

Technology Description

Electronic Data Capture and Database Management System



Electronic Data Captures and Database Management System

Overview

The purpose of this document is to describe the Electronic Data Capture (EDC) and Database Management System that is being used for the Ohio Perinatal Quality Collaborative

Technical Description

The Electronic Data Capture and Database Management System for OPQC is based on Microsoft Share Point Server, InfoPath web forms, SQL Server and SQL Server Reporting Services and Web Services. The architecture is depicted in Illustration 1.

Data Management

Each site enters their own data into the system using InfoPath EDC web forms via the Internet. There are four web forms for the Neonatology part of the project and two web forms for the Obstetric part.

Each person who does data entry has a separate account ID with individual password. The user account ID's are identified with the user's specific site, so that they have access to only their site's data for entry and editing. The InfoPath Forms front end interfaces with a SQL Server database which stores the data via Web Service.

Data Quality

The data entry forms incorporate numerous data checks. These checks insure that there is consistency between related data fields, and that required items are entered before the form can be stored in the database. Additional checks and reports are implemented in SQL Server Reporting Services so that the sites will be able to get information about their data in real time.

Data is retrieved from the SQL Server database by a SAS program. This program produces a SAS data set for each of the forms. In addition it produces reports that identify questionable data records, and produces a management report that summarizes the number of forms submitted by each site each month. These reports are reviewed by the Data Manager who will contact a team if there appear to be problems with the team's data. Additional checks and reports are being implemented in SQL Server Reporting Services so that the sites will be able to get information about their data in real time.

Reporting

The SAS data sets are then processed by another program which computes monthly values of the measures for each team and for the collaborative overall. Another program then creates Excel reports for each site. The reports contain run charts and control charts generated from the measure values previously computed.

After the reports have been reviewed to insure that they have been produced correctly, the reports are posted on the project's web site. Access to the web site is controlled by individual accounts and passwords so that team members have access to only their team's report.

Tracking Numbers

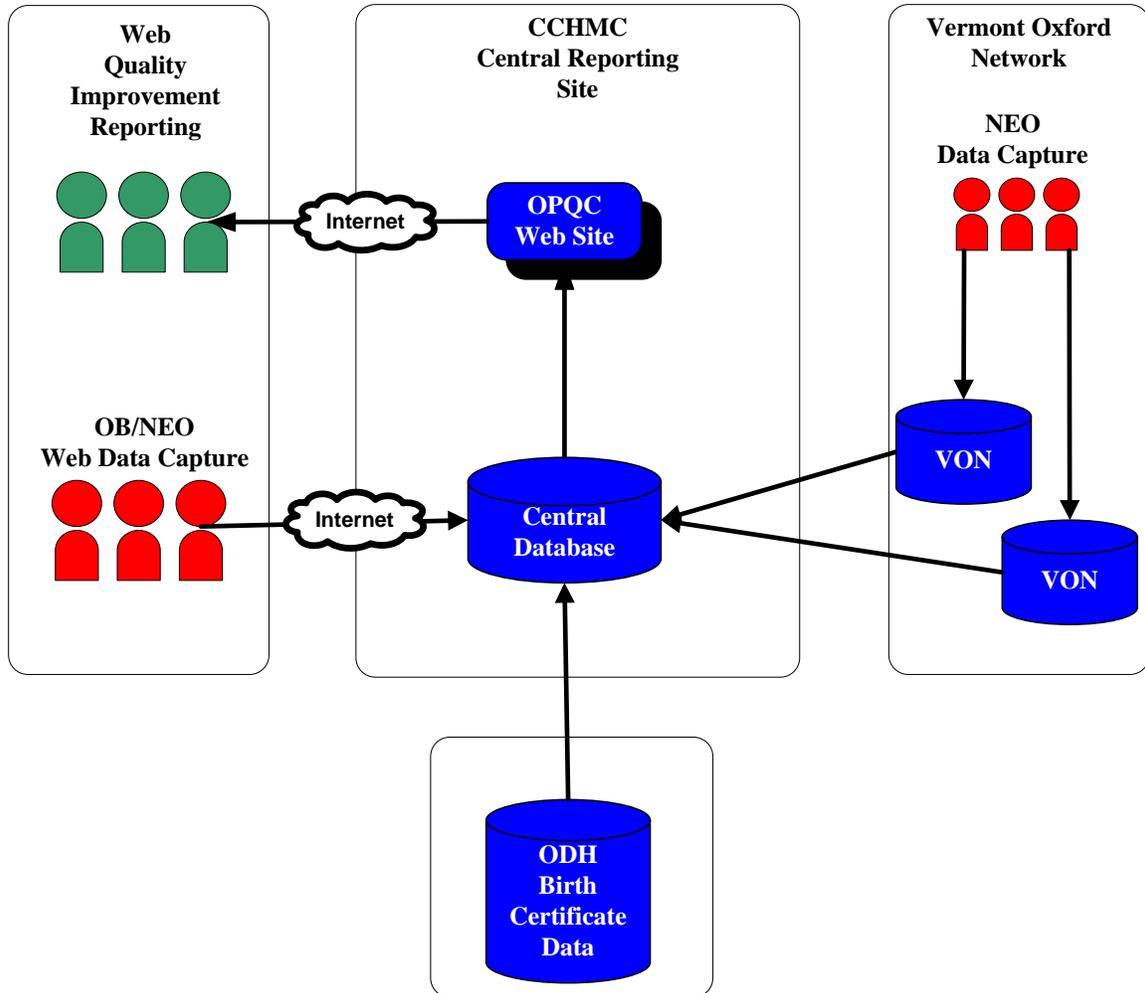
A feature is incorporated into each of the forms to assist the sites in matching their data collection forms with the data records stored in the data base. In order for the local patient to be associated with the central secured database, the local paper form will include a data entry block for an artificial "tracking number" titled Form ID #. The tracking (artificial) number is generated by the electronic form for manually posting to the paper form when data entry occurs. The paper forms should be permanently retained by the hospital.

Specifically when a form is complete the user clicks the "Submit Form" button (see Illustration 2). When the data is successfully stored in the central database a window is displayed showing the serial number that has been assigned to the record (shown in green in Illustration 3). The local user should then record this number on the local data collection form to use as a reference to identify the record in the database.

Security

The system components are built in accordance with 21CFR11. The CCHMC network is fire-walled and secure. The servers are clustered and fault tolerant and are hosted in a secure data center.

Ohio Perinatal Quality Collaborative Data Strategy & Architecture



12.18.2009

Illustration 1

Electronic Data Captures and Database Management System

OPQC Infection Event Form (22-29 weeks gestation)

Facility ID: 59	Initials of person completing form: HA
Patient VON ID: *	
Gender: <input type="radio"/> Female <input checked="" type="radio"/> Male	Date of Birth: April / 01 / 2009
Date of Infection ¹ : April / 25 / 2009	Type of Infection: BSI: <input checked="" type="radio"/> Yes <input type="radio"/> No CSF: <input type="radio"/> Yes <input checked="" type="radio"/> No
Catheter Types	
PICC line: <input checked="" type="radio"/> Yes <input type="radio"/> No	
Umbilical arterial catheter: <input type="radio"/> Yes <input checked="" type="radio"/> No	
Umbilical venous catheter: <input type="radio"/> Yes <input checked="" type="radio"/> No	
Other Central Line ² : <input type="radio"/> Yes <input checked="" type="radio"/> No	
Peripheral IV: <input type="radio"/> Yes <input checked="" type="radio"/> No	
Peripheral Arterial Line: <input type="radio"/> Yes <input checked="" type="radio"/> No	
No catheter currently, but catheter was removed < 48 hours ago: <input type="radio"/> Yes <input checked="" type="radio"/> No	
Transfer Status	
Infection developed within 48 hours of transfer from another hospital: <input type="radio"/> Yes <input checked="" type="radio"/> No	
Specific Event	
Please select ONE:	
<input type="radio"/> Recognized bacterial pathogen by VON definition?	
<input checked="" type="radio"/> Coagulase Negative Staphylococcus (CONS) ³	

Current Date Stamp: CHMCCORPATHEQ5-2009-12-17T13:40:04-2009-04-25 NOW: 2009-12-17T13:40:04

1: Date when first positive culture drawn
2: Includes tunneled line (i.e., Broviac) or non-tunneled line (i.e., cook catheter)
3: Only check CONS if positive blood or CSF culture for CONS AND signs of generalized infection AND treatment with 5 or more days of antibiotics given from date of positive culture (VON Definition)

Click to save form data in database

Illustration 2

Electronic Data Captures and Database Management System

Hi! (CHMCCORP\ATHEQ5)

You are associated with **CCHMCTEST** Site.

If you have no eligible data to report, click here [⇒](#)

OR Click on NEXT to enter new data

Form ID# for Your Records: 58

*If the above button is disabled, then your login information is incorrect. Please contact the project coordinator **Sang Sam at (513) 636-5864 OR Matt Short at (513) 803-2045.***

Illustration 3

Electronic Data Captures and Database Management System

Another locator feature is being added to each of the forms. This feature allows the user to specify search criteria to select records. The search methods include a date range, plus the serial number described above and other identifiers (see Illustration 4).

OPQC Infection Event Form (22-29 weeks gestation)

Search Existing Patients

Use one of the following 3 search criteria to search for your existing records:

Search by Infection Event Form ID: <small>(You recorded this ID when the form was saved the first time.)</small>	<input style="width: 90%;" type="text"/>
Search by Records with Infection Date Between: Start Date Of Infection End Date Of Infection	MM/DD/YYYY <input style="width: 90%; margin-bottom: 5px;" type="text"/> <input style="width: 90%;" type="text"/>
Search by combination of	Initials: VON ID:

Search

	Inf Event Form ID	Inf Event Facility ID	Inf Event Initials	Inf Event Patient VONID	Inf Event Gender	Inf Event Type BSI	Inf Event Type CSF	User Name	Date Of Infection	Date Added	Date Updated
Edit	58	59	HA	15	2	1	0	Harry	4/25/2009	12/17/09	12/17/2009
Edit	57	59						Vaibha	7/1/2009	12/16/09	12/16/2009
Edit	56	59	vt	1234	1	1	1	Vaibha	1/1/2008	12/14/09	12/17/2009
Edit	55	59	vt	123	1	1	1	Vaibha	1/1/2008	12/14/09	12/14/2009
Edit	52	59	HA8	1008	2	0	1	Vaibha	11/8/2009	12/3/09	12/17/2009
Edit	51	59	HA7	1007	2	1	0	Harry	11/7/2009	12/3/09	12/17/2009
Edit	50	59	HA6	1006	2	0	0	Harry	11/6/2009	12/3/09	12/17/2009
Edit	49	59	HA5	1005	2	0	0	Harry	11/5/2009	12/3/09	12/17/2009
Edit	48	59	HA4	1004	1	0	0	Harry	11/4/2009	12/3/09	12/17/2009
Edit	47	59	HA3	1003	1	0	1	Harry	11/3/2009	12/3/09	12/17/2009

Current Date Stamp: CHMCCORP\ATHEQ5-2009-12-17T17:03:44--- NOW: 2009-12-17T17:03:44

1: Date when first positive culture drawn
 2: Includes tunneled line (i.e., Broviac) or non-tunneled line (i.e., cook catheter)
 3: Only check CONS if positive blood or CSF culture for CONS **AND** signs of generalized infection **AND** treatment with 5 or more days of antibiotics given from date of positive culture (VON Definition)

Illustration 4

Electronic Data Captures and Database Management System

Each of the six data entry forms is shown on the following six Illustrations.

OPQC DAILY DELIVERIES AT 36 0/7 - 38 6/7 WEEKS FORM

Facility ID:
 Month:
 Year:

Day	Initials of Person Completing Form	Deliveries 36 0/7-38 6/7 weeks	
		Total Daily Deliveries (36 0/7 - 38 6/7 weeks)	# of Stillbirths ** defined as one for whom a fetal death certificate is completed.
1	*	*	0
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			
Total		0	0

Illustration 5

OPQC AGGREGATE CATHETER DAYS FORM

Facility ID: Month: Year:

Include All Infants 22-29 Weeks (AT BIRTH)				
Initials	Date	Patients	Umbilical Lines(1)	Central Line(2)
*	1	*	0	0
	2	0	0	0
	3	0	0	0
	4	0	0	0
	5	0	0	0
	6	0	0	0
	7	0	0	0
	8	0	0	0
	9	0	0	0
	10	0	0	0
	11	0	0	0
	12	0	0	0
	13	0	0	0
	14	0	0	0
	15	0	0	0
	16	0	0	0
	17	0	0	0
	18	0	0	0
	19	0	0	0
	20	0	0	0
	21	0	0	0
	22	0	0	0
	23	0	0	0
	24	0	0	0
	25	0	0	0
	26	0	0	0
	27	0	0	0
	28	0	0	0
	29	0	0	0
	30	0	0	0
	31	0	0	0
	Total	0	0	0

- 1. Umbilical column= number of infants with an umbilical catheter (UAC or UVC)
- 2. Central line column= number of infants with 1 or more central lines
- ** If an infant has both an umbilical line and a central line, count only the umbilical line for that day
- *** Total of the Umbilical + Central Line columns should be ≤ to patient column

Illustration 6

Electronic Data Captures and Database Management System

OPQC Infection Event Form (22-29 weeks gestation)

Facility ID: <input type="text" value="59"/>	Initials of person completing form: <input type="text" value=""/> *
Patient VON ID: <input type="text" value=""/> *	
Gender: <input checked="" type="radio"/> Female <input type="radio"/> Male	Date of Birth: * Select... / { } / * Select...
Date of Infection ¹ : * Select... / * Sel... / * Select...	Type of Infection: BSI: <input type="radio"/> Yes <input checked="" type="radio"/> No CSF: <input checked="" type="radio"/> Yes <input type="radio"/> No
Catheter Types	
PICC line:	<input checked="" type="radio"/> Yes <input type="radio"/> No
Umbilical arterial catheter:	<input checked="" type="radio"/> Yes <input type="radio"/> No
Umbilical venous catheter:	<input checked="" type="radio"/> Yes <input type="radio"/> No
Other Central Line ² :	<input type="radio"/> Yes <input checked="" type="radio"/> No
Peripheral IV	<input type="radio"/> Yes <input checked="" type="radio"/> No
Peripheral Arterial Line	<input type="radio"/> Yes <input checked="" type="radio"/> No
No catheter currently, but catheter was removed < 48 hours ago:	<input type="radio"/> Yes <input checked="" type="radio"/> No
Transfer Status	
Infection developed within 48 hours of transfer from another hospital:	<input type="radio"/> Yes <input checked="" type="radio"/> No
Specific Event	
Please select ONE:	
<input checked="" type="radio"/> Recognized bacterial pathogen by VON definition?	
<input type="radio"/> Coagulase Negative Staphylococcus (CONS) ³	
<input type="button" value="Submit Form"/>	

Current Date Stamp: CHMCCORP\ATHEQS-2009-12-17T13:23:51... NOW: 2009-12-17T13:23:51

1: Date when first positive culture drawn
 2: Includes tunneled line (i.e., Broviac) or non-tunneled line (i.e., cook catheter)
 3: Only check CONS if positive blood or CSF culture for CONS AND signs of generalized infection AND treatment with 5 or more days of antibiotics given from date of positive culture (VON Definition)

Illustration 7

Electronic Data Captures and Database Management System

OPQC Insertion Bundle Monitoring Form

Facility ID: <input style="width: 80%;" type="text" value="59"/>	Initials of person completing form: <input style="width: 80%;" type="text"/> *
VON Patient ID: <input style="width: 80%;" type="text"/> *	Gender: <input type="radio"/> Male <input type="radio"/> Female
Date of Birth: * Select... / Sele / * Select...	Person recording insertion practice data: <input type="radio"/> Inserter <input type="radio"/> Observer
Date of Insertion: * Select... / * Sele / * Select...	
Insertion checklist completed: <input type="radio"/> Real time (during procedure) <input type="radio"/> After Procedure	
Event Type	
Central Line Type: <input type="radio"/> PICC <input type="radio"/> Umbilical <input type="radio"/> Non-Tunneled, i.e. Cook Catheter <input type="radio"/> Tunneled, i.e. Broviac <input type="radio"/> Other	
Insertion Personnel	
Inserter part of dedicated central line placement team: <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> N/A (Umbilical Line)	
Insertion Bundle Practices:	
Inserter performed hand hygiene prior to gloving for central line insertion:	<input type="radio"/> Yes <input type="radio"/> No
Inserter wore maximal sterile barrier precautions:	Mask/Eye Shield ¹ <input type="radio"/> Yes <input type="radio"/> No Sterile Gown <input type="radio"/> Yes <input type="radio"/> No Sterile Gloves <input type="radio"/> Yes <input type="radio"/> No Cap <input type="radio"/> Yes <input type="radio"/> No
Assistants wore sterile gown, sterile gloves, cap, and face mask:	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> N/A (no assistant)
Face masks worn by those within 3 feet of sterile field:	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> N/A (no one within 3 feet)
Infant covered with large sterile drape. ²	<input type="radio"/> Yes <input type="radio"/> No
Was skin preparation agent completely dry at time of first skin puncture?	<input type="radio"/> Yes <input type="radio"/> No
All supplies required for procedure available at bedside prior to insertion:	<input type="radio"/> Yes <input type="radio"/> No
Antiseptic ointment applied to site ³ :	<input type="radio"/> Yes <input type="radio"/> No
Problems encountered maintaining sterile field:	<input type="radio"/> Yes <input type="radio"/> No
Skin Preparation: (check all that apply)	
<input type="checkbox"/> Chlorhexidine Gluconate	<input type="checkbox"/> Povidone Iodine
<input type="checkbox"/> Alcohol	
¹ Mask with or without eye shield meets criteria. ² Full body draped for procedures (head to toe). ³ This does not constitute a CDC recommendation for antiseptic ointment. Modified from: http://www.dhcs.ca.gov/ProvGovPart/initiatives/nqi/Pages/default.aspx	

Illustration 8

Electronic Data Captures and Database Management System

OPQC Maintenance Bundle Compliance Self Reporting Tool Version 4.0

Facility ID: <input style="width: 80%;" type="text" value="59"/>	Date : * Select... / * Selec... / * Select...
Patient VON ID: <input style="width: 80%;" type="text"/> *	Shift: <input checked="" type="radio"/> Day <input type="radio"/> Evening/Night
Caregiver Initials: <input style="width: 80%;" type="text"/> *	
Type of Catheter (Check all that apply:)	
<input type="checkbox"/> PICC <input type="checkbox"/> Umbilical <input type="checkbox"/> Non-Tunneled Central Line (i.e. Cook Catheter) <input type="checkbox"/> Tunneled Line (i.e. Broviac)	
Daily Assessment	
Was there assessment that the baby needed the catheter (e.g. assessment whether the catheter should be retained or removed)?	
<input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Don't Know	
Was dressing integrity & site cleanliness assessed during your shift?	
<input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Don't Know	
Catheter Site Care	
Was a central catheter dressing change performed during your shift today?	
<input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> N/A <small>(Umbilical Catheter)</small>	
Catheter Entry	
Was a closed system maintained for infusion, blood draws & medication administration?	
<input checked="" type="radio"/> Yes <input type="radio"/> No	
Was the catheter accessed or entered for any reason on your shift today?	
<input checked="" type="radio"/> Yes <input type="radio"/> No	
Was infusion tubing changed during your shift today?	
■ If yes, did staff at a minimum wear clean gloves?	
<input checked="" type="radio"/> Yes <input type="radio"/> No	
■ Did staff use a sterile or clean barrier for tubing assembly?	
<input type="radio"/> Yes <input type="radio"/> No	
Pre-filled, flush containing syringes were used for all catheter flushes?	
<input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> N/A	
<input type="button" value="Submit Form"/>	

Illustration 9

Electronic Data Captures and Database Management System

OPQC SCHEDULED DELIVERY AT 36 0/7 – 38 6/7 WEEKS
(*Scheduled* is defined as any artificial initiation of labor or cesarean birth in a woman not in labor regardless of when it was scheduled.)
(Note: if pregnancy with multiple births, one form can be used)

Facility ID: Delivery Date: / / Initials of Person Completing Form:

Scheduled Delivery was: (Please select one)

Induced Labor
 C-Section

Please indicate how gestational age was documented: (Please select one)

First or second trimester ultrasound < 20 weeks that confirmed or established due date
 Second trimester scan between 20 and 28 weeks that confirmed or established due date
 Third trimester scan (after 28 weeks)
 LMP / Menstrual History alone (without U/S Data)
 Fetal Heart Tones identified by Doppler for weeks, or by Auscultation for weeks
 Other / no dates

Was fetal lung maturity proven by amniocentesis? Yes No

Was there documentation in the medical record that the risks and benefits of scheduled delivery at 36 0/7 – 38 6/7 weeks were discussed with the mother? Yes No

Reason(s) documented in medical records for scheduled delivery at 36 0/7 – 38 6/7 weeks (check all that apply):

<input type="checkbox"/> Prior uterine surgery <input type="checkbox"/> Low transverse C/S <input type="checkbox"/> Other (vertical C/S, myomectomy)	<input type="checkbox"/> Placenta previa <input type="checkbox"/> Placental abruption <input type="checkbox"/> Other vaginal bleeding
<input type="checkbox"/> Malpresentation (e.g.breech)	<input type="checkbox"/> Cervical dilation > 5cm not in labor
<input type="checkbox"/> Multiple gestation (twins, triplets, etc.)	<input type="checkbox"/> Prior stillbirth
<input type="checkbox"/> History of, or anticipated difficult birth <input type="checkbox"/> Other (vertical C/S, myomectomy)	<input type="checkbox"/> Fetal demise
<input type="checkbox"/> Malpresentation (e.g.breech)	<input type="checkbox"/> Other vaginal bleeding
<input type="checkbox"/> Multiple gestation (twins, triplets, etc.)	<input type="checkbox"/> Cervical dilation > 5cm not in labor
<input type="checkbox"/> History of, or anticipated difficult birth	<input type="checkbox"/> Prior stillbirth
<input type="checkbox"/> Diabetes <input type="checkbox"/> Gestational <input type="checkbox"/> Pre-Gestational	<input type="checkbox"/> Fetal demise
<input type="checkbox"/> Prior venous thrombosis /PE <input type="checkbox"/> Pre-Gestational	<input type="checkbox"/> Non-reactive NST / Positive CST
<input type="checkbox"/> Prior venous thrombosis /PE	<input type="checkbox"/> Decreased Fetal Movement
<input type="checkbox"/> Maternal HSV or HIV	<input type="checkbox"/> Low amniotic fluid - Oligohydramnios
<input type="checkbox"/> Maternal trauma	<input type="checkbox"/> Abnormal doppler
<input type="checkbox"/> Advanced maternal age	<input type="checkbox"/> Low amniotic fluid - Oligohydramnios
<input type="checkbox"/> Substance use/abuse	<input type="checkbox"/> Abnormal doppler
<input type="checkbox"/> Seizure disorder	<input type="checkbox"/> Prior fast labor or lives far from hospital
<input type="checkbox"/> Cholestasis of pregnancy	<input type="checkbox"/> Elective:
<input type="checkbox"/> Other maternal medical:	<input type="checkbox"/> Other:
	<input type="checkbox"/> Not documented in chart

Did the infant go to the Special Care or Intermediate Care Nursery or the NICU within two hours of delivery? Yes No
(If multiple birth, answer yes if ANY of the babies went to a Special or Intermediate Care Nursery or NICU).

Illustration 10

Electronic Data Captures and Database Management System

Reports have been developed using SQL Reporting Services. These reports can be produced by any team member who is logged onto the web site. This provides the participating sites the ability to check their data entry in real time while they are on the site.

Illustration 11 shows a measure that would be included in the monthly report for the Neonatal Project. The report has a table of values as well as a chart.

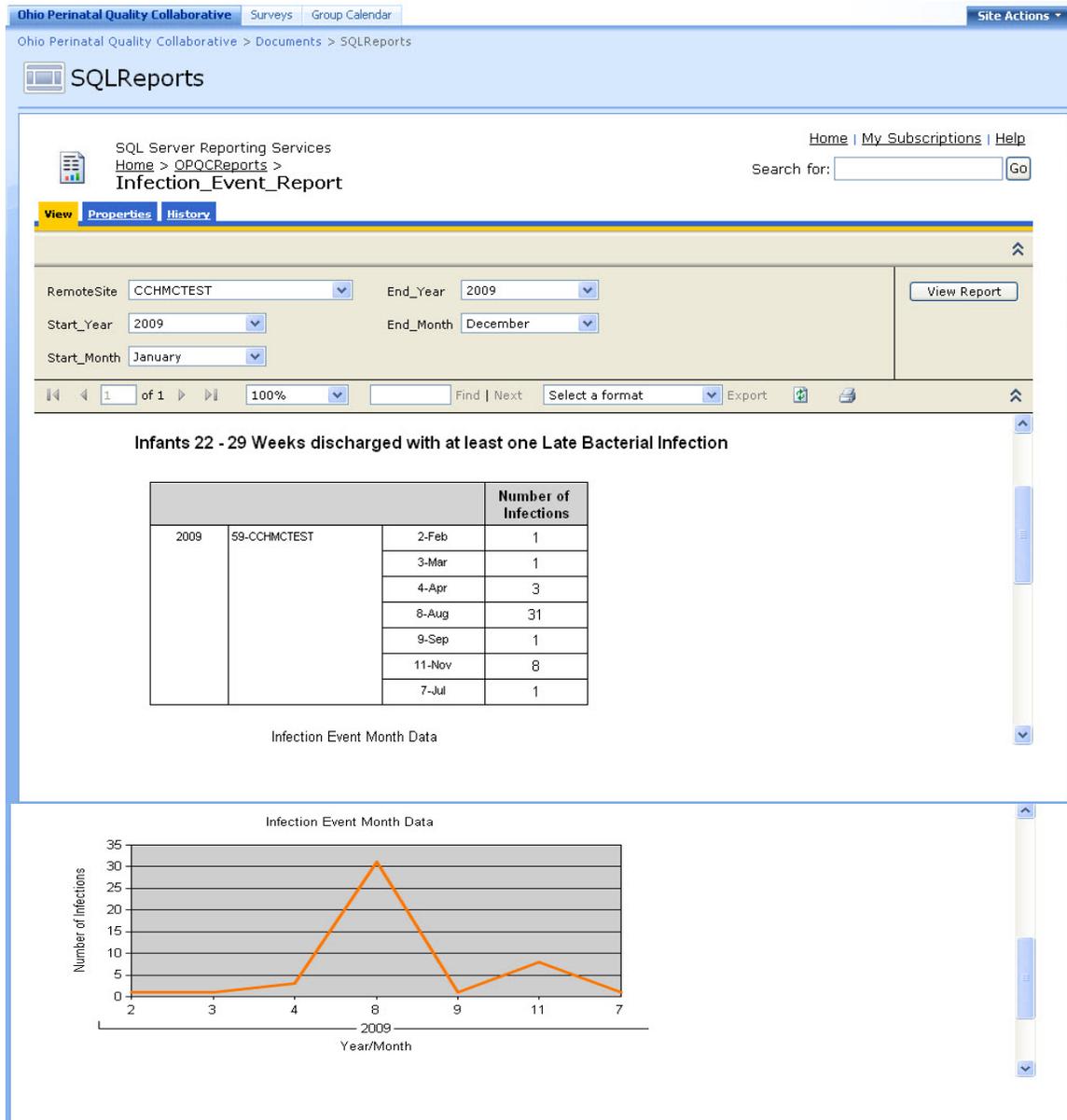


Illustration 11

Electronic Data Captures and Database Management System

There are reports that provide data management information that can be used by each site to verify that all of their data has been entered for each month.

The screenshot displays the 'Aggregate Catheter Report' within the SQLReports application. The interface includes a navigation bar at the top with 'Ohio Perinatal Quality Collaborative', 'Surveys', and 'Group Calendar'. Below this, the report title 'Aggregate_Catheter_Report' is shown, along with a search bar and navigation links like 'Home', 'My Subscriptions', and 'Help'. The report parameters are set for the year 2009, from January to December. The main data is presented in a table titled 'Aggregate Catheter Form Data' with columns for 'Patients Total', 'Central Line Total', and 'Umbilical Line Total'. Below the table is a bar chart labeled 'Total Patient Trend' showing a total of 350 patients.

		Patients Total	Central Line Total	Umbilical Line Total	
2009	59-CCHMCTEST	1-Jan	25	0	2
		2-Feb	33	0	22
		8-Aug	62	10	16
		9-Sep	50	7	20
		10-Oct	0	0	0
		11-Nov	310	62	31

Illustration 12

Electronic Data Captures and Database Management System

Ohio Perinatal Quality Collaborative | Surveys | Group Calendar | Site Actions

Ohio Perinatal Quality Collaborative > Documents > SQLReports

SQL Server Reporting Services
Home > OPQCRReports > Scheduled_Del_Form_Count

Home | My Subscriptions | Help
Search for: Go

View Properties History

Start_Year: 2009 Start_Month: January
End_Year: 2009 End_Month: December

View Report

1 of 1 100% Find | Next Select a format Export

Scheduled Delivery Form Count

		Scheduled Delivery Form Count	Other Maternal Medical Condition Form Count	
2009	S9-CCHMCTEST	1-Jan	3	2
		2-Feb	3	3
		8-Aug	31	1
		9-Sep	15	0
		7-Jul	1	0
		12-Dec	1	0
		11-Nov	4	0
		Total	58	6

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Illustration 13

Electronic Data Captures and Database Management System

The screenshot shows a web application interface for 'Daily Deliveries Report'. At the top, there are navigation links for 'Ohio Perinatal Quality Collaborative', 'Surveys', and 'Group Calendar'. Below this, the breadcrumb path is 'Ohio Perinatal Quality Collaborative > Documents > SQLReports'. The main title is 'SQLReports'. On the right, there are links for 'Home', 'My Subscriptions', and 'Help', along with a search box labeled 'Search for:' and a 'Go' button. The report title is 'Daily Deliveries Report'. Below the title, there are tabs for 'View', 'Properties', and 'History'. The main content area has a filter section with 'Start_Year' (2009), 'Start_Month' (January), 'End_Year' (2009), and 'End_Month' (December). A 'View Report' button is located to the right of these filters. Below the filter section, there is a toolbar with navigation icons, a '1 of 1' indicator, a '100%' zoom level, a 'Find | Next' search box, a 'Select a format' dropdown, and an 'Export' button. The main data table is titled 'Daily Deliveries Form Data' and contains the following data:

			Stillbirths Infants Died Day Total	Daily Del Day Total
2009	59 -CHMCTEST	2-Feb	0	35
		1-Jan	1	1
		8-Aug	5	31
		9-Sep	2	35
		10-Oct	5	27
		11-Nov	3	147

Illustration 14

Electronic Data Captures and Database Management System

Ohio Perinatal Quality Collaborative | Surveys | Group Calendar | Site Actions

Ohio Perinatal Quality Collaborative > Documents > SQLReports

SQLReports

SQL Server Reporting Services
 Home > OPQCRports > NeoNatal_Forms_Count_Report
 Search for:

View Properties History

Start_Year: 2009 Start_Month: July
 End_Year: 2009 End_Month: December

1 of 1 100% Find | Next Select a format Export

Neonatal Form Count

		CD_TotalPatients		IB_Form		IE_Form		MB_Form	
		Form Count (Sum of Patients for Agg Cath)	At least one Form Present?	Form Count (Sum of Patients for Agg Cath)	At least one Form Present?	Form Count (Sum of Patients for Agg Cath)	At least one Form Present?	Form Count (Sum of Patients for Agg Cath)	At least one Form Present?
2009	59 - CCHMCTEST								
		7-Jul	N		N	1	Y		N
		8-Aug	62	Y	1	Y	31	Y	N
		9-Sep	50	Y	17	Y	1	Y	N
		10-Oct		Y		N		N	N
		11-Nov	310	Y	9	Y	8	Y	N
		Total	62	Y	27	Y	41	Y	N
59 -	8-Aug		N		N		N	1	Y

Illustration 15

Electronic Data Captures and Database Management System

The screenshot shows a web application interface for 'Ohio Perinatal Quality Collaborative'. The main content area displays a report titled 'Maintenance Bundle Report Overall Summary Form Count'. The report is presented as a table with columns for 'Remote Site', 'Active' (subdivided by month: Feb, Total, Apr, Sep, Aug, Nov, Jan), and a final column with a 'T' icon. The data is organized by site ID (59 and 13) and includes a 'Total' row at the bottom.

Remote Site	Active	2008		2009					
		Feb	Total	Apr	Sep	Aug	Nov	Jan	T
		59	CCHMCTEST	4	4	2	10	1	8
	AkronStElizabethNeo	1	1	0	0	0	0	0	
13	MountCarmelWestNeo	1	1	0	0	0	0	0	
	Total	6	6	2	10	1	8	1	

Illustration 16 shows part of a report that the project Data Manager would use to get a count of the number of forms submitted by each participating site.

Illustration 16

Electronic Data Captures and Database Management System

The screenshot shows a web-based interface for SQL Reports. At the top, there are navigation links for "Ohio Perinatal Quality Collaborative", "Surveys", and "Group Calendar". A breadcrumb trail indicates the current location: "Ohio Perinatal Quality Collaborative > Documents > SQLReports". The main heading is "SQLReports". Below this, there are links for "Home", "My Subscriptions", and "Help". A search bar is present with the text "Search for:" and a "Go" button. The report title is "InfectionEventForSites". There are tabs for "View", "Properties", and "History". A "FacilityId" input field contains the value "59", and a "View Report" button is to its right. Below the input field is a toolbar with navigation icons, a "1 of 2" indicator, a "100%" zoom level, a "Find | Next" search box, a "Select a format" dropdown, and an "Export" button. The main content is a table with 15 columns: Form ID, Facility ID, Initials, Patient VOIID, Gender, Infection, Type BSI, Type CSF, PICC, Umbilical Art Cath, Umbilical Ven Cath, Tunneled, PIV, and P Art Line. The table contains 7 rows of data.

Form ID	Facility ID	Initials	Patient VOIID	Gender	Infection	Type BSI	Type CSF	PICC	Umbilical Art Cath	Umbilical Ven Cath	Tunneled	PIV	P Art Line
2	59	gg	1	1	2/1/2008	1	1	0	0	0	1	1	1
3	59	hj	4	1	2/1/2009	1	1	1	1	0	1	1	1
4	59	ff	23	1	3/1/2009	1	1	1	1	1	1	1	1
5	59	dd	23	2	4/1/2009	0	1	1	1	1	1	1	1
6	59	ff	32	2	4/1/2008	1	1	1	1	1	1	1	1
7	59	sdf	23	1	4/1/2009	1	1	1	1	1	1	1	1

The illustrations 17-19 show reports that display the content of the records in the database. These reports would be used to review and verify the data that had been entered into the database.

Illustration 17

Electronic Data Captures and Database Management System

Ohio Perinatal Quality Collaborative | Surveys | Group Calendar | Site Actions

Ohio Perinatal Quality Collaborative > Documents > SQLReports

SQLReports

SQL Server Reporting Services
[Home](#) > [OPOCRReports](#) >
Insertion_Bundle_Report

Search for:

View | Properties | History

1 of 1 | 100% | Find | Next | Select a format | Export

Insertion Bundle Form Data

1	rt	1	CCHMCTEST	1	2/1/2008	1/1/2008	1	1		1		
2	fg	34	CCHMCTEST	2	5/4/2008	2/1/2008	1	1		1		
3	fg	34	CCHMCTEST	2	2/2/2008	2/1/2008	1	1		1		
4	ff	34	CCHMCTEST	2	1/1/2009	1/1/2008	1	1		2		
5	md	1	CCHMCTEST	2	9/1/2009	9/1/2009	1	1		1		
6	md	2	CCHMCTEST	1	9/2/2009	9/1/2009	1	1		1		
7	md	1	CCHMCTEST	2	9/1/2009	9/1/2009	1	1		1		
8	md	2	CCHMCTEST	1	9/2/2009	9/1/2009	1	1		1		
9	md	3	CCHMCTEST	1	9/3/2009	9/1/2009	1	2		1		
10	md	4	CCHMCTEST	1	9/4/2009	9/1/2009	1	2		2		

Illustration 18

Electronic Data Captures and Database Management System

Ohio Perinatal Quality Collaborative | Surveys | Group Calendar | Site Actions

Ohio Perinatal Quality Collaborative > Documents > SQLReports

SQLReports

SQL Server Reporting Services
[Home](#) > [OPQCRReports](#) > **Maintenance_Bundle_Report**

Search for:

View | Properties | History

1 of 1 | 100% | Find | Next | Select a format | Export

Maintenance Bundle Data Report

						Tunneled			s		ns	Prod	Lines	Clean
59	gg	1	2/2/2008	0	1	0	0	0	0	0	0	0	1	1
59	gg	12	2/3/2008	0	1	0	0	0	0	0	0	0	1	1
59	ff	2	1/4/2008	0	1	0	0	0	0	0	0	0	1	1
59	gg	3	2/1/2008	0	1	0	0	0	0	0	0	0	1	1
59	gg	4	4/2/2009	1	1	1	0	0	0	0	0	0	1	1
59	gg	6	2/1/2008	1	1	0	0	0	0	0	0	0	1	1
59	gg	55	2/2/2008	1	1	0	0	0	0	0	0	0	1	1

Illustration 19