



# Project CLARE

A patient story about care planning and care team coordination in eye care.

By James Grue,  
Lisa R. Nelson,  
Dennis Ball,  
Dr. Dennis Matthews

Draft July 27, 2021

## Preface

Project CLARE aims to show the workflow and demonstrate the creation of effective standardized digital documents designed to facilitate communication and data interoperability across multi-disciplinary care teams. Target Audience is developers and implementers. The clinical story isn't designed to teach clinicians about clinical workflow. It exists to supply the "real world information" which developers and implementers need when populating clinical documentation. The clinical story provides the subject matter to tell if the communications convey the correct "data story" within each digital exchange. The goal is to encourage EHRs to generate and consume the appropriate document types.

[Project CLARE](#) packages together a clinical story told from a clinician's perspective and a description of the information that needs to be shared for effective communication across the patient's multi-disciplinary care team. It also includes a set of standard documents which were created by the project team using realistic clinical data aligned with the facts of the clinical story. Each interchange document was developed using the correct type of C-CDA document for the type of exchange happening in the clinical story. The C-CDA documents were created using advanced templates defined in the C-CDA R2.1 Companion Guide and followed other best-practice guidance generated by the Carequality/Commonwell Joint Work Group, thus creating a high-quality collection of documents that developers and implementers can use to better inform their use of and vision for C-CDA document exchange. The xml documents include references to the standards used to create them and comments that explain how specialized templates have been applied.

Project CLARE uses a use case documentation methodology that produces meaningful, realistic patient data without the cost, privacy, or security restrictions of production data. The methodology was developed by Nelson and Dr. James Grue with the assistance of Dennis Ball and Dr. Dennis Mathews with the goal of accelerating development and testing on new information communication capabilities needed to coordinate care across patient care teams and incorporate the power of a learning health system.

The full Project CLARE package is available for download from the MaxMD website (<https://www.maxmddirect.com/direct/resources/Project-CLARE>). It includes this overview document as well as the set of C-CDA xml files that demonstrate the communications described in the scenario. The package also includes the html versions of the documents which can be rendered with a standard browser, and the ONC Scorecard report for each document to show the high quality and conformance of the xml. Implementers are encouraged to examine the sample files while reading about the communications in the scenario.

The website also includes a timeline view of the Project CLARE clinical story to show a novel approach for rendering a longitudinal patient record.

A quiz is available that developers and implementers can take to test their knowledge of the templates demonstrated in the Project CLARE document collection.

In future phases, Project CLARE will demonstrate sharing digital images, such as Optical Coherence Tomography (OCT) and Optical Coherence Tomography Angiography (OCTA), as an integral part of the communication among care team members. Project Clare also will explore the applicability of the 360X

standard and other available standards to facilitate a closed-loop referral workflow. In the future, the Project CLARE package also will include sample 360X messages to demonstrate the digital communications associated with that standard protocol in the context of this clinical story.

## Contents

<b>Preface</b>	2
<b>Introduction</b>	4
Scenario	5
Coordination of Care: Communication across the patient’s care team	8
<b>Description of relevant and pertinent document content</b>	8
<b>Digital Information Exchange</b>	11
Chronology of communications and notifications necessary to carry out the plan of care	12
Closing the referral loop	16
The importance of measuring clinical outcomes with a registry	16
Summary	17

## Introduction

The story in CLARE starts with a referral for a patient with diabetes from a primary care physician for the patient's annual eye exam. In order to understand the documents that create the communications to support this story there are a couple of things to consider. The first is that healthcare reform is transforming clinical care from silo'd care where providers engaged in limited communications with other providers involved in the care of the patient, to "Team" delivery of care where providers not only need to share clinical data, but also how both the patient and the providers "think" about the care. The aim of the story is to help you as a developer see the power in communications between providers when both data and the thought process that leads the care management process is also part of the communications between providers.

In CLARE, this results in the eye care provider to be a more effective member of the team in empowering the patient to take better control of her care. The eye care provider is able to go past the traditional role of just doing an exam to detect if diabetic retinopathy is present, to supporting the team in helping the patient reduce the risk and delaying the development of diabetic retinopathy.

As part of the eye exam, the optometrist completes a test called an Optical Coherence Tomography Angiography (OCTA). This initial story focuses on the creation of the C-CDA documents needed for effective communications. A later expansion of Project CLARE will focus on sharing images such as come from an OCTA. The OCTA results are ultimately an important part of the clinical communications as the test allows the detection of very early microvascular changes which can be detected 2 – 3 years before visible retinopathy can be detected through traditional examinations. The next phase of CLARE will also focus on how the OCTA results, along with other clinical data is being used by a clinical outcomes registry to create analytics that show how effective the OCTA results are in predicting the development of visible analytics, but also how effective the results are in potentially predicting other diabetic complications.

The patient in CLARE is a 68 year old female. That is initially referred by her primary care physician for her annual dilated eye exam. The clinical data used to create the document types is representative of true clinical data. The most significant part of the story is the emphasis on understanding "patient concerns", addressing those with the patient, and sharing them with the rest of the team. In CLARE, the Optometrist just happens to be the provider that successfully gets the "breakthrough" with the patient and learns what is interfering with the patient getting better control of her diabetes. Pay attention to the critically important role of the proper documents in sharing this important information with the rest of the team.

## Scenario

Clare Tesca is a 68-year-old female patient with diabetes. During the patient's annual exam with her primary care physician, the patient complains of blurred distance vision and halos around lights at night. This results in a referral from the PCP to an Optometrist for an annual eye exam. The visit with the Optometrist triggers a referral to a cataract surgeon for cataract extraction as well as steps to coordinate care with a formal diabetes educator. Although the patient has cataracts, she does not have visible diabetic retinopathy but does have early microvascular changes on OCT-A. She also is at a higher risk of developing visible retinopathy more rapidly because her diabetes is not well controlled. Over the course of the coming year the patient addresses her cataracts and takes steps to reduce her risk of retinopathy. Consequently, she gets her diabetes under better control, loses weight, sleeps better, has more energy, and feels better overall.

The PCP referred the patient for an annual dilated eye exam because of the patient's diabetes, as well as the patient's visual complaints. The referral communication was sent to the Optometrist. The Optometrist reviews and accepts the referral. The OD's EHR processes the message and advances the workflow state of the referral request to accepted. It consumes the attached Referral Note, attaching it to the patient's record and adding new and updated information into the patient's medical history and care plan.

The OD's review of the information received from the primary care physician revealed an inconsistency which the OD felt required further evaluation. As part of patient concerns, the referral information stated the patient was concerned that other family members who had experienced loss of vision due to diabetes as they aged. To the OD, that concern seemed inconsistent with the poor level of control indicated by the patient's elevated HbA1c. This inconsistency prompted additional discussion with the patient about his concerns.

Upon further questioning, the patient indicated that since so many individuals in her family with diabetes had lost vision as they aged, "it is inevitable that she will also". Since she is at an age where she only has a few years left to work and likely less before her vision becomes affected, "it makes sense to concentrate more on work than control of the diabetes at this point," she believed.

There was another concern that the patient elaborated on. When home, she was more successful eating correctly than when traveling, which she does regularly for business. Even at home, sometimes she prepares a meal that gives her a glucose spike that she did not expect.

The eye exam revealed bilateral cataracts that had progressed to the point they may be surgically removed. The Optometrist referred the patient to an Ophthalmologist to evaluation if surgical removal appropriate was appropriate.

The OD delivered care consistent with the recommendations of patient-centered care that require the patient to be included in the process of deciding what care is most appropriate for them. The practice also followed the updated diabetes management guidelines issued by the American Optometric Association in October of 2019 that indicate it is appropriate to support the rest of the patient's care team in trying to improve clinical outcomes in helping the patient understand what she can do to lower her risk of developing diabetic retinopathy.

The OD explained to the patient that her symptoms of blurred vision and halos around lights are being caused by cataracts that are advanced enough to consider surgical removal, but they could wait longer depending on how inconvenient the symptoms are for the patient.

The patient indicated that she had to travel a lot for work and that the difficulty with night driving is significant and agrees to a referral for evaluation for surgical removal.

The OD tells the patient his staff will assist him in scheduling the evaluation and that a referral letter will be sent. The OD also informs the patient that there are follow up visits after the surgery that the patient can decide whether she prefers to have completed by the Ophthalmologist's office or can be completed in the OD office. The recommendation is that if the surgery goes as expected, the same follow up will be completed in either office. The patient says that it would be more convenient to have the OD complete the follow up visits if possible due to the distance to the Ophthalmology office.

The examination also revealed the patient did not have diabetic retinopathy, but the information received from the primary care physician's office showed the patient has been diabetic for over 5 years and the diabetes is not well controlled with an elevated HbA1c. This put the patient at an increased risk of developing diabetic retinopathy in the future. In addition, the OCT-A revealed early microvascular changes in the form of an asymmetry of the foveal avascular zone between the two eyes.

The OD also informed the patient that at the current time, there was no evidence of any visible diabetic retinopathy, but explains he is concerned that the uncontrolled diabetes is putting the patient at a greater risk of developing retinopathy in the future.

He asked the patient if she understands why the uncontrolled diabetes is putting her at a greater risk and the patient responds that she is not sure.

The OD explains that although family history can have some effect on the risk of developing retinopathy, the data from both evidence-based medicine and outcome registries clearly shows a much stronger link to the level of control of the diabetes. The OD states that there are ways in which she could help the patient better understand the risk of developing retinopathy. There also are ways the patient could significantly reduce that risk. The patient indicates she is very interested in finding out how to do that. The first step of the plan is patient education in the eye care office, so the patient understands the sequence and timing of the development of diabetic retinopathy, as well as what factors influence the rate of development.

The results of the OCT-A are used in the education delivered to her during her visit emphasizing that the changes already present in the scans are the early changes that lead to the eventual more significant retinal changes involved in visible diabetic retinopathy. She is also shown how these changes can be evaluated over time and relate to the risk of developing more advanced changes based on the level of HbA1c.

The OD suggests to the patient that a diabetic educator could help her, in ways that would likely help her eat better when traveling and that the same information would likely even help her be more successful in putting together a healthy diet when home. The patient agrees that she would benefit from a referral to a diabetic educator.

The OD added his clinical notes about the outcome of the exam and the completion of the referral from the PCP then sends a Consultation Note document back to the PCP to signal the completion of the services that were performed as a result of the referral.

The PCP's EHR processes the message and advances the workflow state of the referral request to completed. It consumes the attached Consultation Note, attaching it to the patient's record and adding new and updated information into the patient's medical history and care plan. The PCP receives the reviews the patient's progress in the EHR.

The OD has a relationship with a clinical outcomes registry. Data gathered during clinical care is shared with the registry to be aggregated and studied to assess the quality and effectiveness of care. The registry retrieves the data through an API supported by the OD's EHR system.

The Registry system queries each the EHR used by each care team member to retrieve any new clinical data that has been documented since the previous retrieval. Each new Encounter Summary Document is retrieved by the registry in a cron job that runs at scheduled times and gathers the documents/data from the prior period.

## Coordination of Care: Communication across the patient’s care team

In implementing the plan, the OD is going to make sure the other members of the care team are aware of the updated patient care plan. He is also using other team members in implementing the plan. The overall approach is based on a patient-centered model that recognizes that ultimately it is the decisions that the patient makes daily that has the largest influence on the risk of developing diabetic retinopathy. The approach is to utilize the resources of the care team to empower the patient to not only be able to help in the decision-making process of what elements of the care plan will be most appropriate for that patient, but also to be able to make good decisions in all aspects of managing their own daily care.

Figure 1. includes diagrams showing two different ways of depicting the communication pathways needed to support coordination of care in this scenario. Regardless how you picture the flow, the connectivity remains the same. Clinical information flows to the registry organization, in either real-time or batch, via secure, standardized, scalable exchange mechanisms.

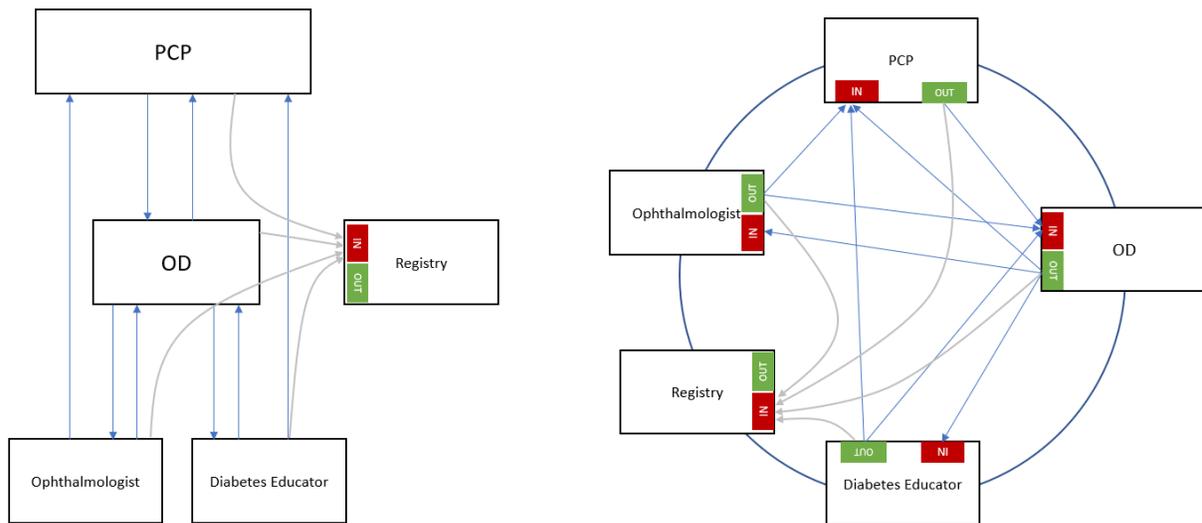


Figure 1. Information exchange flows depicted in two different ways: one linear and one circular. Both diagrams convey the same information exchange requirements needed to coordinate care and fuel a learning health system approach.

## Description of relevant and pertinent document content

From a provider’s perspective, the following lists outline the clinical data that needs to be included for effective communication in this scenario.

### Initial exam documentation

The exam documentation needs to include the patient and provider concerns so that this information can be used when creating the referral note to the eye care provider.

### Referral note from PCP to Optometrist

Key information contained in the referral communication include an identifier for the referral request which the systems use to organize the information pertaining to this referral over the course of its completion. The reason for the referral is also critical, so the recipient provider knows what services are being requested and why. Additional relevant health data may be included to aid in the assessment of the patient by the provider performing the services the patient has been referred to receive.

**Consultation note (letter) back to the primary care physician that made the original referral to the eye care provider**

Information that the eye care provider needs to send back to the primary care physician who made the original referral includes a reference to the original referral note, information about the provider who made the referral, who the referral was to, and the results of the examination. Exam results include clinical data such as an updated problem list, updated medication list, description of clinical findings such as, OCT-A results, retinopathy findings, and IOP. It also includes patient concerns, provider concerns, the provider's assessment, an updated plan of care, and documentation of the patient education that was provided.

**Referral note to a diabetic educator**

The reason for the referral is a key piece of information that needs to be included in every Referral Note. This can be a narrative statement such as, "The patient did not attend the 10 hours of diabetes education that was suggested when she first became diabetic and has not received the yearly follow up diabetes education her insurance covers either so is eligible under insurance for this referral." It also is important to include the goals for the services to be provided. For example, documented goals for a referral to a diabetic educator could be: Patient makes better meal plans when traveling. Patient often chooses a balanced diet that promotes A1C control.

The referral note sent to the diabetic educator also must include: the history of diabetes control, how long the patient has been diabetic, the history of poor control, the current HbA1c. It also should indicate what education was already delivered by the Optometrist.

The referral note also should describe the patient's updated concerns. For example, if a patient is concerned about controlling her risk of developing retinopathy and wants help in making better decisions on diet and exercise, that concern should be included in the documentation initiating the referral.

**Referral note to Ophthalmology for evaluation for cataract extraction**

This type of document must include all the certain common information: the date of the referral, who is making the referral, who the referral is to, and the reason for referral. It also needs to include all the information contained in the referral note received from the primary care physician sent to the Optometrist with an updated problem list, medication list, patient and provider concerns, and plan of care. Additional relevant ocular findings also should be included.

**Consultation note from Ophthalmologist back to Optometrist following initial evaluation visit**

The consultation note needs to acknowledge that the patient was examined.

It also should include the consulting provider's assessment of the patient's situation regarding the services the patient was referred to receive. For example, if the reason for referral was to provide an assessment of the patient's need for cataract removal, the consultation note needs to indicate if the provider determined that the cataracts are ready to remove. It also should indicate what follow-on interventions were planned, for example, if any a surgery was needed, planned or scheduled. For planned surgical procedures, it needs to include the date for the procedure.

**Progress note first day post-op**

This type of progress note needs to include the following information:

- 1) Date of surgery
- 2) Type of surgery completed
- 3) The type of implant
- 4) Medications the patient is on
- 5) How well the patient tolerated the procedure
- 6) Any patient concerns
- 7) Uncorrected visual acuity in operated eye
- 8) Clinical observations including
  - a. Status of cornea including status of wound
  - b. Status of anterior chamber
  - c. Positioning of implant
  - d. Status of posterior capsule
  - e. Status of vitreous
  - f. Status of retina
- 9) Any other significant findings

**Subsequent progress notes**

Progress notes for the remaining three post-op visits completed by the co-managing OD and sent to the Ophthalmologist need to include:

- 1) Patient statement of satisfaction
- 2) Any difficulties patient is experiencing
- 3) Uncorrected Visual Acuity in operated eye
- 4) Corrected Visual Acuity in both eyes when appropriate
- 5) Clinical observations including
  - a. Status of cornea including status of wound
  - b. Status of anterior chamber
  - c. Positioning of implant
  - d. Status of posterior capsule
  - e. Status of vitreous
  - f. Status of retina
- 6) IOP (when appropriate)
- 7) Next follow up scheduled date

**Data submissions to eye care registries**

Over the course of care, data submissions to the registry would be accomplished through API integrations or secure Direct messaging. The provided information enables the registry to track the activities and aggregate data which enables the registry to quantitate results across a large population of patients receiving similar care. Under a process of continuous quality improvement, the resulting information can be used to guide future decisions on how to deliver care, improve outcomes, and reduced cost.

The Progress at the end of the episode actually communicates information that allows participants (and computers) to detect the episode of care is over. This is a key piece of information that must be included. In the final progress note, the service event has an effectiveTime/high element that is populated. By populating the service event effectiveTime/high data element, computers processing the sequence of documents can determine this episode of care has finished.

## Digital Information Exchange

In order to communicate the extensive amount of information described above, an information exchange mechanism is needed to package the information for exchange between systems. This packaging mechanism in digital information exchange is called a “document”. A digital document is simply a standardized report template for a predefined set of information.

The list below describes the set of digital documents necessary to carry out the plan of care illustrated in the clinical story developed in Project CLARE.

These are the communications that are required in order for the information to be shared that is necessary to successfully support this type of patient-centered, outcome based care.

- 1) A referral from the primary care physician to the OD (Referral Note document)
- 2) An exam report from the Optometrist back to the referring primary care physician (Consultation Note document).
- 3) A referral to the diabetic educator from the OD with a cc to the PCP (Referral Note document).
- 4) A referral to Ophthalmology for cataract extraction from the OD with a cc to the PCP (Referral Note document).
- 5) A letter back from the Ophthalmologist to the Optometrist (Consultation Note document).
- 6) An operative note for the procedure performed by the Ophthalmologist on the patient’s right eye (Operative Note document).
- 7) A progress note for the one-day right-eye post-op exam by the Ophthalmologist to the Optometrist (Progress Note document).
- 8) A progress note for the one-week right-eye post-op exam by the Optometrist to the Ophthalmologist (Progress Note document).
- 9) Referral note from the Optometrist to the Ophthalmologist for the left-eye evaluation for cataract surgery. (Referral Note document)
- 10) A letter back from the Ophthalmologist to the Optometrist (Consult Note document)
- 11) Operative note for the procedure performed by the Ophthalmologist on the patient’s left eye (Operative Note document)

- 12) Progress note for the one-day left-eye post-op exam by the Ophthalmologist to the Optometrist (Progress Note document)
- 13) Progress note for the one-week left-eye post-op exam by the Optometrist to the Ophthalmologist, and a one-month follow-up for the right-eye. (Progress Note document)
- 14) Progress note for the one-month follow-up for the left-eye by the Optometrist to the Ophthalmologist. (Progress Note document)
- 15) Progress note for the three-month follow-up for both eyes by the Optometrist to the Ophthalmologist. (Progress Note document)
- 16) CCD with additional information for the episode of care which may not have been included in prior clinical communications.
- 17) Optional six-month post-op if specialty implant used, Progress note by the Optometrist to the Ophthalmologist. (This C-CDA is not included in the project as it is optional)
- 18) Progress note from the diabetic educator at the completion of education sessions to the Optometrist and Primary Care Physician
- 19) End of Episode of Care CCD that summarizes the entire episode of care - a trigger to indicate the episode is over: Header ServiceEvent has an effective low and high (hence done) Ecounters Section, Procedure Section, Plan of Care, other relevant sections like Health Concerns.

### Chronology of communications and notifications necessary to carry out the plan of care

Table 1 Longitudinal summary of the communications and notification as they occurred over time.

C#	Date	Care Event that happened	Type of Document or Notification produced	Created by (Role)	Shared with (Role)
1	1/20/2020	Primary Care Exam	Referral Note	Primary Care Physician	Optometrist
2	2/10/2020	Optometry Exam	Consultation Note	Optometrist	Primary care physician
3	2/10/2020	Optometry Exam	Referral to Diabetic Educator (Accepted without sending back a Consultation Note or updated Care Plan. See 360X.)	Optometrist	Ophthalmologist Diabetic Educator
4	2/10/2020	Optometry Exam	Referral to Ophthalmologist	Optometrist	Diabetes educator Ophthalmologist
5	3/1/2020	Ophthalmology Exam	Consultation Note	Ophthalmologist	Optometrist

6	3/5/2020	Cataract Surgery on Right Eye	Operative Note	Ophthalmologist	Optometrist
7	3/6/2020	One-day Post-op Exam (Right Eye)	Progress Note	Ophthalmologist	Optometrist
8	3/13/2020	One-week Post-op Exam (Right Eye)	Progress Note	Optometrist	Ophthalmologist
9	3/13/2020	One-week Post-op Exam (Right Eye)	Referral Note	Optometrist	Ophthalmologist
10	3/19/2020	Ophthalmology Exam	Consultation Note	Ophthalmologist	Optometrist
11	3/26/2020	Cataract Surgery on Left Eye	Operative Note	Ophthalmologist	Optometrist
12	3/27/3030	One-day Post-op Exam (Left Eye)	Progress Note	Ophthalmologist	Optometrist
13	4/3/2020	One-week Post-op Exam (Left Eye) One-month Post-op Exam (Right Eye)	Progress Note	Optometrist	Ophthalmologist
14	4/27/2020	One-month Post-op Exam (Left Eye)	Progress Note	Optometrist	Ophthalmologist
15	6/4/2020	Three-month Post-of Exam (Both eyes)	Progress Note	Optometrist	Ophthalmologist
16*	6/4/2020	Submission to Outcome Registry	This is a critical trigger for system processing. This event marks the end of the eye-care episode of care for data processing and analysis.	Optometrist	Registry
17*	9/3/2020 Not relevant for this story	Optional Six-month Post-of Exam (if specialty implant)	Progress Note	Optometrist	Ophthalmologist

18*	9/15/2020	Last educational session with diabetic educator	Progress note	Diabetic Educator	Optometrist Primary Care Physician
19	9/15/2020	End of Episode of Care	CCD with additional data for Registry	Optometrist	Registry; Patient;

- *Note: This document is not included in the set of documents created for Project CLARE.*

Table 2 Longitudinal summary of the thought process of the care team.

C#	Date	Care Event that happened	Thought Process of the Care Team
1	1/20/2020	Primary Care Exam	Primary care physician: Unsure why patient isn't under better control Patient: Feels that loss of vision is inevitable due to family history so concentrating more on working hard and saving money before vision restricts ability
2	2/10/2020	Optometry Exam	Optometrist: Realizes the patient does not understand what causes the most significant risk for retinopathy and vision loss Patient: Gains a better understanding of risk of developing retinopathy and controlling that risk can significantly reduce the possibility of losing vision
3	2/10/2020	Optometry Exam	
4	2/10/2020	Optometry Exam	
5	3/1/2020	Ophthalmology Exam	Ophthalmologist: Aware patient was a sharp vision as possible and is motivated to reduce risk of developing retinopathy Patient: Excited about vision improvement potential with cataract surgery
6	3/5/2020	Cataract Surgery on Right Eye	
7	3/6/2020	One-day Post-op Exam (Right Eye)	Ophthalmologist: please with surgical outcome Patient: Happy that glare and blur is gone in right eye
8	3/13/2020	One-week Post-op Exam (Right Eye)	
9	3/13/2020	One-week Post-op Exam (Right Eye)	Optometrist: pleased with surgical outcome of right eye Concerned about patient complaints of left eye

			Patient: Pleased with new vision in right eye, wants similar results in left eye to eliminate continued blur and glare in that eye
10	3/19/2020	Ophthalmology Exam	
11	3/26/2020	Cataract Surgery on Left Eye	
12	3/27/3030	One-day Post-op Exam (Left Eye)	
13	4/3/2020	One-week Post-op Exam (Left Eye) One-month Post-op Exam (Right Eye)	Patient is happy with new vision in each eye and more motivated than ever to get their diabetes under control to reduce the risk of future vision loss
14	4/27/2020	One-month Post-op Exam (Left Eye)	
15	6/4/2020	Three-month Post-of Exam (Both eyes)	Patient is happy with vision at all distances. Is pleased she has decided to attend the diabetes education classes so she can maintain good vision longer The Optometrist and Ophthalmologist are pleased with the results of the cataract surgery and feel the proper implant type was selected by the patient to best meet her needs
16*	6/4/2020	Submission to Outcome Registry	This is a critical trigger for system processing. This event marks the end of the eye-care episode of care for data processing and analysis.
17*	9/3/2020 Not relevant for this story	Optional Six-month Post-of Exam (if specialty implant)	
18*	9/15/2020	Last educational session with diabetic educator	The patient is excited that she now has the knowledge to take control of her diabetes and understands that her efforts will pay off in a significantly lower chance of losing vision from her diabetes. The diabetic educator is optimistic that the patient will get better control but experience has shown that patients often loose their enthusiasm to continue to get better control because of the difficulty in making the transition to healthy eating that is sustainable. A six month refresher course and opportunity to

			address challenges at that point has been set up for follow up because of these concerns.
19	9/15/2020	End of Episode of Care	This is a critical trigger for system processing. This event marks the end of the diabetic education episode of care for data processing and analysis.

- *Note: This document is not included in the set of documents created for Project CLARE.*

### Closing the referral loop

This case involves a large number of communications, all of which are essential if the care of the team is going to appear cohesive to the patient, leverage the total resources of the team, and foster the best outcomes. In order for that to happen, two things are necessary:

- 1) The communications must be standardized so the important data is merged into each providers workflow. That is only possible when the communications are in a standardized format, each individual EHR takes the primary responsibility for creating the communications in a way that reduces the burden on the provider, and the method of sending the communications is easy to use and largely automated.
- 2) The large number of communications, all with different offices and staff responsible, is likely to result in some of the communications not being completed on a consistent basis. The presence of an outside software program that can track the communications and provide reminders when a communication is not completed when expected would add consistency to the process allow everyone involved to know when the process is completed, and further reduce provider burden. Closed loop referral programs such as 360X are specifically designed to serve this purpose.

### The importance of measuring clinical outcomes with a registry

In traditional fee-for-service delivery of care, providers used evidence-based studies to create clinical best practices that drove care delivery. When these generally broad-based clinical protocols were put in place, providers felt they were delivering high quality care primarily measured through adherence to protocols rather than in measuring the actual clinical results. Providers felt that as long as they followed the recommendations of the evidence-based studies, all patients would get the best results possible.

Evidence based studies will continue to be used a starting point for care deliver, but clinical outcome registries reveal that even when evidence-based protocols are administered consistently and uniformly, the clinical results that individual patients get can vary significantly. Registry data can then provide valuable insight into the variation in outcomes, and often make apparent, ways that reduce the variation and suggest ways to improve the outcomes.

Clinical outcome registries are showing that actually measuring clinical outcomes and looking at ways of improving those outcomes through a process of continuous quality improvement, results in better actual outcomes than just assuming that if the evidence-based protocols are used all outcomes will be the best possible.

## Summary

Project CLARE helps developers and implementers see the power of standardized communications between providers when both data and the thought process that leads the care management process is also part of the communications. It shows the critical role of using the proper documents when sharing the needed information across a patient's care team.

Implementers are encouraged to examine the sample files while reading about the communications in the scenario. The full Project CLARE package is available for download from the MaxMD website (<https://www.maxmdirect.com/direct/resources/Project-CLARE>). It includes this overview document as well as the set of C-CDA xml files that demonstrate the communications described in the scenario. The package also includes the html versions of the documents which can be rendered with a standard browser, and the ONC Scorecard report for each document to show the high quality and conformance of the xml.