Lantana
CONSULTING GROUP

STANDARDIZED CARE PLAN DOCUMENT EXCHANGE

PROOF OF CONCEPT PROJECT REPORT

February 29, 2016

PRESENTERS:
Lenel James, Member HL7 Attachments Workgroup
Lisa Nelson, Member HL7 Patient Care Workgroup

Prepared by Lantana Consulting Group

Commissioned by

Blue Cross Blue Shield Association

BlueCross BlueShield Association

AGENDA

- The Project, Its Goals and Objectives
- History and Background
- What Was Accomplished and How
- The Report Overview and Content
- Recommendations & Next Steps

The Standardized Care Plan Document Exchange Proof of Concept Project:

1. Third step in a series of initiatives undertaken to address requirements for exchanging care plan information.
2. Included additional analysis on Case Management and Disease Management care planning requirements and recommend adjustments to the C-CDA Care Plan Document template
3. Initiated to confirm the usefulness and feasibility of those recommendations.

GOALS:

- Vetting the recommendations from prior requirements analysis project to clarify template gaps and potential resolutions
- Document issues to be reported as DSTU Comments against C-CDA R2.1

OBJECTIVES:

- **Primary objective** - engage implementers in trial use of the C-CDA Care Plan Document for reality-based evaluations leading to specific refinements.
- **Secondary objective** - initiate industry collaboration needed to establish value sets for encoding the different kinds and types of data that does not yet have industry-accepted code lists.

The Care Plan Proof of Concept Project accomplished the following:

- Revealed implementation strategies that lowered the technical challenges for implementing CDA document exchange.
- Identified high value approaches to improve sharing care plan information.
- Helped to prioritize the list of issues to report as DSTU Comments against the C-CDA R2.1 Care Plan Document template.

SEPTEMBER 2013 HL7 BALLOT COMMENT

CDAR2_IG_CCDA_CLINNOTES_R1_D1_2013SEP Ballot Comment Supplemental Information

HL7 Implementation Guides for CDA Release 2: Consolidated CDA Templates for Clinical Notes, DSTU Release 2 – US Realm

Submitted by:
R. Lenel James
Blue Cross and Blue Shield Association

312-404-5852

Contributors:

Shelly Spiro, Exec. Dir. Pharmacy HIT Collaborative
Scott M Robertson, PharmD, KP
Bobbi Bonnet, RN,Manager, Care Delivery Compliance, KP
Thom Kuhn, American College of Physicians
Reed Geltzer, MD
Durwin Day (Craig Gabron) Health Care Services Corporation (BCBSIL, BCBSTX, BCBSNM, BCBSOK)
Craig Gabron, Blue Cross and Blue Shield of South Carolina
Pat Van Dyke, RN, Delta Dental
George Cole, Allscripts

The issue

How to document and track patient enrollment in specific Care Management or Disease Management programs.

Background:

As part of providers and payers being in ACOs and the growth of Patient Centered Medical Home, there is a need to know and track which patients are in Care Management programs – to know what treatment protocol is expected, track any special patient/member co-pays or unique benefits, and to help insure it can be document and reported that the patient is in the program.

Lantana
CONSULTING GROUP

CM/DM CARE PLAN REQUIREMENTS

Review and Recommendations for Using the C-CDA R2.0 Care Plan Document

June 17th, 2015

Lisa R. Nelson, Lantana Consulting Group
Lenel James, Blue Cross and Blue Shield Association

Commissioned by

BlueCross BlueShield Association

© 2015 Blue Cross Blue Sheild Association

Summary of Deliverables

Deliverables:

- **Report (50+ pages)**
  - 19 CM/DM care plan requirements addressed
- **Context for sketches (Chapter 3.1)**
  - Visualizations of the "longitudinal view"
- **Summarized C-CDA R2.0 care plan document sections and entries**
  - (Appendix A, Table 5)
- **Novel care plan document design (Chapter 3.2)**
  - Care plan "containers" organize human readable content
  - Care plan standard "core sections" organize machine readable entries
  - Multidimensional "linkages" to aid information processing
- **9 CDA Care Plan Documents**
  - (Table 1 (over time), Table 4 (requirements met)
  - Reinforce longitudinal context
  - Demonstrate a way to address CM/DM requirements
  - Identify potential new templates, and current gaps
- **Stylesheet to illustrate processing possibilities that leverage the proposed design (Chapter 3.3)**

http://wiki.hl7.org/index.php?title=Case_Management/Disease_Management_C-CDA_R2.x_Project_Documents

ATTATCHMENTS WG EXCERPT – 1/13/16

HL7 C-CDA Care Plan Document DSTU

Proof of Concept Project

December 15, 2015 - January 7, 2016

"Clear and specific refinements of many clinical standards are needed and will, no doubt, come about because of careful, reality-based evaluations."

- ***Health information technology data standards get down to business: maturation within domains and the emergence of interoperability,***
R.L. Richesson, C.G. Chute, Journal of American Medical Informatics Association, 2015

Healthwise

ZeOmega

Edifecs

GSI Health

Lantana Consulting Group

Narration by:
Tom Williams, Healthwise
Nancy Bucceri , ZeOmega
Gregg Prothero, Edifecs
Lenel James, HL7 Attachments WG

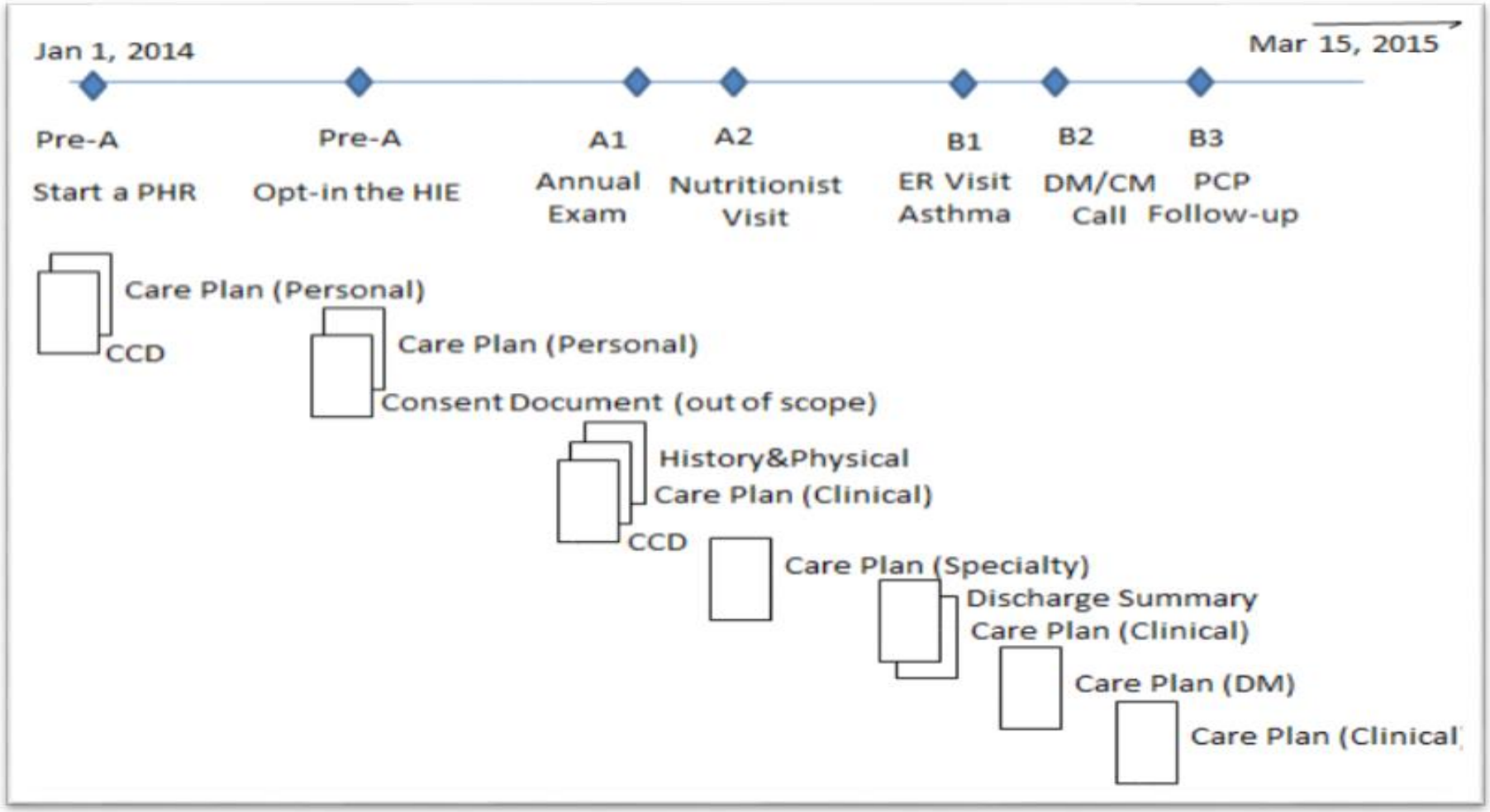
Script & Technical Support by
Lisa Nelson, Lantana

https://www.youtube.com/watch?v=CkIElDKrBWI

HL7®, CDA®, and FHIR® are the registered trademarks of Health Level Seven International

A Longitudinal Context for Care Plans

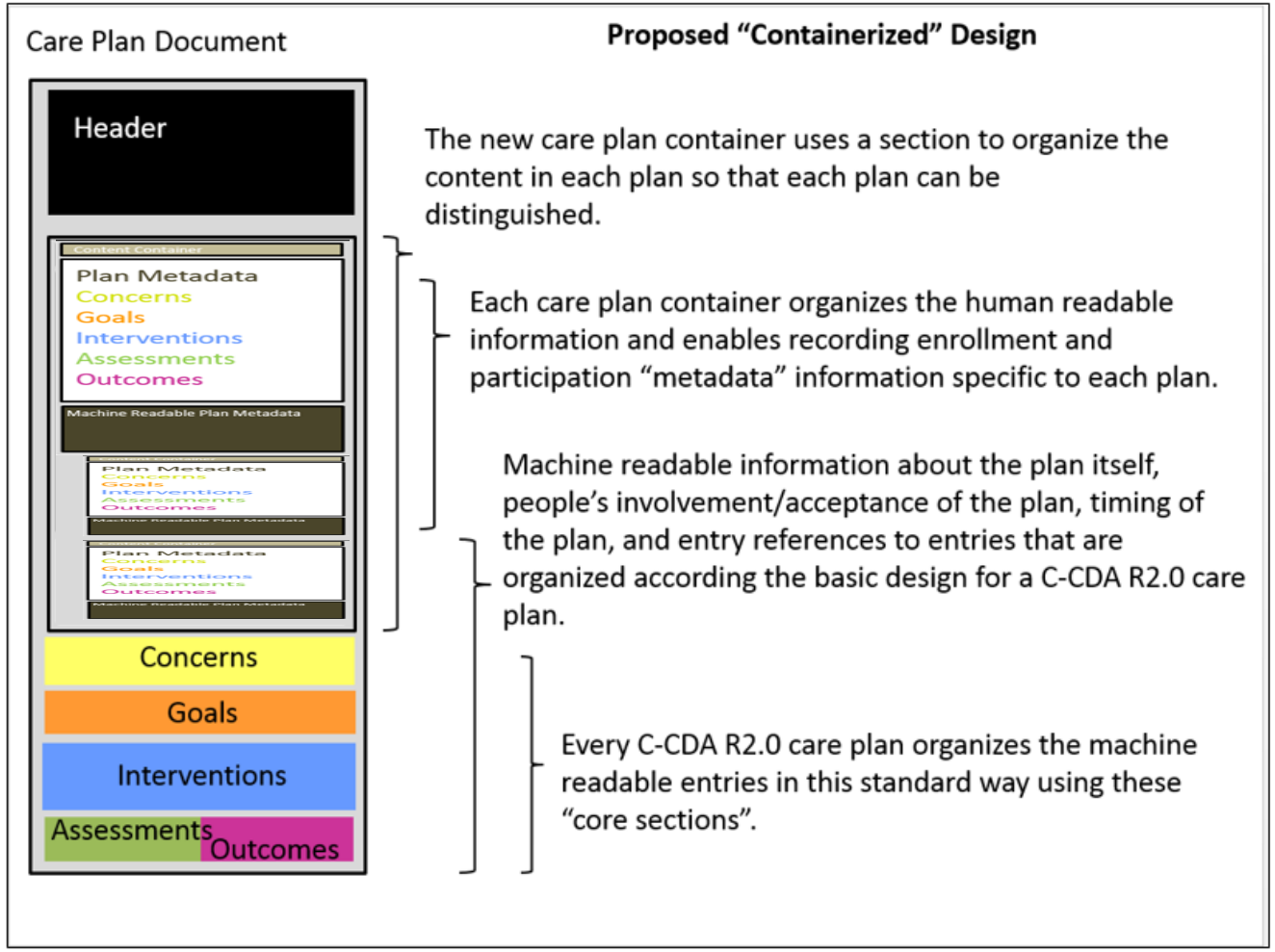
Figure 6: Storyboard Example—Context for CDA Sketches



Document Design Details

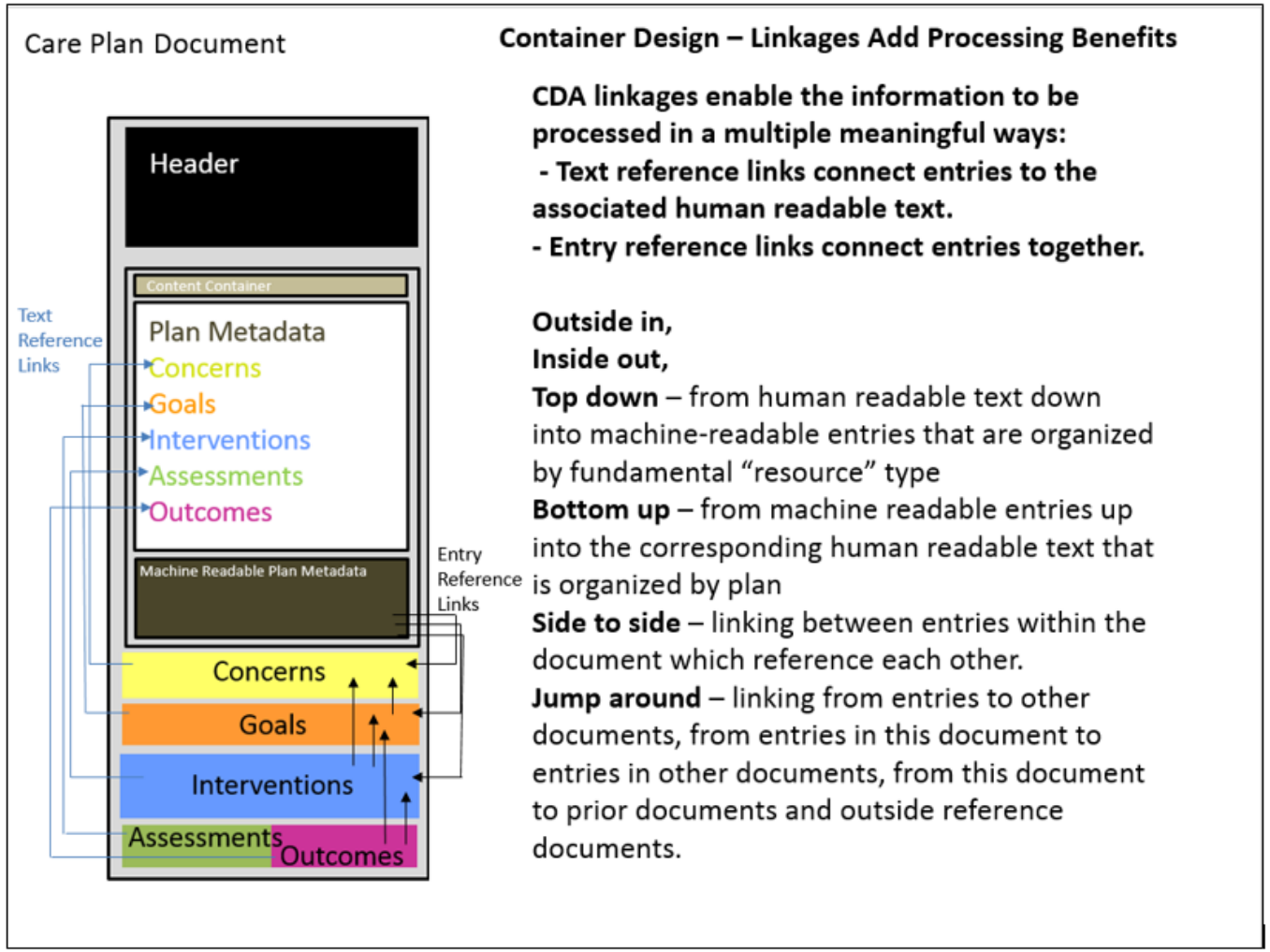
Care Plan Container Is a Recursive Design

Figure 10: Proposed Care Plan Document Structure with "Container"



Document Design Details

Figure 13: CDA Linkages Add Processing Benefits



Container Design – Linkages Add Processing Benefits

CDA linkages enable the information to be processed in a multiple meaningful ways:
- Text reference links connect entries to the associated human readable text.
- Entry reference links connect entries together.

Outside in,
Inside out,
Top down – from human readable text down into machine-readable entries that are organized by fundamental "resource" type
Bottom up – from machine readable entries up into the corresponding human readable text that is organized by plan
Side to side – linking between entries within the document which reference each other.
Jump around – linking from entries to other documents, from entries in this document to entries in other documents, from this document to prior documents and outside reference documents.

Proof of Concept Project: Initial Vision

Each Care Plan Creator System ("primary") shall act as:

- ❑ a Content Creator for a C-CDA Care Plan Document

Each Care Plan Consumer System (primary & secondary) will:

- ❑ Content Consumer (view & import) for a C-CDA Care Plan Document
- ❑ show **VIEW** option, show contents of a care plan
- ❑ show **IMPORT** option, link care plan to patient's record

Participating Proof of Concept (PoC) Project Systems select single or composite care plan exchange & options to include:

- ❑ References to external documents
- ❑ Acceptance of plan by care team members
- ❑ Barriers to care
- ❑ Outcomes and Assessments
- ❑ Progress toward goals and goals not met

* *PoC Project Management provided by Leslie Kelly Hall, Healthwise, and Lenel James, BCBSA*
HL7 C-CDA R2.1. Usage Technical Support by Lisa Nelson, Lantana Consulting Group

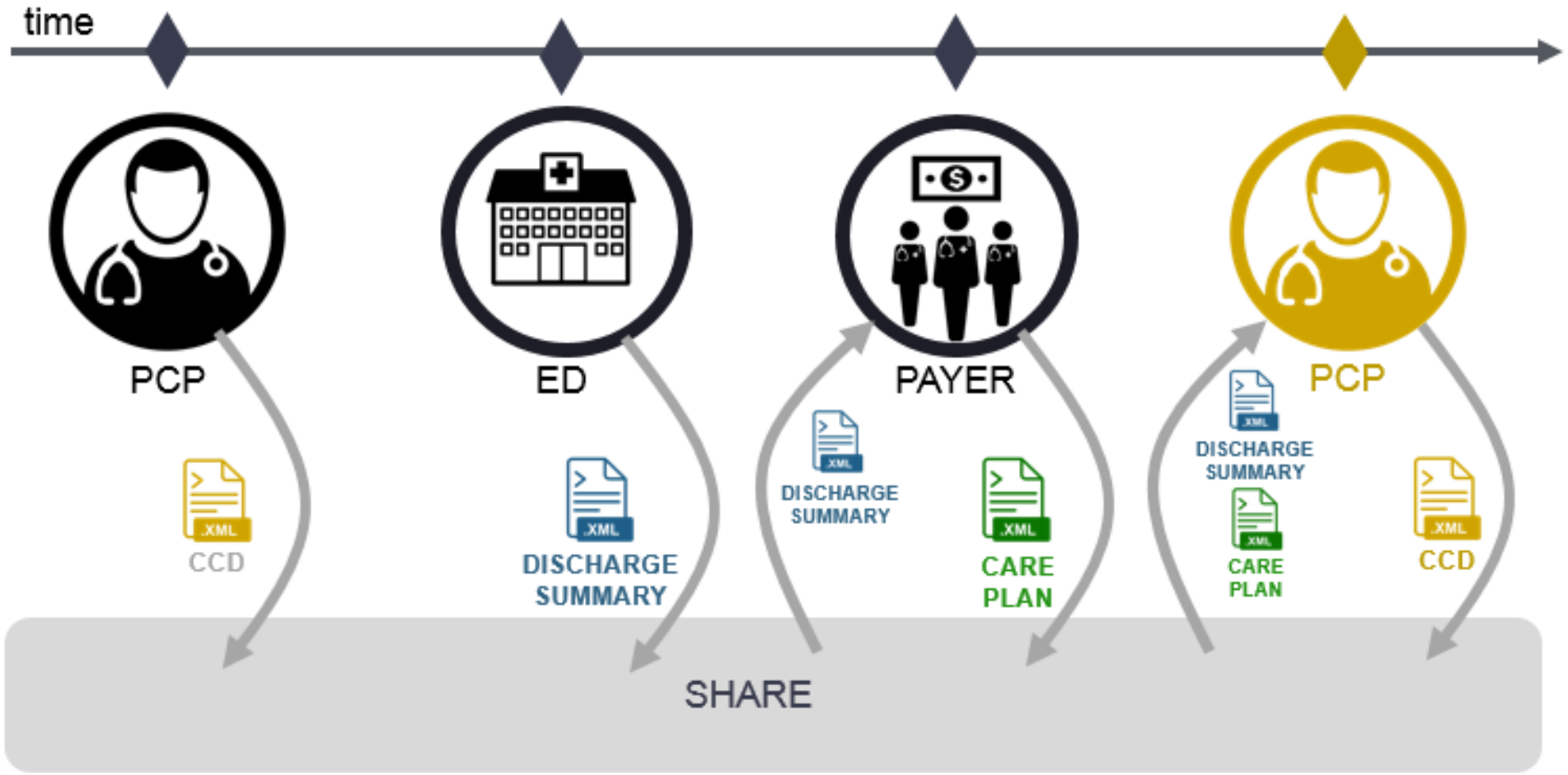
Note: *File transport mechanisms* ***are not*** *specified by the PoC project, and are out of scope.*

Use Insert / Header and Footer to define this footer text. Always include the url:
lantanagroup.com

Lantana
CONSULTING GROUP

Proof of Concept Project: Eventual Reality

Information Flow Over Time



https://www.youtube.com/watch?v=CkIElDKrBWI

Hometown Hospital Emergency Department Visit Summary

Patient	Adam Everyman
Date of birth	September 11, 1963
Sex	Male
Race	White
Ethnicity	Not Hispanic or Latino
Contact info	Primary Home: 1111 StreetName St. Silver Spring, MD 20901, US Tel: +1(301)111-1111
Patient IDs	20140916190000-Patient1 BFFD5824-5A11-4ED4-B284-6BA77AF6C382 9876543 2.16.840.1.113883.4.6.654321

Table of Contents

- CHIEF COMPLAINT
- PROBLEM SECTION
- HISTORY OF PRESENT ILLNESS
- SOCIAL HISTORY
- ALLERGIES
- ADMISSION MEDICATIONS
- DISCHARGE MEDICATIONS
- VITAL SIGNS
- HOSPITAL COURSE
- PLAN OF TREATMENT
- DISCHARGE DIAGNOSIS
- PAYMENT INFORMATION

CHIEF COMPLAINT

Patient was experiencing:

- shortness of breath
- uncontrollable coughing
- trouble talking and walking
- tightness in chest

PROBLEM SECTION

09/16/2014 (7:45 PM) Eric E. Mergency, MD

- shortness of breath (symptom)
- uncontrollable coughing (symptom)
- trouble talking and walking (symptom)
- tightness in chest (symptom)

Jiva™ | Dashboard | Menu | Memory List | Calendar | WorkList | Legends | Help | Care Manager, Pamela

Plan of Care-158530-20255

Plan Of Care | Add Problem | Attach POC | Plan Interaction | Preview | Active | Drafts | Closed/Voided | Episode | Member

Problem	Goal	Interventions	Priority	Frequency	Start Date	Due Date	Expected Completion	Assignee	Status
Member does not have an action plan for worsening symptoms and/or complications related to asthma. Problem Category: Action Plan - Worsening symptoms Priority: High Start Date: 09/16/2014 Expected Completion: 10/16/2014 Assignee: Care Manager, Pamela Status: Open Episode: DM Add Goals and Interventions	**Member will understand/have an individualized action plan for worsening symptoms and/or complications related to asthma.** Goal Class: Action Plan - Symptom Self-Management Level of confidence: Priority: High Start Date: 09/16/2014 Expected Completion: 10/16/2014 Assignee: Care Manager, Pamela Status: Open Goal Type: Short Term	**Review with the member how to contact health providers as needed to address issues and concerns regarding self-management**	High	Weekly	09/16/2014		10/16/2014	Care Manager, Pamela	Open
		Encourage the member to share their asthma action plan with their caregiver/family for additional support/management of condition.	High	Weekly	09/16/2014		10/16/2014	Care Manager, Pamela	Open
		Send Educational Material.	High	Only Once	09/17/2014		09/24/2014	Care Manager, Pamela	Open
Member's asthma is not currently under control due to recurrent exacerbations requiring oral steroids Problem Category: Asthma Symptom Management Priority: High Start Date: 09/16/2014 Expected Completion: 10/16/2014 Assignee: Care Manager, Pamela Status: Open Episode: DM Add Goals and Interventions	**Member no longer has recurrent exacerbations due to uncontrolled asthma** Goal Class: Self Management-Asthma, exacerbations Level of confidence: Priority: High Start Date: 09/16/2014 Expected Completion: 10/16/2014 Assignee: Care Manager, Pamela Status: Open Goal Type: Short Term	**Discuss with the member on how to treat acute asthma symptoms with medications, review their purpose, and method of administration.**	High	Weekly	09/16/2014		10/16/2014	Care Manager, Pamela	Open
		Review with the member how to contact health providers as needed to address issues and concerns regarding self-management	High	Weekly	09/16/2014		10/16/2014	Care Manager, Pamela	Open
		Instruct the member on how to use the peak flow zone system and how to find their personal best number. Discuss with the member the red, yellow, and green zone management.							

Overall Plan of Care - HC Payor

Patient	Adam Everyman
Date of birth	September 11, 1963

Disease Management Care Plan FOR ASTHMA

Disease Management Care Plan FOR DIABETES

Section Author: Pamela Care Manager, RN, CCM

Episode:	Disease Management
Program:	DIABETES
Acuity Level:	3
Patient Enrollment Date:	08/15/2014
Patient Enrollment Status:	Open
Referral Source:	Physician/Provider
Reason:	Meets Program Criteria
Status Updated on:	09/17/2014
Assigned to:	Care Manager, Pamela

CARE PLAN ITEM #1

PROBLEMS

Problem:

- problem description: Potential for prediabetic diagnosis progressing to diabetes date of onset: 01/01/2014 problem status: Open problem assigned: Care Manager, Pamela

Prior Completed Goals:

- description:Review with the member lifestyle changes to improve their health status such as : diet, weight loss, and exercise completed date:02/01/2014 performerCare Manager, Pamela goal assigned:Care Manager, Pamela

GOALS

Goal:

- goal description: Member gains knowledge and demonstrates ability to self-manage prediabetes; prediabetes remains controlled. date established: 01/01/2014 goal assigned: Care Manager, Pamela

Completed Interventions:

- description:Provide member educational material on prediabetes and impact on life style completed date:02/01/2014 performer:Care Manager, Pamela

Completed Evaluations:

-

INTERVENTIONS

- Review with the member lifestyle changes to improve their health status such as : diet, weight loss, and exercise

Date Ordered	Due Date	Person Ordered by	Frequency	Priority
01/01/2014		Care Manager, Pamela	7	High

Status	Reason	Complete by
Open		02/01/2014

- Review and Discuss with the member the risk factors of prediabetes and potential progression to developing type 2 diabetes

Date Ordered	Due Date	Person Ordered by	Frequency	Priority
01/01/2014		Care Manager	7	High

GSIHealthCoordinator

Resource Center Preferences Help Logout

Welcome: Dr. Happy Patient

Super User / Psychiatrist, gsihealth

Home

Health Home Dashboard Apps

Admin | Enrollment | Care Teams | Reports | Care Plan | Messages | Alerts

TREAT - Windows Internet Explorer

https://demo.gsihealth.net/treat/GenericController?handlerName=ExternalDocumentRequestHandler&action=viewlist

GSIHealth Coordinator | Home | Notifications | Client Search | Profile

Existing

Patient: Adam Everyman

Filter by Document Type: All

Existing External Documents

Document Date	Description	Document Sub Type
17-Sep-2014	Care Plan Document	Historical Care Plan
16-Sep-2014	Discharge Summary	Medical Referral
15-Aug-2014	CCD	Medical Referral

Add to Lockbox

Overall Plan of Care - HC P...

CARE PLAN ITEM #1

PROBLEMS

Problem:

- problem description: Member does not have an action plan for worsening symptoms and/or complications related to asthma. date of onset: 09/16/2014 problem status: Open problem assigned: Care Manager, Pamela

Prior Completed Goals:

-

GOALS

Goal:

- goal description: Member will understand/have an individualized action plan for worsening symptoms and/or complications related to asthma. date established: 09/16/2014 goal assigned: Care Manager, Pamela

Completed Interventions:

-

Completed Evaluations:

-

INTERVENTIONS

- Review with the member how to contact health providers as needed to address issues and concerns regarding self-management

Date Ordered	Due Date	Person Ordered by	Frequency	Priority
09/16/2014	09/23/2014	Care Manager, Pamela	7	High

Status	Reason	Complete by
Open		09/23/2014

- Encourage the member to share their asthma action plan with their caregiver/family for additional support/management of condition.

Date Ordered	Due Date	Person Ordered by	Frequency	Priority
09/16/2014	09/23/2014	Care Manager, Pamela	7	High

Status	Reason	Complete by
Open		09/23/2014

- Healthwise Educational material - Your Action Plan

Date Ordered	Due Date	Person Ordered by	Frequency	Priority
09/17/2014	09/24/2014	Care Manager, Pamela		

Status	Reason	Complete by

PROOF OF CONCEPT PROJECT REPORT CONTENTS:

Introduction....4
Project Description....5
Approach....7
The "Level Two before Level Three" Methodology....7
Results....9
Findings and Lessons Learned....11
Finding #1: Containerized design adds value....11
Finding #2: Guidance on use of id elements is insufficient....12
Finding #3: Value sets for container-related metadata need further definition....12
Finding #4: Machine readable entry creation is a major barrier for implementers....13
Finding #5: Implementers benefit from more instruction and greater guidance....14
Finding #7: Patient matching continues to be a challenge....15
Finding #8: Data quality is low, inconsistency is high, and validation techniques are not used in practice....15
Recommendations....17
Summary of Prior Recommendations....17
Updated Recommendations....17

Proof-Of-Concept Project Approach

- Short, 8 week sprint.
- Focused on content creation/consumption of design-enhanced Care Plan Document.
- Detailed story board to guide the content expectations
- Vendors volunteers for needed technical roles:
  - establish the information exchange artifacts that set-up the context for the experiment, as well as the actual
  - creation and consumption of the Care Plan Document.
- Vendor education and implementation instructions for accurate C-CDA Care Plan.
- Technical support on valid workarounds for implementation challenges.

Project included the following steps:

1. Review of C-CDA header expectations, then creation/confirmation of header.
2. Review of C-CDA section expectation, then creation/confirmation of section structure.
3. Review of C-CDA section content expectations then creation/confirmation of "structured narrative".
4. Review of the C-CDA design modifications to determine how to add machine readable entries for document in step 3.

The “Level Two before Level Three” methodology

- Recommended as a way of creating CDA documents from the top-down.
- Methodology belief that the fastest way to high quality structured data is to first achieve quality “structured narrative”.
- Essential to the evolution from paper documents to more powerful, efficient digital documents
- If “Level Two” structured narrative is skipped, a strong foundation for structured data is not built.

Level Two before Level Three recommendation:

- A “crawl, walk, run” strategy.
- Each developmental phase is recognized as essential for evolution of C-CDA Care Plan.
- Each level of capability should be mastered successfully first

Recommendations

Summary of Prior Recommendations

(To build upon and clarify recommendations resulting from the initial Case Management/ Disease Management Care Plan Requirements Review and Recommendations report.)

Number	Description
5.1	Form a Technical Implementation Team to Address Use Issues for C-CDA R2 Templates to Meet the Emerging/Evolving Needs of Care Plan Documentation
5.2	Establish Coded Concepts and Value Sets to Clarify Expected Care Plan Content and Support Machine Readable Entries
5.3	Create a Detailed Implementation Guide for Creating and Processing Care Plan Documents to Record Progress as It Happens
5.4	Explore and Develop Content Representation That Makes Sense in Clinical Use

Updated Recommendations

1. **Categorize Issues to Focus Efforts Toward Resolution**

2. **Establish a Technical Implementation Team for Tasks Needing Resolution**

3. **Fund CDA Subject Matter Experts to Support the Technical Implementation Team**

4. **Utilize HL7 Governance Processes**
   See "Consolidated CDA: Pursuing Continuous Improvement" blog article information:
   https://www.lantanagroup.com/2016/02/17/consolidated-cda-pursuing-continuous-improvement/

5. **Foster Continued Trial Use of the C-CDA Care Plan Document**

https://www.lantanagroup.com/2016/02/17/consolidated-cda-pursuing-continuous-improvement/

Next Steps:

- Compile the Lessons Learns
- Determine Issues to Become Formal DSTU Comments
- Submit to HL7 and Discuss with StrucDocs & Patient Care WGs
- Identify Open Action Items Remaining From CM/DM Report
- Craft and Share A Summary Presentation on Results/Status
- Seek Industry Support to Tackle Missing Value Sets & a Follow-up Project

Lenel James Lenel.James@BCBSA.com

HL7, Attachments WG

HL7, Patient Care WG

HL7, EHR WG

HL7, Payer User Group

Lisa Nelson Lisarnelson@cox.net

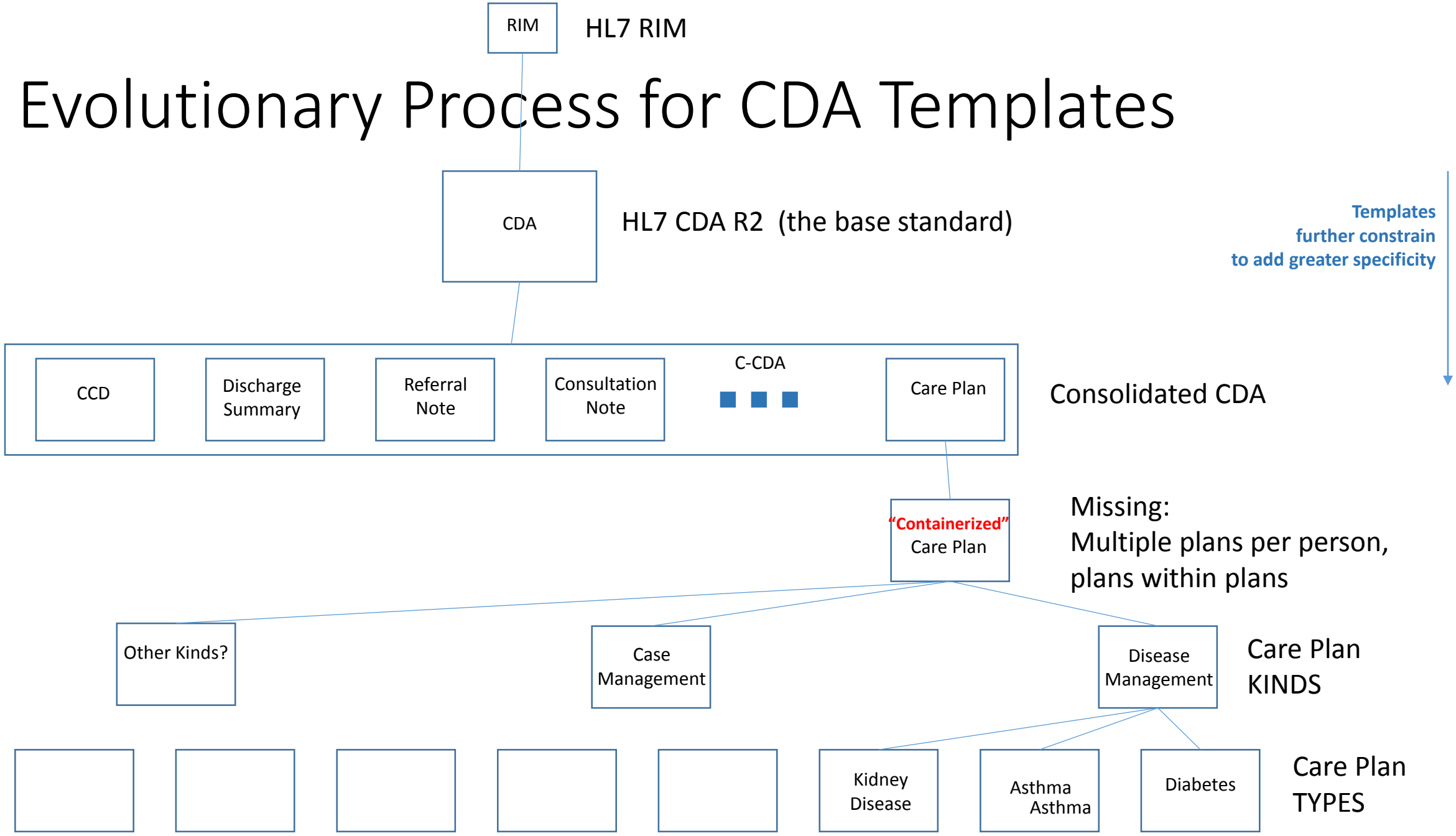
HL7, Patient Care WG

HL7, StrucDocs WG

Questions?

Lenel James Lenel.James@BCBSA.com
HL7, Attachments WG
HL7, Patient Care WG
HL7, EHR WG
HL7, Payer User Group

Lisa Nelson Lisarnelson@cox.net
HL7, Patient Care WG
HL7, StrucDocs WG

Appendix

Evolutionary Process for CDA Templates