Continuity Across the Spectrum of Care Through Utilization of 360X

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# OVERVIEW

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Imagine a world where patient health information flows easily and securely, clinicians can communicate and share information with little effort, and everyone is informed of shared patient statuses in real time as the status is updated. Unfortunately, our care system has traditionally followed a model where data is siloed and not easily shared with other providers taking care of the same patient. In fact, 70% of specialists rate the patient referral information they receive from other providers as fair to poor.

In an environment where details, attention, and time matter, it’s critical for providers to have patient information at the right time and in the right place.

The 360 Exchange protocol, or 360X for short, offers a solution to this problem.
The 360X Project generates its moniker from the idea that 360 degrees covers the patient all the way around, keeping all providers on a care team engaged throughout transition of care processes with efficient communication on shared patients.

360X only leverages existing proven industry standards, including:

- HL7® C-CDA for clinical content
- The Direct Standard™ (often referred to as Direct) for transport
- XD for establishing context (metadata)
- HL7® V2 messages for referral/transfer status messages across care environments.

The use cases to date have focused on “Closed Loop Referrals” which has been balloted and approved as an IHE Patient Care Coordination domain profile, as well as “Transfer from Acute to Skilled Nursing Facility (SNF)”, which will be balloted by IHE International in 2020.

As 360X increases in adoption, it provides a practical means for facilitating interoperable exchange of health information in an effort to decrease redundancy of clinical diagnostic testing and in turn, decrease the cost of care, and reduce the burden and inconvenience placed on patients and providers alike. By sharing information through 360X, patients will experience better coordinated care because relevant providers are informed and their quality of care improves, leading to better outcomes and ultimately culminating in increased patient satisfaction.
In July 2012, 360X launched as an initiative of the ONC’s State Health Information Exchange Cooperative Agreement Program, a component of the Health Information Technology for Economic and Clinical Health (HITECH) Act, enacted as part of the American Recovery and Reinvestment Act of 2009 with a goal of supporting states’ efforts to rapidly build capacity for exchanging health information within and across state lines.

Specifically, the mission of 360X was to enable providers to exchange patient information for referrals from their EHR workflow, regardless of the EHR systems and/or HISP services used (i.e., allowing information to move point-to-point between unaffiliated organizations, differing EHRs, and differing HISPs) and with at least the same quality of workflow integration providers currently experience when referring between homogeneous EHR systems.

While the State HIE Program has sunset, and Meaningful Use requirements have been eclipsed by newer iterations of CMS incentive programs like Promoting Interoperability, the work of the 360X community continues toward meeting the mission established in 2012 and beyond.

Since its inception, the 360X project has received input from a broad representation of stakeholders throughout the public and private sectors. This dedicated group has included clinicians, technical experts, including representation from many EHR, HIT and HISP vendors, and ONC representatives among its members.

Recent work on 360X has accelerated as the industry recognizes the value of proper care coordination for decreasing costs and improving outcomes, leading to better patient care. Additionally, care coordination has manifested in recent regulatory efforts, such as the recent CMS Discharge Rule.
CLINICAL OVERVIEW

The initial focus of the 360X project was the creation of technical specifications and protocols to address the specific use case of referral management between a primary care provider and a specialist. The initial goals were to:

- standardize the type of data exchanged (C-CDA and other pertinent study and test result documents) and method of transport (via Direct Secure Messaging)
- have transparency between the primary care provider and specialty offices regarding the progress of the consultation and gaps in care (HL7 V2 Messages, such as Request, Accept, Decline, No Show, Cancel, etc.)
- create a process with a low technical bar for entry and for implementation to create broad rapid adoption across EHR vendors and clinical practices
- add value and efficiencies for patients, clinicians, office staff and overall clinical workflows.

Because of inclusion of Direct Secure Messaging in the 2014 EHR certification requirements, the 360X Project chose Direct as the primary method of transport because of its prevalence\(^2,3\). 360X via Direct builds on the ability of certified health IT to exchange C-CDA documents containing discrete data using standardized vocabularies as required by CMS and other incentive programs. This enables the receiving system/end user to pull the discrete data into the chart, reducing the need and time of transcription, as well as the risk of transcription errors that can occur.
Referral Management with 360X via Direct Secure Messaging

360X via Direct was designed to streamline the entire referral communication process with pertinent status and clinical communication flowing between the referring provider office and the specialty office up until the final specialty encounter when the referral loop is closed.

- The clinician orders a referral from the EHR and the staff manages the referral per office protocol, which includes sending a “referral request” via Direct Secure Message to the specialist’s EHR along with the C-CDA and any patient information deemed pertinent to the referral request. The C-CDA data includes the core clinical data and relevant information for the particular referral, such as current demographic data, problems, allergies, medications, and immunizations. This data might also include recent diagnostic tests or procedures which can help eliminate duplicate testing.

- The recipient office staff can either “accept” or “decline” the request. Along with an accepted request, the recipient office can return the patient’s scheduled appointment. A declined request will result in the referral loop being closed (and may purge the patient information from the recipient system), and the requesting office will continue sending requests to another specialist office that accepts the request and sends back the scheduled appointment.
• This process can occur while the patient is still in their PCP’s office at the time of check out. Patients no longer leave the office with a “do it yourself” process to tackle, but through 360X they can leave with a specialty appointment in hand.

• Until the final specialty visit (which closes the referral loop) standardized status messages and clinical information can be exchanged between the two offices. Examples of status and clinical messages include “no show”, “canceled”, “appointment rescheduled” and interim consultation notes. The interim consultation notes facilitate the PCP’s ability to reconcile their chart and always have the most up to date information and treatment plan. Following the consultation, when the PCP receives the consultation note C-CDA from the specialist, the discrete data therein can be used to reconcile the patient’s medications, problems, etc. in the PCP’s patient chart based on what the specialist has prescribed and recommended, thus ensuring that the chart is always current and accurate.

A key feature of 360X via Direct is once the initial order is entered and the process is started, the referral is assigned a specific globally unique referral ID number, which persists across all transactions until the referral loop is completed and the referral order is closed. This specific referral number allows the EHR systems to readily identify and associate the communication across systems with the relevant patient.
The 360X acute to SNF transfer use case begins with the discharge planning process, as the patient and discharging team are determining the best next steps for the patient’s ongoing care.

- If the patient requires transfer to a SNF, the acute facility can send transfer of care requests simultaneously to several SNFs chosen based on patient preference, along with the patient’s most up to date information in a C-CDA along with other care assessments, test or study documents from the acute facility to the multiple SNFs selected.

- The SNFs can then review the information received, allowing each facility to determine if they have the capability to properly care for the patient.

- Depending on this assessment on the part of the SNFs that have received the request, the SNF organizations can respond to the acute facility with “accept” or “decline” messages.

- Once the acute facility receives these responses, they can review the organizations that have “accepted” with the patient and their caregivers. The acute facility will provide the patient with information about the SNFs that have accepted.

- The patient and/or their caregivers can select the SNF from the facilities that have accepted.
• The acute facility will send the selected facility a “confirm accept patient transfer” notification.

• To all non-selected SNFs that sent “accept patient” notifications, the acute facility will return “discontinue request patient transfer” notifications.

• The acute facility sends a C-CDA and additional relevant documents to both the SNF and to the patient’s PCP at the time of discharge from the acute facility and transfer from the hospital. This closes the transfer loop.

Again, once the initial transfer request is sent to each SNF, it is assigned a specific globally unique ID number that persists across all transactions with the particular SNF, until non-selected SNFs receive a “discontinue transfer request” and the selected SNF receives a “confirm accept patient transfer” and the C-CDA at the time of discharge, and the patient transfer is completed closing the transfer loop. These specific ID numbers facilitate all the EHR systems involved in the process to readily identify and associate the communication across systems pertaining to the relevant patient and transfer request.
Standards-based exchange methods leveraged in the 360X Specifications

The 360X implementation guide is built on several layers of interoperability standards, most of which are in established use by many EHR systems. This is illustrated in the following diagram:
Base Abilities for Referral Management Use Case with 360X via Direct Secure Messaging

In the process of developing the specification, the 360X via Direct Project focused on the workflow information components in order to provide a base set of capabilities for the referral initiator and the referral recipient systems. These capabilities are:

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<tr>
<th>Referral Initiator Abilities</th>
<th>Referral Recipient Abilities</th>
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<tbody>
<tr>
<td>• Send referral information in addition to the C-CDA clinical summary, including patient and referral identifiers</td>
<td>• Receive a referral request</td>
</tr>
<tr>
<td>• Process a decline of a referral</td>
<td>• Properly manage the patient identifier and referral identifier as sent by the initiator</td>
</tr>
<tr>
<td>• Process an accept of a referral</td>
<td>• Create and send accept or decline for a referral request</td>
</tr>
<tr>
<td>• Detect that a response to the request has not been received in a timely manner</td>
<td>• Process a referral cancel request</td>
</tr>
<tr>
<td>• Request a cancel for an existing referral</td>
<td>• Send a referral outcome, including the referral information of the proper patient and referral identifiers</td>
</tr>
<tr>
<td>• Process the referral outcome (link C-CDA to the correct referral and patient)</td>
<td></td>
</tr>
<tr>
<td>• Detect a referral outcome has not been received in a timely manner</td>
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Additionally, the referral management process dovetails perfectly with the requirements for the electronic clinical quality measure (eCQM) CMS 50 V7: “Closing the Referral Loop: Receipt of Specialist Report.” This eCQM measures the percentage of patients with referrals, regardless of age, for which the referring provider receives a report from the provider to whom the patient was referred. The group has written the specification for 360X to be able to report on this eCQM and to meet the measure. This specification has been posted to the 360X Wiki: bit.ly/360Xreferrals.
Supplemental Abilities for Referral Management with 360X via Direct Use Case

The 360X specification also contains the option to share scheduling information between the initiator and the recipient. Since there are other ways for such sharing to take place (e.g. the Argonaut Project’s Scheduling Implementation Guide⁴), there is no requirement to support the 360X scheduling option, however the following schedule sharing capabilities are considered highly desirable for improving the closed loop referral process:

### Referral Initiator Abilities
- Track appointment identifiers
- Process an incoming scheduling notification (linking the appointment to the appropriate referral)
- Process an appointment cancellation notification
- Process a patient no-show notification
- Process an appointment change notification

### Referral Recipient Abilities
- Link appointment identifiers to external referrals
- Create and send a scheduled appointment notification, including the proper patient and referral identifiers
- Send an appointment cancel notification
- Send a patient no-show notification
- Send an appointment change notification (either cancel/reschedule with a new appointment identifier, or change existing appointment, while keeping the appointment identifier the same)

The layered approach of the 360X implementation guide allows the implementation community to enhance incrementally the specification with additional use cases and functionality.
The base set of capabilities for the acute transfer initiator and the SNF recipient systems have also been developed. The base capabilities are:

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<tr>
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<tr>
<td>• Send transfer information in addition to the C-CDA clinical summary, including patient and transfer identifiers</td>
<td>• Receive a transfer request</td>
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<tr>
<td>• Process a decline of a transfer</td>
<td>• Properly manage the patient identifier and transfer identifier as sent by the initiator</td>
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<tr>
<td>• Process an accept of a transfer</td>
<td>• Create and send accept or decline for a transfer request including the transfer information, such as the proper patient and referral identifiers</td>
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<tr>
<td>• Send a &quot;confirm accept patient transfer&quot; or a &quot;discontinue request patient transfer&quot; with the appropriate patient and transfer identifiers</td>
<td>• Process a &quot;confirm accept patient transfer&quot; or a &quot;discontinue request patient transfer&quot;</td>
</tr>
<tr>
<td>• Detect a response to the request has not been received in a timely manner</td>
<td>• Process a transfer cancel request</td>
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<tr>
<td>• Request a cancel for an existing transfer</td>
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Base Abilities for Acute to Skilled Nursing Facility (SNF) Use Case
The specifications and protocols for 360X have been successfully tested across multiple EHR vendors both during 360X testing sessions and as part of IHE sponsored Connectathons. 360X via Direct Referral Management has been demoed during the 2018 and 2019 ONC Interoperability Forums and 2019 HIMSS Interoperability Showcase. 360X Referral Management has also been accepted as a use case for the CMS Electronic Medical Documentation Interoperability (EMDI) Program. 360X will be piloted live in early 2020.

The success and broad adoption of 360X Referral Management requires the active use of Direct Secure Messaging and Direct address directories, as well as a broad development and adoption of the 360X specifications and protocols across EHR vendors. To facilitate this development and adoption, we encourage 360X to be considered for inclusion as an ONC EHR certification requirement in the next phase of certification requirements. In addition, we urge other federal programs operating across the public and private sectors to consider using 360X via Direct to support referral management.
“360X clearly has patient safety benefits, and it also addresses some of our other priority areas: staff satisfaction and patient experience. **360X will efficiently guide our staff through the closed-loop referral process with confidence**, without having to send faxes, wait on hold during phone calls, or develop manual processes to remind them to follow-up on the referrals. Similarly, our patients will get efficient scheduling of referrals and confidence that their important clinical information will be exchanged between their healthcare providers to enable informed and effective care.”

“360X workflow has incredible potential: It applies to any situation in which communication needs to occur among a group of participants that needs to be coordinated and sequenced. Some of the most daunting communications issues in healthcare such as medication reconciliation, transitions of care, and longitudinal coordination of care are resolved with 360X. It provides a way to sequence and coordinate the “administrative” messaging while the “clinical” payload is exchanged.

**360X is the missing IT capability needed to automate the process of complex communication.**

“360X workflow is a great example of multiple standards being used in concert to solve an everyday problem. When deployed the workflow can help eliminate redundant orders and reduce the time spent managing referrals, which benefits patients and their providers.”
FUTURE DEVELOPMENT

Recognizing the power and possible uses of the developed 360X protocol, the community is continuing to work to tackle other clinical use cases needing standardized specifications, such as conveying insurance coverage information. Furthermore, the group continues to meet to optimize current utilizations of the 360X workflow. At the time of this White Paper, the 360X group is preparing the Acute to Skilled Nursing Facility (SNF) Transfer Use Case for IHE profile balloting in the 2020 ballot cycle. Additionally, the group will address the use cases for SNF to Acute (Emergency Department), and Acute or Ambulatory to Home Health.

Current 360X work has contemplated pairing additional technologies with 360X at the appropriate points in the clinical workflow, as the group firmly believes that the use case should dictate the best fit technology.

For example, using Direct Secure Messaging for the pushed transition of care information and FHIR scheduling across EHR systems triggered with a specialist referral acceptance or using FHIR prior authorization between the provider and the payer as required in the process of care. The group anticipates always using the best technology available to fit the use case.
REFERENCES


360X Materials:
bit.ly/360Xreferrals
360X Close Loop Referral Project
360X Implementation Guide

Statistics:
ReferralMD
30 healthcare statistics that keep most healthcare executives up at night

Becker’s Hospital Review
3 Important statistics about provider referrals

Healthcare Success
3 Shocking Statistics: How to Double Your Doctor Referral Opportunity
WITH APPRECIATION
TO THE FOLLOWING ORGANIZATIONS WHO’VE PARTICIPATED IN
THE 360X PROJECT

Allscripts
athenahealth
Bizlogic
Booz Allen Hamilton
Cerner
DataMotion
DirectTrust
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Epic
GE Healthcare
Gorge Health Connect
Greenway Medical
HIMSS
IHE
IntePro Solutions Inc.
Kansas Health Information Network
Kno2
Krysora
Kryptiq
Massachusetts General Hospital
MatrixCare
McKesson
MedAllies
MEDENT

MDLand International
Medicity
MediServe
Microsoft
Missouri Health Connection
Muhlenberg Community Hospital
National Association for the Support of
Long Term Care (NASL)
National Health Data Systems
NextGen
Office of the National Coordinator (ONC)
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PointClickCare
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