Coordinating Care Patient Story
Managing Diabetes: An eyecare care planning and care team coordination scenario

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

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Introduction
This story is about a 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. The story reveals the patient’s journey over the following year. The story demonstrates the need for communication across the patient’s dispersed care team. It shows the value of sharing clinical data with an outcomes-based registry to create evidence supporting new and more effective care delivery guidelines. It also highlights the importance of patient education and engagement in achieving positive health outcomes. Most importantly, the story illustrates a level of coordinated care in the management
of diabetes that could usher in a whole new approach to the early management of diabetes which isn’t possible without effective communications between team members.

This story is significant for multiple reasons. Cataracts and diabetic retinopathy are two of the leading conditions that result in referrals and require communication and coordination between multiple care providers to manage patient care. This story demonstrates the complex teamwork required to deliver patient-centered care and the need for better ways to communicate across a dispersed care team. Showing the needed communications templates for this patient scenario will cover a large percentage of all communications that occur between primary care physicians, Optometrists, Ophthalmologists, support organizations, and other practitioners who contribute to positive health results for the patient. Under new value-based care payment models, reimbursements depend not only on the delivery of services, but also on the attainment of positive health outcomes. Those outcomes impact reimbursement and are significantly affected by how efficiently and effectively a care team is able to share patient health information.

The story shows the value of expanding the potential role for an eye care provider on a patient’s care team. In some cases, an eye care provider may be in a distinctly influential position when it comes to encouraging new patient behavior. Historically, eye care providers have concentrated mainly on detecting and managing diabetic retinopathy. The new envisioned larger role leverages the unique contribution more abundant and less costly eye care providers can make. By empowering patients to reduce the risk of retinopathy through better control of their diabetes, eye care providers help reduce all complications associated with diabetes. The story highlights four changes resulting from recent healthcare reforms which support this vision:

1) There is growing evidence showing the importance of the role eyecare providers can play to reduce the risk of patients developing diabetic retinopathy. In October 2019, the American Optometric Association released an updated evidence-based guide for the management of diabetes. It recommends Optometrists move beyond the traditional role of simply detecting and managing diabetic retinopathy to participate more actively on the patient’s care team with a new emphasis on helping the patient reduce their risk of developing retinopathy.

2) New CMS E/M coding guidelines that took effect Jan 1, 2021 reduce the requirement for specific documentation to be completed during an exam and put more emphasis on better managing risk by crediting the time and effort to obtain, review and utilize data obtained from outside sources in the care of the patient.

3) Increased use of big data analytics by outcome-based registries is producing greater understanding of the outcome improvement possibilities. New evidence shows positive results from value-based models of care delivery. Expanding the role for eyecare in a diabetic patients’ care team improves overall health outcomes while helping the patient further reduce their risk of developing diabetic eye disease. New technology in eye care allows visualization of very early microvascular changes in early diabetes that outcome based clinical registries are now tracking in a way that can help predict, based on HbA1c levels, the risk of developing visible diabetic retinopathy. These changes are present as much as two years or more before the development of visible retinopathy that is detectable during a routine eye exam or on fundus photos. It is thought that these early microvascular changes lead to the more advanced diabetic changes that occur throughout the body. Just as registries are looking at the predictive value of these changes in relation to diabetic retinopathy, they are also looking at all other diabetic
complications such as neuropathies, etc. to see if the early vascular changes visible by simple inexpensive, non-invasive techniques in the eye, correlate to reliable prediction of risk of developing other diabetic complications.

4) Healthcare reform has ushered in a greater understanding of the importance of how providers engage patients. There is a new emphasis on patient concerns, which translates to “listen to the patient”. Provider concerns are useful in helping teams of providers be more productive by clearly identifying what a provider feels needs to happen and how each team member can contribute to empowering the patient. The analytics that are available within eye care regarding early microvascular changes provide powerful information to help empower the patient to better understand their care and actively participate in better managing their condition. It becomes even more powerful when this information can be effectively communicated so the rest of the care team which then has the same information allowing consistent messaging to the patient. The other members of the care team can then use this information to further empower the patient regarding the rest of their diabetic management.

This story shows how core misplaced beliefs of a patient can drive poor decisions on how the patient manages his or her condition. The patient centered care approach that identifies these beliefs, when shared with all care team members, allows a consistent approach supported by all providers, to empower the patient to change the way they think. The analytics on the new ability to view and quantitate early microvascular changes then provides a consistent approach for the whole team to empower and motivate the patient to understand what they should be doing differently. It gives both providers and patients a quantitative way to track the changes that occur over time, which can help significantly in motivating the patient to better control their condition.

New eye care technology supplies information that helps predict and monitor possible complications. The advanced instrumentation detects, monitors, and measures vascular changes as much as two-years before visible retinopathy appears. These findings also are indicative of vascular changes occurring in the rest of the body. The story shows how important analytics are in better establishing the rate of progression of ocular complications based on the level of overall diabetes control, as well as in potentially establishing these early ocular findings as more useful predictors of other systemic complications. Outcome studies conducted by registry organizations help to quantify the predictive value and update care protocols to incorporate new evidence.

Effective patient engagement is not easy. Traditional care largely involves providers “telling the patient what to do”. There is a book entitled “How Patients Think” by Andrea LaFountain that gives a useful example of the goal of patient engagement. She studied the case of medication compliance with children with ADHD. It was found that the group that used their medications, for the most part, were very compliant and rarely missed using it. The group that did not regularly take their medications, consistently did not take them and it didn’t seem that any amount of encouragement or instruction changed the result. What she wanted to know is what was the difference between those two groups. Ultimately what she found is that in the group of children that always took their medications, the
parents believed that ADHD was the result of some type of chemical imbalance and therefore the medication was aimed at correcting that imbalance so taking the medication made sense.

In the case of the children that were not compliant, the parents of those children consistently expressed that they thought that ADHD was largely a disciplinary problem and that their child was fine otherwise. When the parents had this view, they actually believed the medication was potentially bad for their child. Once the study revealed that difference, they were quickly able to put together a program that immediately influenced the non-compliant group in a way that no other efforts had been able to do. The important point is that if you do not engage effectively with the patient to identify these underlying factors that drive their performance and compliance, other efforts to improve compliance will either fail or be less effective.

This story shows how core misplaced beliefs of a patient can drive how the patient manages his or her conditions and how finding factors that highly motivate a person can lead to behavior change that results in improved health outcomes. By addressing patients’ beliefs and values, the chances of getting better outcomes significantly improves for the future.
Scenario Overview
This story is about 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 his 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. Although the patient has cataracts, she does not have diabetic retinopathy but is at a higher risk of developing retinopathy 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.

Step #1: A referral is initiated from a primary care physician (PCP) to an Optometrist.
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.

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.

Step #2: The OD completes the examination
The examination revealed the patient does 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 puts 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 eye exam also revealed bilateral cataracts that have progressed to the point they can be surgically removed, making the recommendation for a referral to an Ophthalmologist for evaluation for surgical removal appropriate.

The 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 is concerned that other family members have experienced loss of vision due to diabetes as they aged. That concern seemed inconsistent with the poor level of control indicated by the 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 is 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.

**Step #3: The OD updates the patient’s plan of care**

The OD delivers 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 follows 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 indicates that she still has 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 OD also informed the patient that at the current time, there is 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 asks 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.

**Step #4: The OD sends a Consultation Note to the patient’s PCP to complete the referral workflow.**

The OD adds 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 receives the Consultation Note and reviews the progress of the patient’s care. 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.

**Step #5: The Registry retrieves the Encounter Summary.**

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 the use of an API.

The Registry system queries the participating provider’s EHR 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 chron 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.

1) Value added by the OD: The first part of the plan is patient education delivered during the day of the exam which includes:
   a. Review of the evidence-based studies that show the incidence of retinopathy can be significantly reduced with good control of the diabetes (as much as 76% reduction in retinopathy compared to patients with poor control)
   b. A discussion including images that show the sequence of the development of diabetic retinopathy
      i. Including OCT-A angiography results that can detect early vascular changes in the eye as much as two years in advance of visible retinopathy in some cases
   c. Review of outcome registry data showing the difference in rate of progression of retinopathy based on HbA1c for patients just like this patient
d. The emphasis of the education is on making sure the patient understands that although family history has some effect, the level of control of the diabetes is the most important factor that influences the risk of development of diabetic retinopathy. The education is delivered in a dynamic fashion with the patient able to ask questions and comment to ensure the patient understands that the decisions she is making daily significantly affects the risk of retinopathy and that the findings from an eye exam can provide valuable feedback information to understand how the control of the diabetes is affecting the rate of change of blood vessels in the eye, which correlates with the rate of change of blood vessels in the rest of the body.
e. At the end of the education session, the patient comments that she now has a much better understanding of the importance of good control and is confident she can do better to reduce the risk. She also states that now she understands the importance of being referred to the diabetic educator. She states she is anxious to modify her approach to caring for her diabetes.

2) A letter back to the primary care physician that made the original referral from the eye care provider (Consultation Note)
   a. Header information
      i. Reference the original referral note (I don’t know how that is done)
      ii. Individual that made the referral
      iii. Who the referral was to
      iv. Results of the examination
   b. Clinical data
      i. Updated problem list
      ii. Updated medication list
      iii. Description of clinical findings
         1. OCT-A results
         2. No visible retinopathy
         3. IOP
   c. Patient concerns
   d. Provider concerns
   e. Assessment
   f. Updated plan of care
   g. Patient education provided

3) A referral to a diabetic educator (Referral Note)
   a. 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
   b. Assistance in better meal planning when traveling
   c. Assistance in gaining a better understanding of a balanced diet that will promote better control
   d. The C-CDA document sent to the diabetic educator must include:
      i. The history of diabetes control
1. How long the patient has been diabetic
2. The history of poor control
3. The current HbA1c
4. What education was delivered by the Optometrist
5. The patient’s updated concern that she realizes that she can do better in controlling her risk of developing retinopathy but needs help in making better decisions on diet and exercise

4) A referral to Ophthalmology for evaluation for cataract extraction (Referral Note)
   a. The note must include all the header information
      i. Date of referral
      ii. Who is making the referral
      iii. Who the referral is to
      iv. Reason for referral
   b. The body of the referral note 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
   c. The body of the note also needs to include the relevant ocular findings
1) Consult note? From Ophthalmologist to Optometrist following initial evaluation visit
   a. Acknowledging the patient was examined
   b. Agree that the cataracts are ready to remove and surgery is scheduled
   c. Planned surgical date for first eye
2) First Day Post-op report (Progress note?) for the visit completed by the Ophthalmologist and sent to the Optometrist
   a. Information that needs to be included:
      i. Date of surgery
      ii. Type of surgery completed
      iii. The type of implant
      iv. Medications the patient is on
      v. How well the patient tolerated the procedure
      vi. Any patient concerns
      vii. Uncorrected visual acuity in operated eye
      viii. Clinical observations including
         1. Status of cornea including status of wound
         2. Status of anterior chamber
         3. Positioning of implant
         4. Status of posterior capsule
         5. Status of vitreous
         6. Status of retina
   b. Any other significant findings
3) Reports of the remaining three post-op visits completed by the co-managing OD and sent to the Ophthalmologist
a. Information that needs to be sent
   i. Patient statement of satisfaction
   ii. Any difficulties patient is experiencing
   iii. Uncorrected Visual Acuity in operated eye
   iv. Corrected Visual Acuity in both eyes when appropriate
   v. Clinical observations including
      1. Status of cornea including status of wound
      2. Status of anterior chamber
      3. Positioning of implant
      4. Status of posterior capsule
      5. Status of vitreous
      6. Status of retina
   vi. IOP (when appropriate)
   vii. Next follow up scheduled date

4) Data submission to appropriate registries
   a. These would be accomplished through API integrations rather than Direct Messaging in most cases
   b. The registries would track the activities and quantitate the results to guide future decisions on how to deliver care under a process of continuous quality improvement

Information exchange communications and notifications
[Add sentence to introduce the notion of the “digital communications and notifications” needed to support communication across the patient’s care team.]

Description of communications and notifications necessary to carry out the plan of care
These are the communications and notifications 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 described in Step #1 above)
2) An exam report back to the referring primary care physician (Consult Note)
3) A referral to the diabetic educator from the OD with a cc to the PCP (Referral Note)
4) A note from the diabetic educator to the referring OD and the patient’s primary care physician confirming an appointment has been scheduled to include education that covers the areas of concern in the referral (Scheduling Information Update Notification Note)
5) A note from the diabetic educator after the completion of services to both the referring OD and the patient’s primary care physician indicating what services were delivered and any goals and care plan actions that have been established. (Progress Note)
6) A referral to Ophthalmology for cataract extraction from the OD with a cc to the PCP (Referral Note- establishes the order and initiates an encompassing encounter.)
7) A note from the Ophthalmologist’s practice to the referring OD and the patient’s primary care physician confirming an appointment has been scheduled (Scheduling Information Update Notification Note-in fulfillment of the order and associated with an encompassing encounter.)
8) A communication back to the referring Optometrist (cc to PCP) from the Ophthalmologist following the initial evaluation visit indicating the results and providing the scheduled date of surgery. (Consultation Note about provided services (in fulfillment of the referral order and referencing the encompassing encounter) and SIU Notification Note for the surgery.)

9) A post-surgical note to both the referring Optometrist and the patient’s primary care physician with a review of the surgery. The communication also needs to indicate that the patient has chosen to the post-surgical visits completed in the referring Optometrist practice. (Procedure Note or Operative Note for the provided services in fulfillment of the order and referencing the encompassing encounter.)

10) In the case of co-management of the surgery, a follow up communication following each post-operative visit from the Optometrist to the Ophthalmologist (cc-ing the PCP) (Progress Note (references the encompassing encounter))
   a. The final post-operative communication needs to indicate the follow up is completed and what the ongoing plan of care involves (Progress Note) (The services provided are not completed, but the encompassing encounter is still open. Only the provider who initiates the encounter can complete it.)

11) Communications to the registry is an encounter summary. This may or may not include narrative notes, depending on the requirements of the registry. For example, if a visual acuity is required, there may be rules regarding which visual acuity information is desired.

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.

<table>
<thead>
<tr>
<th>Date</th>
<th>Care Event that happened</th>
<th>Type of Document or Notification produced</th>
<th>Created by (Role)</th>
<th>Shared with (Role)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/20/2020</td>
<td>Primary Care Exam</td>
<td>Referral to Optometrist</td>
<td>Primary Care Physician</td>
<td>Optometrist</td>
</tr>
<tr>
<td>2/10/2020</td>
<td>Optometry Exam</td>
<td>Consultation Note back to primary care physician</td>
<td>Optometrist</td>
<td>Primary care physician</td>
</tr>
<tr>
<td>2/10/2020</td>
<td>Optometry Exam</td>
<td>Communication to Registry (C-CDA Encounter Summary Note)</td>
<td>Optometrist</td>
<td>Clinical Registry</td>
</tr>
<tr>
<td>TBD</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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 provider’s 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 delivery, 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
This story was written in a way that incorporates the core principles being put in place through healthcare reform including:

1) Patient-centered care
2) Team based delivery of care
3) Outcome based care

It also delivers care that is supported by the new CMS E/M coding guidelines.