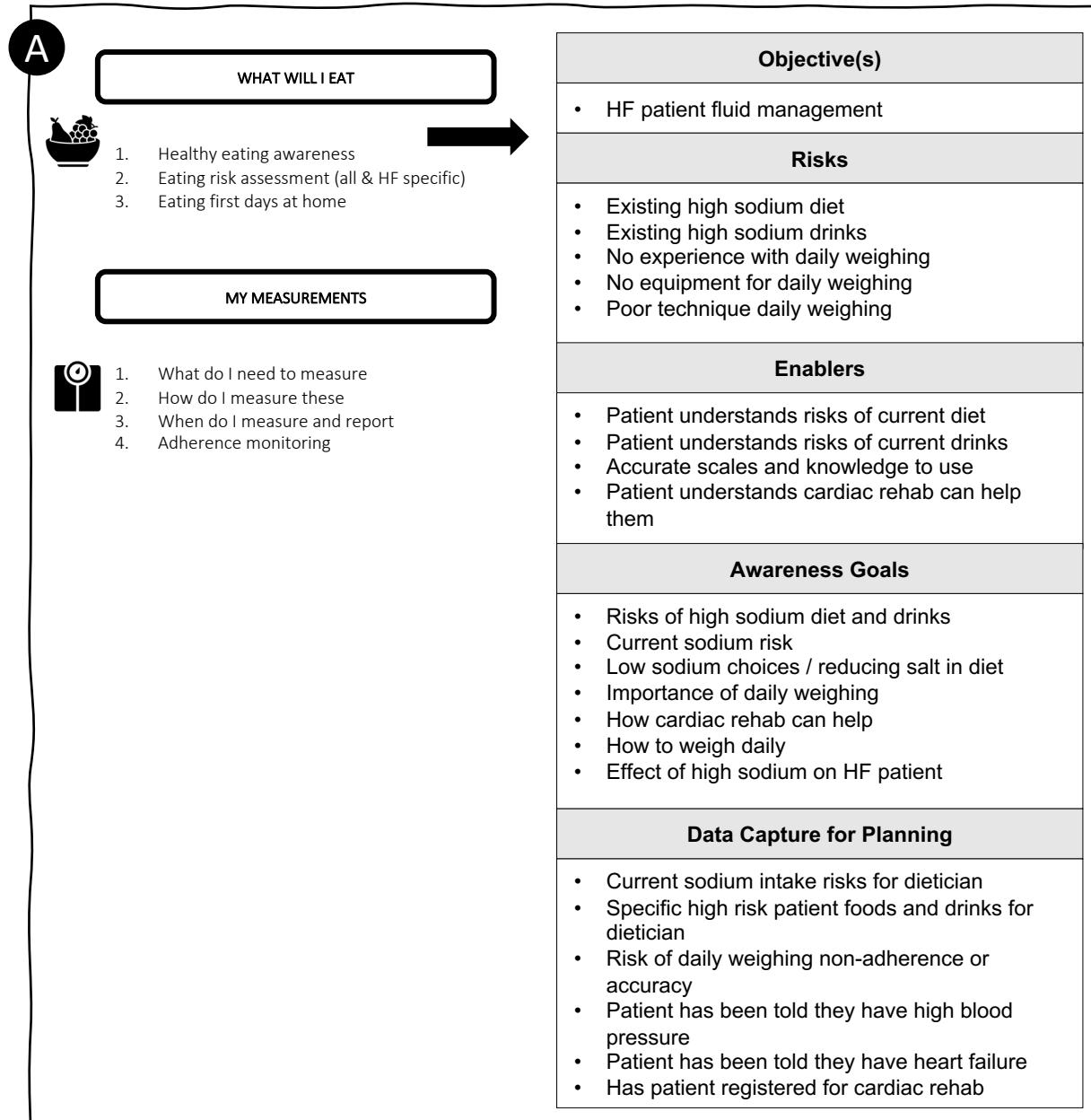
Decisions required:

1. What balance do we want between {standardization/scalability} and {specialization/localization/effectiveness}.
2. Can we develop some simple guidelines for future SMEs to use for balancing scalability and effectiveness when developing intents/questions/answers.
3. How do we embed content or use attached tags to facilitate searching and modifying the core SaaS where clients or use case requires specialization or localization.



- **Localization** is variations in intents and answers within the heart health domain that occur between organizations or regions.
- **Localization** can be:
 - administrative (e.g. will my insurance cover this, how much will it cost, who to contact etc.),
 - procedural (how long does it go for, what do we do in a session etc.),
 - terminology (physician vs doctor, physical therapist vs. physiotherapist etc.) and
 - cultural (language, types of foods etc.)
- Where possible, removing localization in the digital human cardiac coach intents and answers will better support replication.
- **Localization** should not be removed if it downgrades the effectiveness of the digital human cardiac coach

codesign for creating a guided conversation – heart failure



heart failure guided conversation development

illustrative example – “heart failure”

A

Heart Failure
Inpatient/Outpatient/Home
Objective
Fluid management for heart failure patients
Risks
Existing high sodium diet
Existing high sodium drinks
No experience with daily weighing
No equipment for daily weighing
Poor technique daily weighing
Enablers
Patient understands risks of current diet
Patient understands risks of current drinks
Accurate scales and knowledge to use
Patient understands cardiac rehab can help them
Awareness Goals
Risks of high sodium diet and drinks
Current sodium risk
Low sodium choices / reducing salt in diet
Importance of daily weighing
How cardiac rehab can help
How to weigh daily
Effect of high sodium on HF patient
Data Capture for Planning
Current sodium intake risks for dietician
Specific high risk patient foods and drinks for dietician
Risk of daily weighing non-adherence or accuracy
Patient has been told they have high blood pressure
Patient has been told they have heart failure
Has patient registered for cardiac rehab

B

HEART FAILURE - INPATIENT/OUTPATIENT/HOME	
Conversation Element	Conversation (Hospital / Surgery)
Welcome	Hi, I'm DHCC and I'd like to talk to you today about something that is very important for all heart patients.
Data Capture (high BP)	First up, have you ever been told, by a medical professional, that you have high blood pressure?
Context (Awareness)	Too much salt can cause high blood pressure, so that is why we will talk about it today.
Data Capture (heart failure)	One of the most important questions I would like to ask today is, have you been told that you have heart failure?
Awareness (why important and introduce weighing)	Too much salt is very bad for heart failure patients. It causes their body to retain water. This can cause their bodies to swell and make it hard for them to breathe. All heart patients must weigh themselves every day so that they can see if they are hanging onto water.
Data Capture (cardiac rehab)	Do you know yet if you are going to cardiac rehabilitation?
Awareness (rehab and low salt diet, reassure)	When patients attend cardiac rehabilitation, they learn some very important things that they need to do every day to keep themselves healthy. One of these things is to only eat foods that are low in salt and to not add salt to foods that you cook or buy. I am going to ask you some questions today so that I can see whether you might be eating too much salt. Some of the foods I ask you about might be your favourites but don't worry, the staff in cardiac rehab will talk to you about other tasty foods that you can eat.
Data Capture (high sodium eating practices)	Do you eat a lot of packaged or frozen meals when you're at home? Do you like to eat at restaurants or buy take out more often than once a month? Do you like to add salt to your food at home or when you eat out? Do you like to add salt when cooking?
Awareness	If you answered yes to any of these questions you probably eat too much salt. Salt can make your body swell and make it hard for you to breathe. I'm now going to ask you some questions so that I can help you eat less salt. The foods I am going to ask you about all have lots of salt in them.
Data Capture (high sodium foods)	Do you eat sausages, hot dogs, bacon or deli meats? Do you eat salted nuts or chips? Do you eat biscuits and gravy or lots of cheese and butter? Do you like to eat foods such as ribs, barbecue, fried chicken, burritos, burgers, fries or tacos?
Awareness (too much sodium, introduce fresh veg and fruit)	If you answered yes to some or all these questions, you are eating too much salt. I will now talk about some other food options with you. We will make sure that you are getting fresh fruit and vegetables in your diet as well as reducing your salt intake.
Data Capture (talk to dietician?)	Would you like the hospital dietician to give you some ideas on buying and eating fruits and vegetables?
Awareness (healthy protein options, second suggestion re dietician)	Lean fresh meats, chicken and fish that are grilled or broiled are also good. Just make sure your meats have the fat cut off, as this is much healthier for your heart. Boiled and poached eggs are also great if you want to eat less meat.
Data Capture (talk to dietician?)	The hospital dietician can also give you some ideas on buying and eating lean fresh meats, chicken and fish. Would you like me to arrange that?
Awareness	Of course, a lot of people are too busy to cook these days, but the good news is that there are a lot of healthy, low salt, frozen and packaged foods that you can buy from your local supermarket. Healthy pre-packaged meals are now commonly available online also. You can even have some of these delivered before you leave hospital so that they are there when you get home.
Check Understanding	It was great to talk to you today about how important is for you to eat less salt. Do you now understand that too much salt can make you swell and gain weight quickly through water retention, and that this can cause breathing difficulties?
NEXT SECTION - HIGH SODIUM DRINKS	Similar to high sodium foods but list high sodium drinks and provide healthy options.
NEXT SECTION - DAILY WEIGHING	Checks familiarity with weighing, provides reassurance, guidance on when and how to weigh yourself, checks patient has scales, importance of recording and giving to doctor, checks understanding.

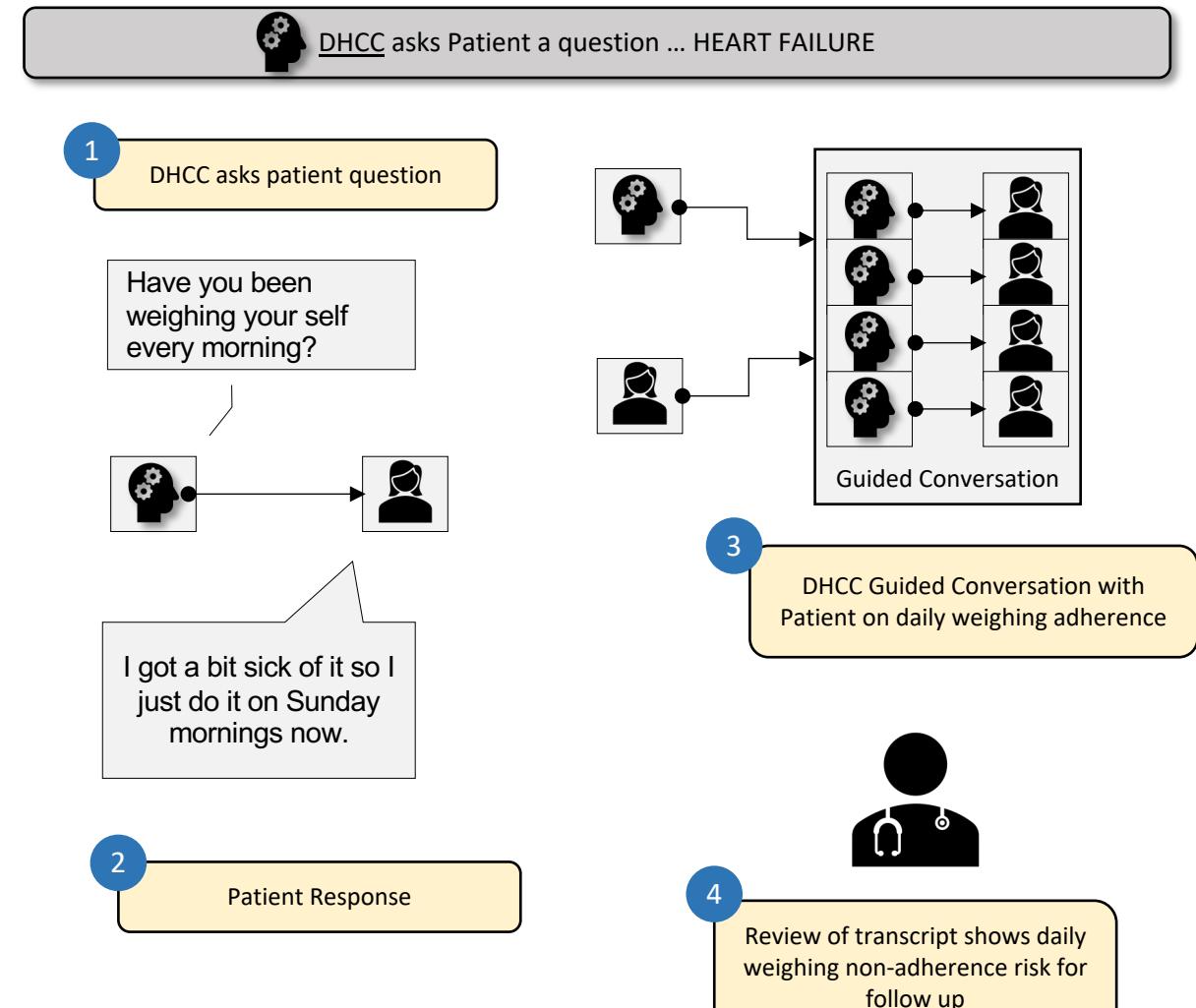
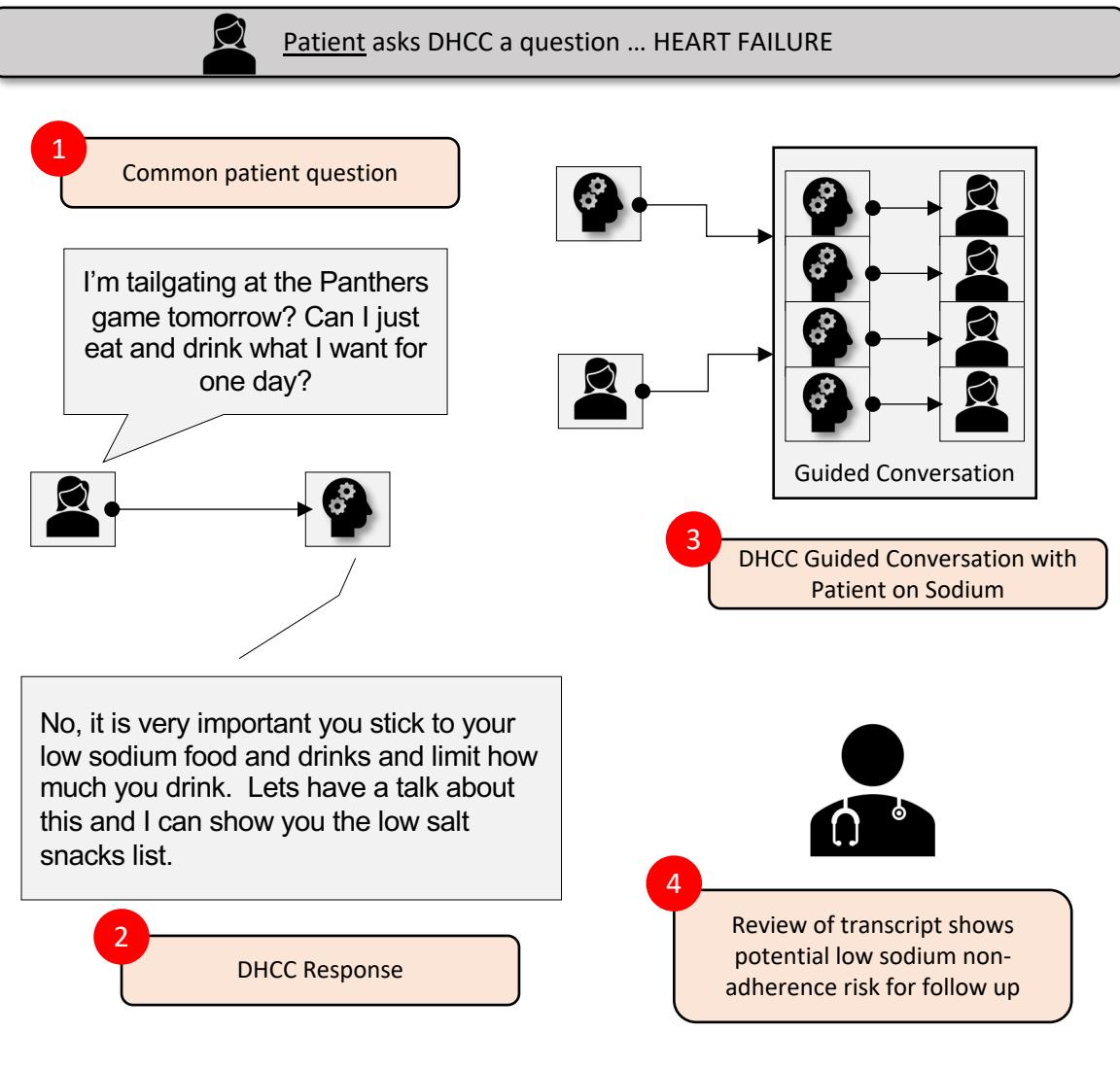
C

Map to DHCC



These tables can now be updated to reflect practitioner and patient views and localization

Q&A after leaving hospital can trigger guided conversations / clinician support



these interactions can now be codesigned to reflect practitioner and patient views and localization

potential roadmap of guided conversations for each major risk

Sample Major Risks (based on meta-data research and experience):

- Home safety
- Medication non-adherence
- Eating:
 - Food not appropriate for recovery from surgery
 - Food not appropriate for heart health
 - High sodium diet / poor fluids (especially for heart failure patients)
 - Risks of obtaining or preparing foods
- Moving:
 - Movement than can injure sternum
 - Insufficient movement to mobilize joints and clear lungs after surgery
 - Insufficient movement to rebuild strength and fitness
 - Environment not safe or climate poor
- Sleep and relaxation:
 - Too many visitors
 - Going out too much
 - Doing too much / too soon (e.g. housework) instead of resting
 - Noisy / busy home
- Smoking – still smoking
- Measurements (especially HF patients):
 - Not doing daily measurements – weight, HR, BP etc.
 - Not reporting daily measurements for analysis and remedial action
 - Poor measurement technique

EATING	
HOSPITAL / SURGERY (Inpatient)	RECOVERY / REHAB (At Home)
Objective	Objective
XXXXX	XXXXX
Risks	Risks
XXXXX	XXXXX
XXXXX	XXXXX
XXXXX	XXXXX
Enablers	Enablers
XXXXX	XXXXX
XXXXX	XXXXX
XXXXX	XXXXX
Awareness Goals	Awareness Goals
XXXXX	XXXXX
XXXXX	XXXXX
XXXXX	XXXXX
Data Capture for Planning	Data Capture for Planning
XXXXX	XXXXX
XXXXX	XXXXX
XXXXX	XXXXX

SMOKING	
HOSPITAL / SURGERY (Inpatient)	RECOVERY / REHAB (At Home)
Objective	Objective
XXXXX	XXXXX
Risks	Risks
XXXXX	XXXXX
XXXXX	XXXXX
XXXXX	XXXXX
Enablers	Enablers
XXXXX	XXXXX
XXXXX	XXXXX
XXXXX	XXXXX
Awareness Goals	Awareness Goals
XXXXX	XXXXX
XXXXX	XXXXX
XXXXX	XXXXX
Data Capture for Planning	Data Capture for Planning
XXXXX	XXXXX
XXXXX	XXXXX
XXXXX	XXXXX

EATING	
HOSPITAL / SURGERY (Inpatient)	RECOVERY / REHAB (At Home)
Objective	Objective
XXXXX	XXXXX
Risks	Risks
XXXXX	XXXXX
XXXXX	XXXXX
XXXXX	XXXXX
Enablers	Enablers
XXXXX	XXXXX
XXXXX	XXXXX
XXXXX	XXXXX
Awareness Goals	Awareness Goals
XXXXX	XXXXX
XXXXX	XXXXX
XXXXX	XXXXX
Data Capture for Planning	Data Capture for Planning
XXXXX	XXXXX
XXXXX	XXXXX
XXXXX	XXXXX

EATING	
HOSPITAL / SURGERY (Inpatient)	RECOVERY / REHAB (At Home)
Objective	Objective
XXXXX	XXXXX
Risks	Risks
XXXXX	XXXXX
XXXXX	XXXXX
XXXXX	XXXXX
Enablers	Enablers
XXXXX	XXXXX
XXXXX	XXXXX
XXXXX	XXXXX
Awareness Goals	Awareness Goals
XXXXX	XXXXX
XXXXX	XXXXX
XXXXX	XXXXX
Data Capture for Planning	Data Capture for Planning
XXXXX	XXXXX
XXXXX	XXXXX
XXXXX	XXXXX

HOME SAFETY	
HOSPITAL / SURGERY (Inpatient)	RECOVERY / REHAB (At Home)
Objective	Objective
XXXXX	XXXXX
Risks	Risks
XXXXX	XXXXX
XXXXX	XXXXX
XXXXX	XXXXX
Enablers	Enablers
XXXXX	XXXXX
XXXXX	XXXXX
XXXXX	XXXXX
Awareness Goals	Awareness Goals
XXXXX	XXXXX
XXXXX	XXXXX
XXXXX	XXXXX
Data Capture for Planning	Data Capture for Planning
XXXXX	XXXXX
XXXXX	XXXXX
XXXXX	XXXXX

key summary points

- Prioritize risks to for patient readmission
- Combine the patient and practitioner views
- Guided conversations and Q&A – simple tools and accelerators
- Analytics inform:
 - Hospital executive of risk patterns
 - Planning, action by the hospital for each patient
- Massive commonality between providers – potential for collaboration
- High re-use of all content to other chronic diseases