



**Use Case Title: Cancer, Registry, Discovery, & Research**

**Overview:** Shira discovers she has colon cancer that has moved into her lungs. She seeks treatment with her oncologist and enrolls in a clinical trial that includes home health monitoring. Using decision support, Shira’s cancer treatment is coordinated with her multidisciplinary care team. Her imaging, pathology, and biomarker results are shared between providers and with the state cancer registry in support of public health activities.

**Value:** Cancer, Registry, Discovery & Research: Seamless sharing of data with Cancer Registries using IHE Profiles improves availability, timeliness and completeness of data for population health initiatives. Access to timely, aggregated medical data improves the effective treatment of patients. Interoperability drives STEPS to value through increased provider and patient satisfaction with faster access to complete patient information, complete disease history & personal health information.

Scenario	Vendor	Products	Standards
Based on symptoms commonly attributed to colon cancer, Shira’s PCP orders a biopsy. The results of that biopsy are entered using the College of American Pathologists’ (CAP) standard biomarker form, which is then submitted to the State Cancer Registry. Based on that biopsy result and additional imaging tests, Shira’s PCP works with an Oncologist to diagnose and clinically stage that cancer. The oncologist submits a cancer event report (PRPH-Ca) document to the State Cancer Registry as well. Shira’s PCP and Oncologist recommend that she enrolls in a clinical trial that PRA (Nextrials) is managing. Upon agreeing, Shira’s PCP is able to retrieve the enrollment form from PRA from within <b>Epic</b> , pre-populate the form as much as possible based on Epic data, fill out the remainder of the form, and submit it to PRA.	Epic integrates with CAP and Cancer Registry	EpicCare, Beacon, Beaker, Research	IHE PRPH-Ca, IHE SDC, IHE RFD
Shira is enrolled into a trial with <b>PRA Health Sciences</b> based on the finding of colon cancer. A study is identified for the treatment of colon cancer that has metastasized into the lungs. She is enrolled and standard of care data is collected directly from Epic into the study case report forms during	PRA Health Sciences integrates with Epic	PRA Health Sciences Nextrials Prism	IHE RFD

<p>her visit to her specialist. Additional health data are collected remotely and loaded directly into the study case report forms.</p>			
<p>Shira is referred to a senior oncologist where she is further treated for her cancer. The oncologist uses the <b>Philips IntelliSpace Oncology</b> solution, powered by HealthSuite, to query and retrieve relevant and actionable clinical information using IHE profiles so that the clinician has access to the right data to make the right decisions for Shira’s care. Information is intelligently organized on rich dashboards to facilitate collaborative diagnostic, treatment, and follow-up decisions by the oncologist and multidisciplinary tumor boards. Based on review of Shira’s imaging, pathology, and genomic data, the oncologist validates the care plan, and determines next steps for treatment. Shira is recommended for a clinical trial and referred to an oncology surgeon to evaluate treatment of colon mass. Shira’s relevant health record data is shared downstream to the the oncology surgeon using traditional HL7 messaging standards.</p>	<p>Philips integrates with Epic and Endosoft</p>	<p>Philips IntelliSpace Oncology Powered by HealthSuite</p>	<p>IHE XCA, HL7</p>
<p>Shira arrives for her surgery appointment and the surgery center has already received a portion of her medical records from the oncology specialist office. Upon reviewing her chart, the surgery center also pulls her cancer report, and other test results from her primary oncologist using IHE Profiles. This data is then imported and reconciled into her chart in the <b>Endosoft</b> application so a complete picture of Shira’s health record is available to the oncology surgeon for review and final decision to move forward with the surgery. Following surgery Shira is then seen in follow up care by a medical oncologist who administers chemotherapy based on clinical trials. The cancer report is then updated and shared with the Hyland HIE so that it can be made available to the State Cancer Registry.</p>	<p>Endosoft integrates with Philips, Epic, and Hyland</p>	<p>Endovault</p>	<p>IHE XDS, HL7, IHE PRPH-Ca</p>
<p>As a result of the oncology visit, a report is generated and then provided to the regional Health Information Exchange. The cancer event report is formatted using the Physician Reporting to a Public Health Repository – Cancer Registry (PRPH-CA) IHE Profile, providing for efficient and accurate exchange of pertinent information while reducing the implementation burdens related to site- or vendor-specific implementations. The report is stored and archived in an XDS Repository provided by <b>Hyland OnBase</b> and registered within an XDS Registry provided by <b>Hyland Acuo</b>. Hyland Healthcare’s strategic approach to healthcare content services helps organizations capture, manage, view, and share clinical content while providing data security, reducing costs, and improving the quality of patient care. The cancer report is now available for retrieval and viewing from trusted systems and users with connectivity to the regional HIE, including the State Cancer Registry.</p>	<p>Hyland integrates with Endosoft and the State Cancer Registry</p>	<p>Hyland Acuo, Hyland OnBase</p>	<p>IHE XDS</p>

<p>The <b>College of American Pathologists (CAP)</b> provides the colon biomarker form, through its Form Manager system, to the Oncologist’s EHR. The Form Manager system enables the Oncologist to fill out a standard form with discrete, coded data elements, which can then be sent to the state cancer registry.</p>	<p>CAP integrates with Epic and the State Cancer Registry</p>		<p>IHE RFD</p>
<p>The <b>State Cancer Registry</b>, represented by the Centers for Disease Control and Prevention (CDC), receives a cancer event report and a biomarker report from the Oncologist who diagnosed Shira’s colon cancer, and a cancer event report from the Oncologist who treated Shira for her colon cancer. The State Cancer Registry uses the CDC-developed eMaRC Plus tool to process each of these reports and import them into their central cancer registry database, where the information from the different reports is consolidated into a single record. Once a year, the State Cancer Registry sends aggregated, de-identified data to CDC to contribute to the national cancer data.</p>	<p>State Cancer Registry (CDC) integrates with Epic, CAP, and Hyland</p>	<p>eMaRC Plus</p>	<p>IHE PRPH-Ca, IHE XDS, IHE SDC</p>

Data exchange standards:

Vendor	Product	Category	Protocol	Interop Body	Interop Profile	Interop Actor	Interop Message	Send or Receive	Transaction Description
Epic	Epic	EHR	HTTP	IHE QRPH	SDC	Form Filler	ITI-34	Send	Retrieve Form
			ebXML	IHE ITI	XDR	Document Source	ITI-41	Send	Provide and Register Document Set.b
			HTTP	IHE ITI	RFD	Form Filler	ITI-34	Send	Retrieve Form
			CDA	IHE QRPH	PRPH-Ca	Content Creator	N/A	Create	
			ebXML	IHE ITI	XCA	Responding Gateway	ITI-18 ITI-43	Respond	Registry Stored Query Retrieve Document Set
			CDA	IHE QRPH	CRD	Content Creator	N/A	Create	Pre-pop
PRA Health Sciences	Nextrials Prism	Clinical Trials	HTTP	IHE ITI	RFD	Form Processor	ITI-34	Receive	Retrieve Form
			HTTP	IHE ITI	RFD	Form Archiver	ITI-36	Receive	Archive Form
			CDA	IHE QRPH	CRD	Content Consumer	N/A	Receive	
Philips	Philips IntelliSpace Oncology Powered by HealthSuite	EHR	ebXML	IHE ITI	XCA	Document Consumer	ITI-18 ITI-43	Retrieve	Registry Stored Query Retrieve Document Set
			CDA	HL7	CCDA/CCD	Content Consumer	N/A	Consume	Discrete Data Import
			TCP/IP	HL7	N/A	N/A	MDM	Send	MDM-wrapped PDF
Endosoft	Endovault	EHR	TCP/IP	HL7	N/A	N/A	MDM	Receive	MDM-wrapped PDF
			ebXML	IHE ITI	XCA	Document Consumer	ITI-18 ITI-43	Retrieve	Registry Stored Query Retrieve Document Set
			CCDA	HL7	CCD	Content Consumer	N/A	Consume	Discrete Data Import
			ebXML	IHE ITI	XDS	Document Source	ITI-41	Send	Provide and Register Document Set-b

			CDA	IHE QRPH	PRPH-Ca	Content Creator	N/A	Create	
Hyland		Infrastructure	ebXML	IHE ITI	XDS	Document Repository	ITI-41	Receive	Provide and Register Document Set-b
			ebXML	IHE ITI	XDS	Document Registry	ITI-18	Respond	Registry Stored Query
			ebXML	IHE ITI	XDS	Document Repository	ITI-43	Respond	Retrieve Document Set
College of American Pathologists (CAP)		Infrastructure / Public Health	N/A	IHE QRPH	SDC	Form Manager	ITI-34	Send	Retrieve Form
Cancer Registry		Public Health	N/A	IHE QRPH	SDC	Form Receiver	ITI-35	Receive	Submit Form
			ebXML	IHE ITI	XDR	Document Recipient	ITI-41	Receive	Provide and Register Document Set-b
			ebXML	IHE ITI	XDS	Document Consumer	ITI-18 ITI-43	Retrieve	Registry Stored Query Retrieve Document Set
			N/A	IHE QRPH	PRPH-Ca	Content Consumer	N/A	Receive	Discrete Data Import

**HIMSS Value STEPS Framework:**

Step	Description	Point of View	Point of View	Point of View
S: Satisfaction	<p>This type of value focuses on people, process and technology use cases that increases stakeholders' satisfaction with the delivery of care. Satisfaction includes types of value such as:</p> <ul style="list-style-type: none"> <li>Patient satisfaction</li> <li>Provider satisfaction</li> <li>Staff satisfaction</li> <li>Other satisfaction</li> </ul>	<p>Provider satisfaction with faster access to complete patient information, reducing wait times and care gaps based upon incomplete information.</p>	<p>Provider satisfaction: quick access with complete disease history and personal health information. Other Satisfaction: more accurate and detailed information to public, in turn, it can facilitate related research</p>	<p>Access to aggregated medical data improves providers ability to effectively treat a patient.</p>
T: Treatment/Clinical	<p>This type of value focuses on effective and improved treatment of patients, reduction in medical errors, inappropriate/duplicate care, increase in safety, quality of care and overall clinical efficiencies. Treatment/Clinical includes types of value such as:</p> <ul style="list-style-type: none"> <li>Efficiencies</li> <li>Quality of Care</li> <li>Safety</li> <li>Other treatment/clinical</li> </ul>	<p>Availability of information to oncologist leads to more informed care decisions and more efficient decision making process based upon complete patient information.</p>	<p>More detailed and timely information will let the provider better assess the patient status and available treatment options; in turn, lead to more effective treatment plan and increase quality of care.</p>	<p>Informed decisions are easier to make when data is provided in a trusted format.</p>

<p>E: Electronic Secure Data</p>	<p>This type of value focuses on improved data capture, data sharing, reporting, use of evidence-based medicine, and improved communication by and between physicians, staff and patients. Electronic Secure Data includes types of value such as:          Privacy &amp; Security          Data sharing          Data reporting          Enhanced communication</p>		<p>Sharing patient status and patient data at different time frames and treatment plans will enhance communications between providers and help to modify treatment plans.</p>	<p>Sharing information among the care team allows for a complete medical picture.</p>
<p>P: Patient Engagement &amp; Population Management</p>	<p>This type of value focuses on improved population health and reduction in disease due to improved surveillance/screening, immunizations and increased patient engagement due to improved patient education and access to information. Patient Engagement &amp; Population Management includes type of value such as:          Patient education          Patient engagement          Prevention          Population Health</p>	<p>Seamless sharing of data with cancer registry improves availability, timeliness and completeness of data for population health initiatives that rely upon registry data.</p>	<p>Sharing data will help the patient follow the treatment process easily. If the records are available to patient engagement, it will be easier to design follow-up message and/or education material to promote patient education material.</p>	<p>Providing data to the cancer registry contributes the growth of the research space. Access to clinical trial information allows the patient to make an informed decision about alternative treatment options.</p>

S: Savings	This type of value focuses on documented financial, operational and efficiency savings resulting from factors such as improved charge capture, use of staff resources and workflow and increased patient volume and more efficient use of space .			Insurance aside, patients may see reduced costs as repeated tests and imaging are no longer needed. However, it could be argued that the medical facility may lose revenue by not doing these tests.
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