

## Using eMaRC Plus to Process HL7 Files Increases Data Completeness

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### SUMMARY

Last year, North Dakota Statewide Cancer Registry (NDSR) collaborated with the North Dakota Health

Department and CDC's partner the Association of Public Health Laboratories (APHL) to set up the automatic electronic transmission of pathology lab data on the APHL Informatics Messaging Services (AIMS) platform. Since then, we received data from multiple national laboratories. We installed eMaRC Plus software to process and abstract case records properly from the Health Level Seven (HL7) Clinical Document Architecture (CDA) format into our registry database. It has become a routine part of our data collection and is enhancing the completeness and quality of our cancer data.

### CHALLENGES

- National labs send us data in HL7 CDA format, which is not compatible with our registry database. We needed new software to process the data. The most accessible software for this task is eMaRC Plus, which we had never used before.
- The NDSR staff needed training on how to use eMaRC Plus software.

### SOLUTION

To address these challenges, NDSR staff consulted staff in CDC's National Program of Cancer Registries (NPCR). They recommended this software and scheduled an eMaRC Plus software training session.

### RESULTS

eMaRC Plus software was installed successfully, and the NDSR staff started to use the software after attending a training session. HL7 data from multiple national labs (Quest Diagnostics, PathGroup VXS.IDX, and NEO) are processed into NDSR's database. From these data sources, we can receive more detailed and accurate lab information and avoid missing cases. This new integration has made the process of case abstracts more efficient.

### CONCLUDING REMARKS

- Next steps: eMaRC Plus software is currently undergoing a redesign, and the next version will be compatible with NAACCR version 25. We plan to upgrade to this software when the implementation is complete.
- The NDSR will continue processing HL7 CDA files from national laboratories to enhance the reliability and completeness of its cancer data reporting.

The screenshot shows the eMaRC Plus software interface. At the top, there are menu options like 'Import HL7', 'Open batch', 'Export Abstracts', and 'PHINMS Queue'. Below the menu is a search bar and a 'Show/Hide List' button. A table displays data with columns: BatchID, Filename, Lab, Import Date/Time, Status, User, # Reports, # Review, # Hold, # Followback, # Complete, # No cancer terms, # Non-reportable, # Exported, and Type. A dialog box titled 'eMaRC Plus' is overlaid on the table, displaying the message: '5 no cancer terms reports have been deleted.' with an 'OK' button.

BatchID	Filename	Lab	Import Date/Time	Status	User	# Reports	# Review	# Hold	# Followback	# Complete	# No cancer terms	# Non-reportable	# Exported	Type
45	Report_63255455884455		10/16/2024 4:12:19 PM	No Cancer Term	bcz	0	0	0	0	0	0	0	0	Pipe-delimited
44	ND_Q2201811st	Inform Diagnostics - Irving...	10/16/2024 4:10:37 PM	Review	NONE	6	2	0	0	1	0	3	0	HL7 ORU^1
43	ND_Q220171st	Mesa Life Sciences - Irv...	10/16/2024 4:10:18 PM	Non-reportable	NONE	1	0	0	0	0	0	1	0	HL7 ORU^1
42	ND_Q420171st	Mesa Life Sciences - Irv...	10/16/2024 4:10:05 PM	Review	NONE	11	5	0	0	1	0	5	0	HL7 ORU^1
41	ND_Q120181st	Mesa Life Sciences - Irv...	10/16/2024 4:09:42 PM	Review	NONE	1	1	0	0	0	0	0	0	HL7 ORU^1
40	ND_Q220181st	Inform Diagnostics - Irving...	10/16/2024 4:09:27 PM	Review	NONE	3	1	0	0	1	0	1	0	HL7 ORU^1
39	ND_Q120191st	Inform Diagnostics - Irving...	10/16/2024 4:09:08 PM	Review	NONE	4	1	0	0	1	0	2	0	HL7 ORU^1
38	ND_Q220181st	Inform Diagnostics - Irving...	10/16/2024 4:08:44 PM	Review	NONE	5	1	0	0	1	0	3	0	HL7 ORU^1
37	ND_Q220201st	Inform Diagnostics - Irving...	10/16/2024 4:08:21 PM	Complete	NONE	1	0	0	0	1	0	0	0	HL7 ORU^1
36	ND_Q120201st	Inform Diagnostics - Irving...	10/16/2024 4:08:06 PM	Review	NONE	4	1	0	0	1	0	2	0	HL7 ORU^1
35	ND_Q420181st	Inform Diagnostics - Irving...	10/16/2024 4:07:45 PM	Review	NONE	8	3	0	0	3	0	2	0	HL7 ORU^1
34	ND_Q220211st	Inform Diagnostics - Irving...	10/16/2024 4:07:21 PM	Complete	NONE	1	0	0	0	1	0	0	0	HL7 ORU^1
33	ND_Q220201st	Inform Diagnostics - Irving...	10/16/2024 4:06:59 PM	Complete	NONE	1	0	0	0	1	0	0	0	HL7 ORU^1
32	ND_Q420221st	Inform Diagnostics - Irving...	10/16/2024 4:06:43 PM	Review	NONE	1	0	0	0	1	0	0	0	HL7 ORU^1
31	ND_Q220221st	Inform Diagnostics - Irving...	10/16/2024 4:06:00 PM	Complete	NONE	1	0	0	0	1	0	0	0	HL7 ORU^1
30	ND_Q420211st	Inform Diagnostics - Irving...	10/16/2024 4:05:18 PM	Review	NONE	1	0	0	0	1	0	0	0	HL7 ORU^1
29	QUEST_NO_ELPR_CANCE...	QUEST WOOD DALE^14...	10/16/2024 3:49:55 PM	Complete		1	0	0	0	1	0	0	0	HL7 ORU^1
28	QUEST_NO_ELPR_CANCE...	QUEST WOOD DALE^14...	10/16/2024 3:49:38 PM	Complete		1	0	0	0	1	0	0	0	HL7 ORU^1
27	InterPartner~QUEST_ELR...	QUEST WOOD DALE^14...	10/16/2024 3:49:07 PM	Complete		1	0	0	0	1	0	0	0	HL7 ORU^1
26	InterPartner~CancerRegistr...	Sage Diagnostics^03D096...	10/16/2024 3:48:36 PM	Complete		1	0	0	0	1	0	0	0	HL7 ORU^1
25	InterPartner~CancerRegistr...	PathGroup^44D0705108^C...	10/16/2024 3:48:13 PM	Review		1	0	0	0	1	0	0	0	HL7 ORU^1
24	InterPartner~CancerRegistr...	PathGroup^44D0162014^...	10/16/2024 3:47:37 PM	Non-reportable		1	0	0	0	0	0	1	0	HL7 ORU^1
23	InterPartner~CancerRegistr...	PathGroup^44D0934312^...	10/16/2024 3:47:21 PM	Complete		1	0	0	0	1	0	0	0	HL7 ORU^1
22	InterPartner~CancerRegistr...	NeoGenomics^100099808...	10/16/2024 3:47:02 PM	No Cancer Term	NONE	1	0	0	0	0	1	0	0	HL7 ORU^1
21	InterPartner~CancerRegistr...	NeoGenomics^100099808...	10/16/2024 3:46:45 PM	Complete		1	0	0	0	1	0	0	0	HL7 ORU^1
20	InterPartner~CancerRegistr...	NeoGenomics^100099808...	10/16/2024 3:46:28 PM	Complete	NONE	1	0	0	0	1	0	0	0	HL7 ORU^1
19	InterPartner~CancerRegistr...	NeoGenomics^100099808...	10/16/2024 3:46:14 PM	No Cancer Term	NONE	1	0	0	0	0	1	0	0	HL7 ORU^1
18	InterPartner~CancerRegistr...	NeoGenomics^100099808...	10/16/2024 3:45:52 PM	No Cancer Term	NONE	1	0	0	0	0	1	0	0	HL7 ORU^1
17	InterPartner~CancerRegistr...	NeoGenomics^100099808...	10/16/2024 3:45:37 PM	No Cancer Term	NONE	1	0	0	0	0	1	0	0	HL7 ORU^1
16	InterPartner~CancerRegistr...	NeoGenomics^100099808...	10/16/2024 3:45:24 PM	No Cancer Term	NONE	1	0	0	0	0	1	0	0	HL7 ORU^1
15	InterPartner~CancerRegistr...	NeoGenomics^100099808...	10/16/2024 3:45:05 PM	Complete	NONE	1	0	0	0	1	0	0	0	HL7 ORU^1
14	InterPartner~CancerRegistr...	Inform Diagnostics^45D09...	10/16/2024 3:44:49 PM	Review	NONE	6	2	0	0	1	0	3	0	HL7 ORU^1
13	InterPartner~CancerRegistr...	Inform Diagnostics^22D09...	10/16/2024 3:44:30 PM	Non-reportable	NONE	1	0	0	0	0	0	1	0	HL7 ORU^1
12	ND_Q120221st	Inform Diagnostics - Irving...	10/16/2024 3:04:47 PM	Complete	bcz	1	0	0	0	1	0	0	1	HL7 ORU^1
11	InterPartner~CancerRegistr...	Inform Diagnostics^45D09...	10/16/2024 2:38:01 PM	Review	bcz	1	1	0	0	0	0	0	1	HL7 ORU^1
10	InterPartner~CancerRegistr...	Inform Diagnostics^45D09...	10/16/2024 2:34:25 PM	Complete	bcz	1	0	0	0	1	0	0	0	HL7 ORU^1
3	InterPartner~CancerRegistr...	PathGroup^44D0934312^...	10/12/2024 1:23:20 PM	Review	bcz	1	1	0	0	0	0	0	1	HL7 ORU^1