XML Tools

Examples to Slice, Dice, Load, and Analyze XML data

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Introduction

- Tools are important because they make complex tasks look simple
- Switching from a flat format to an XML can be a complex task
- Our Task Force developed some tools to help with that transition

Tools Overview

Flat Files

- Text Editors
- Compression Tools
- Conversion Tools
- Viewing/Processing Tools
- Abstracting Tools
- Submission Tools
- Data Management Systems
- Analysis Tools

XML

- XML Editors
- Compression Tools

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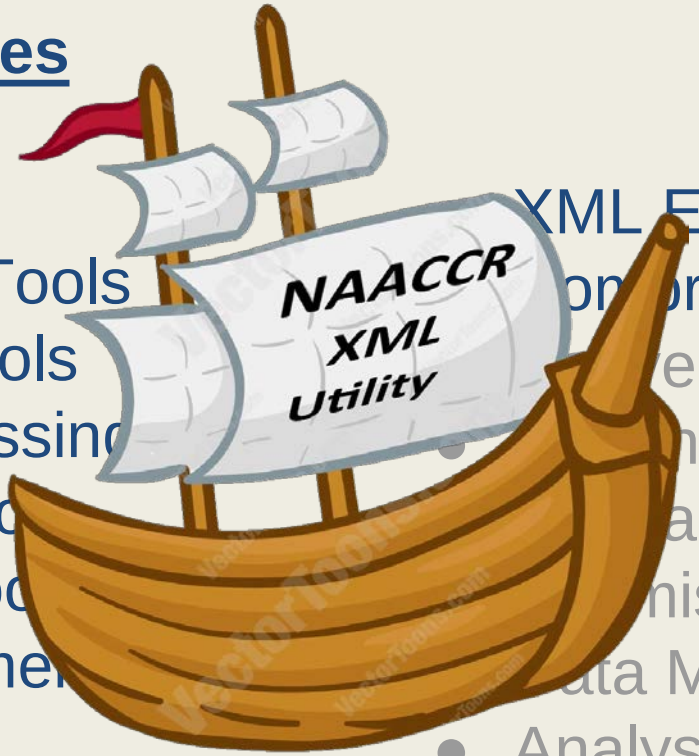

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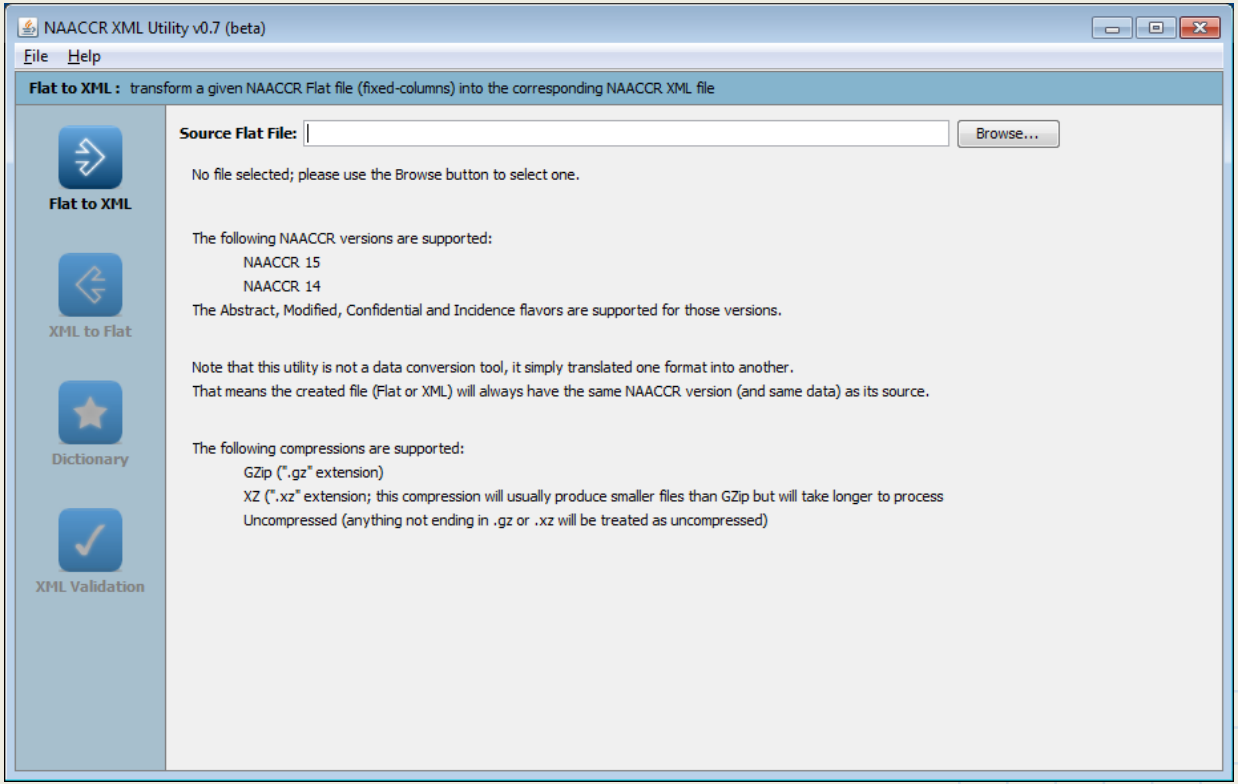
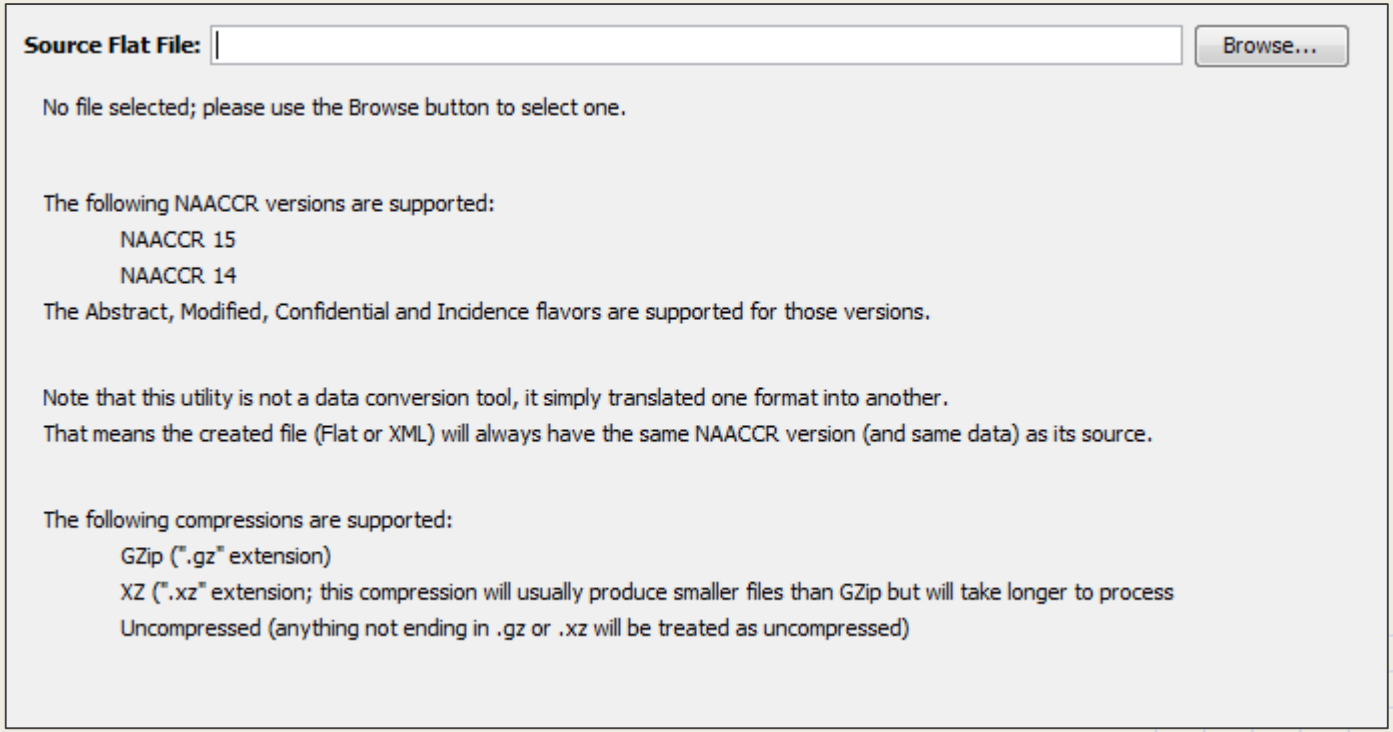
NAACCR XML Utility

- Developed by the NAACCR XML Task Force
- Freely available, open source (GitHub)
- Java standalone program, released as a single JAR
- Supports NAACCR 14 and 15 (AMCI types)
- Main features:
  - XML validation (evaluation tool)
  - Flat to XML and XML to Flat (transition tool)
  - Dictionary viewer (information tool)

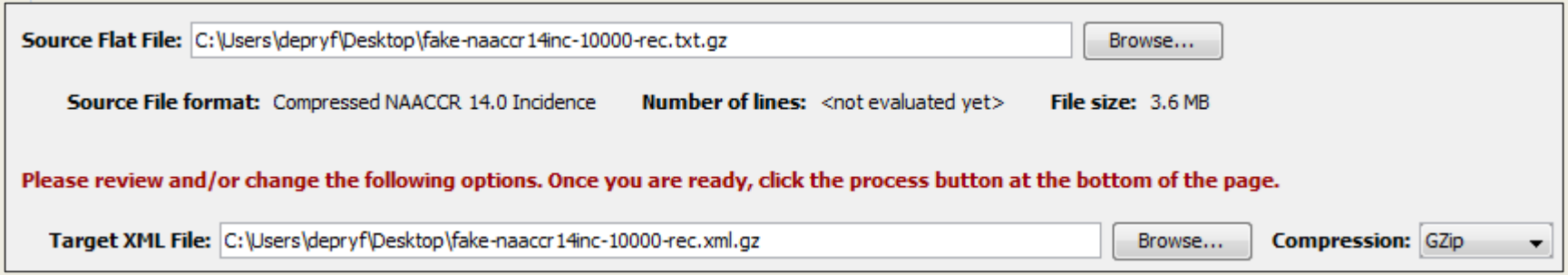
GUI Overview



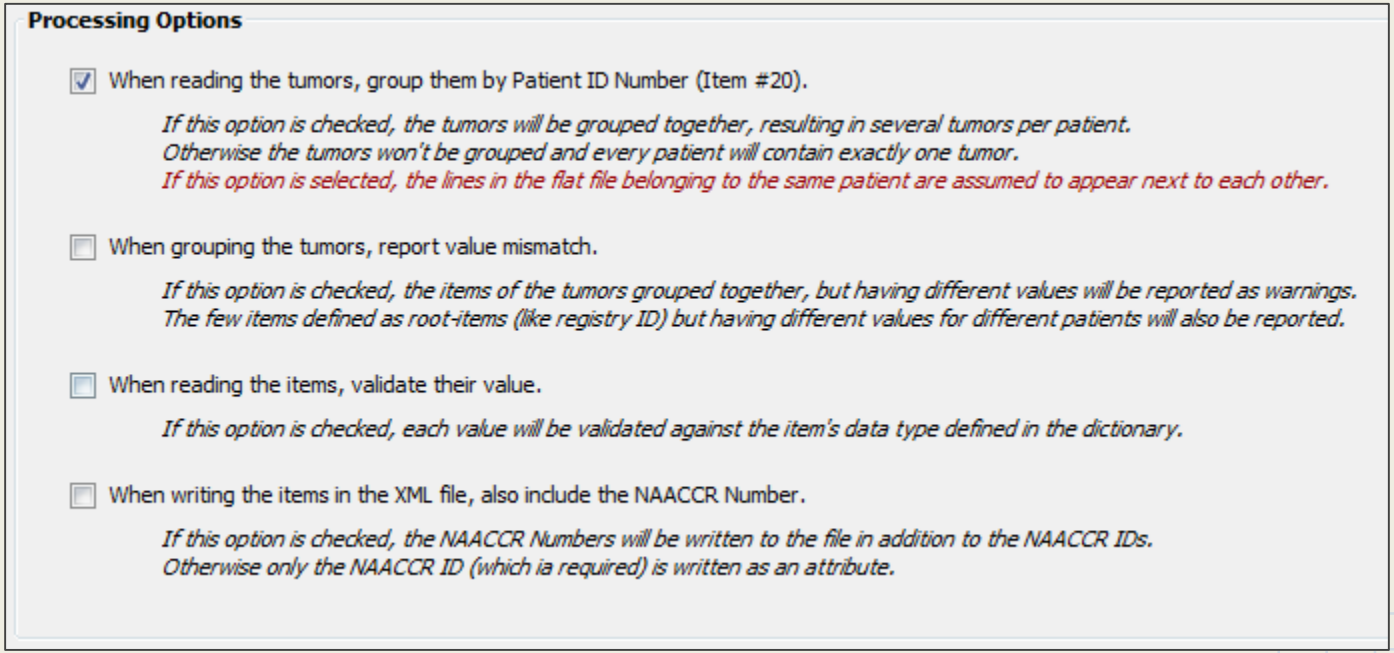
Going from Flat to XML (step 1 of 7)



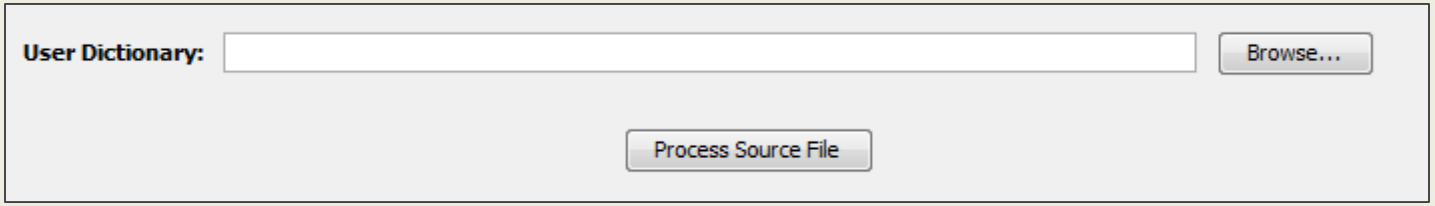
Going from Flat to XML (step 2 of 7)



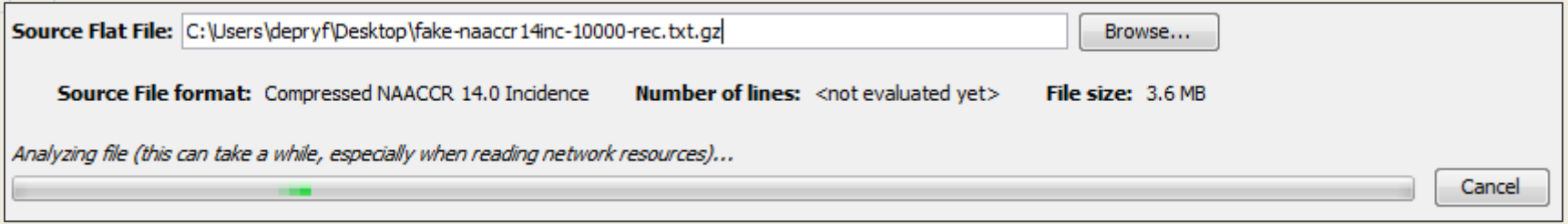
Going from Flat to XML (step 3 of 7)

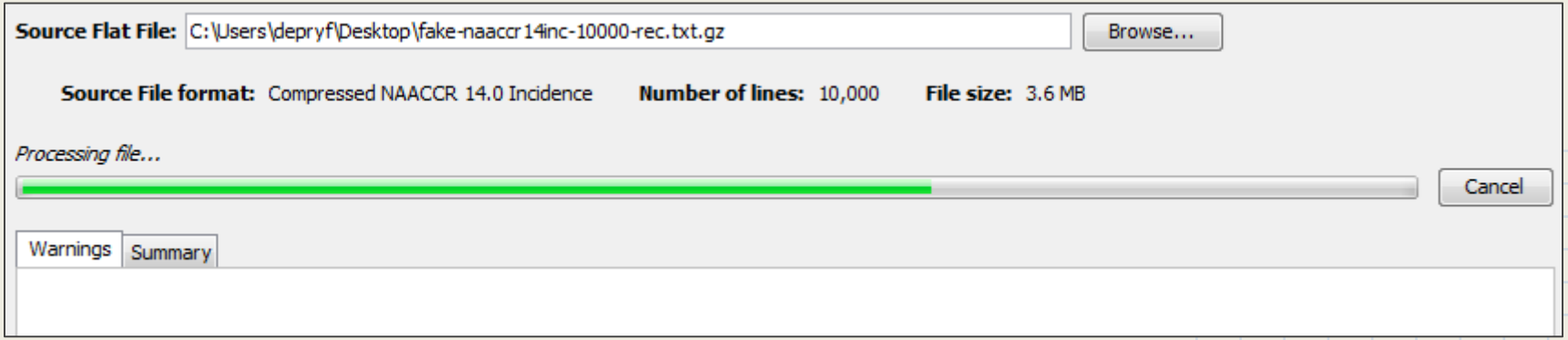


Going from Flat to XML (step 4 of 7)

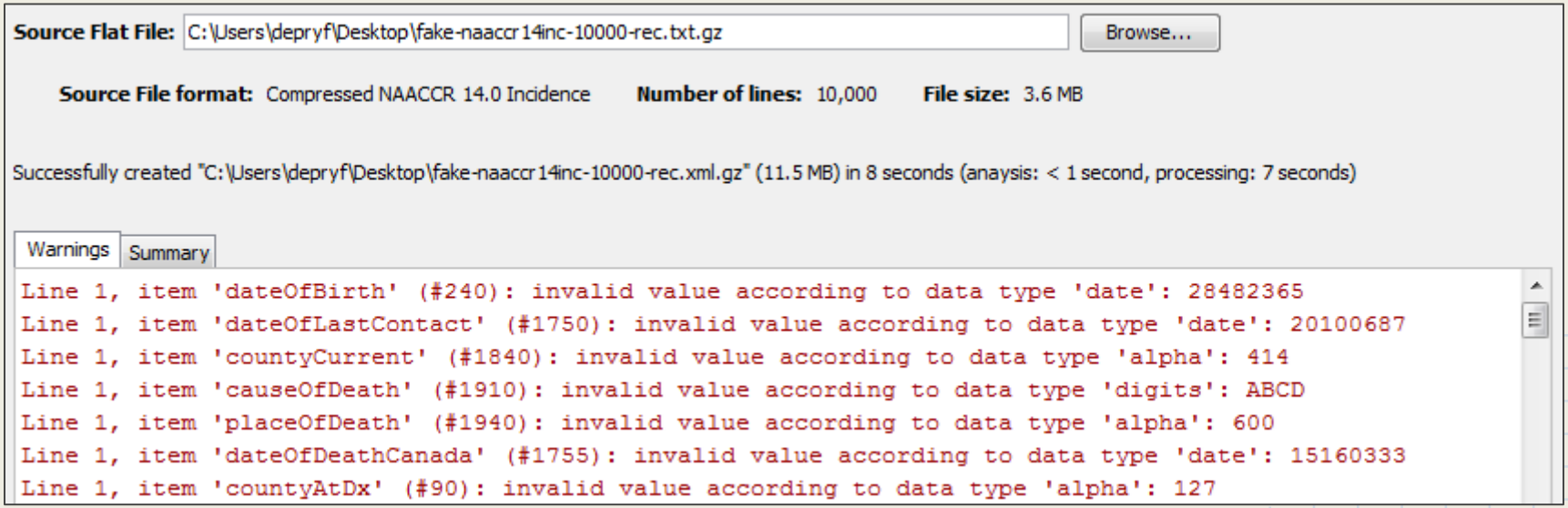


Going from Flat to XML (step 5 of 7)

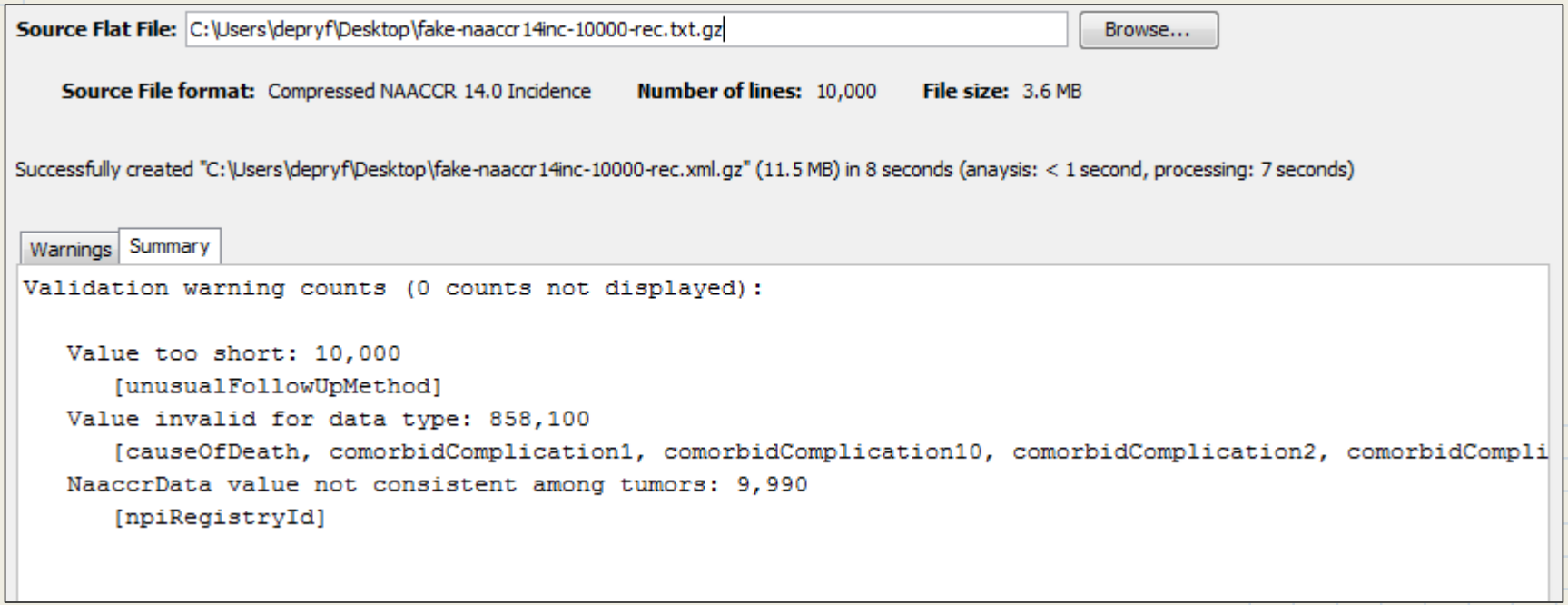




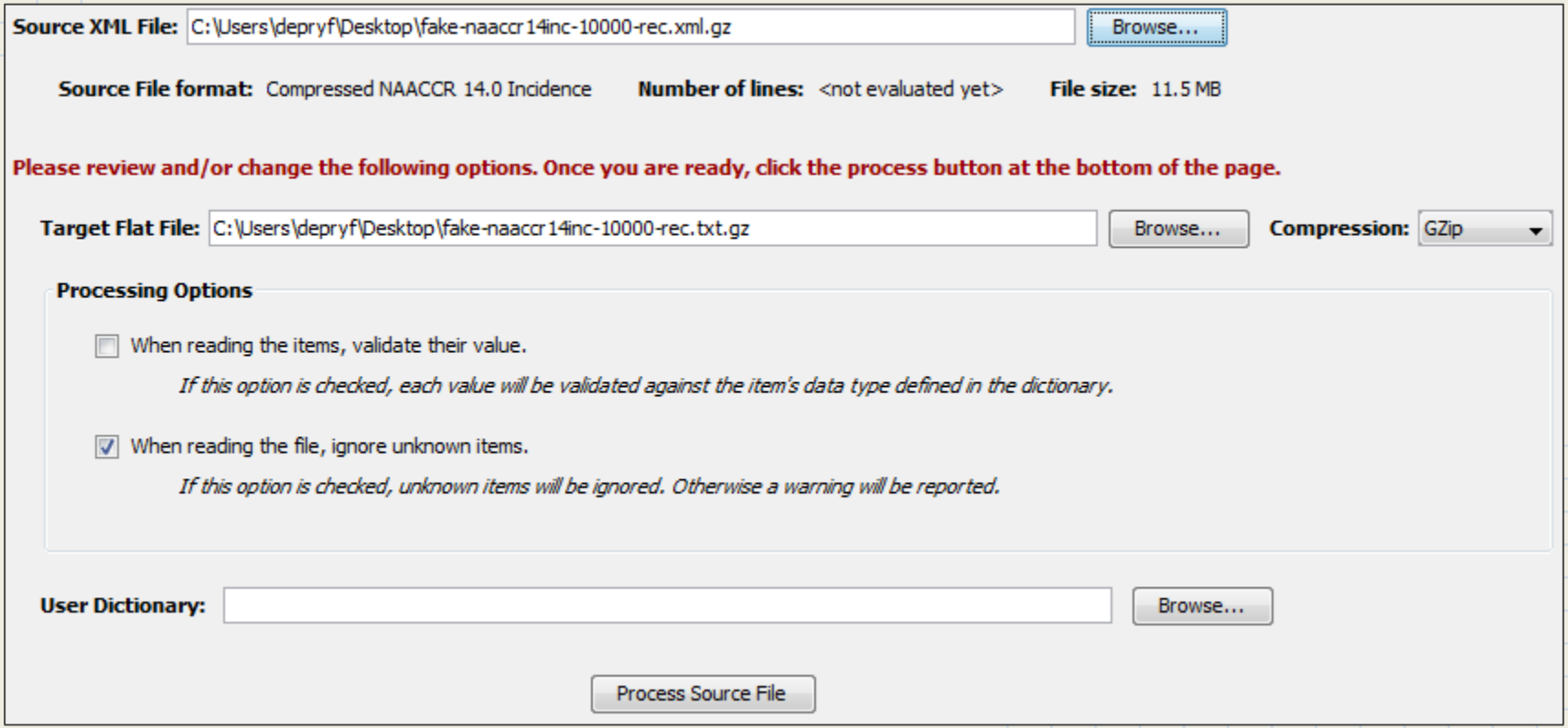
Going from Flat to XML (step 6 of 7)



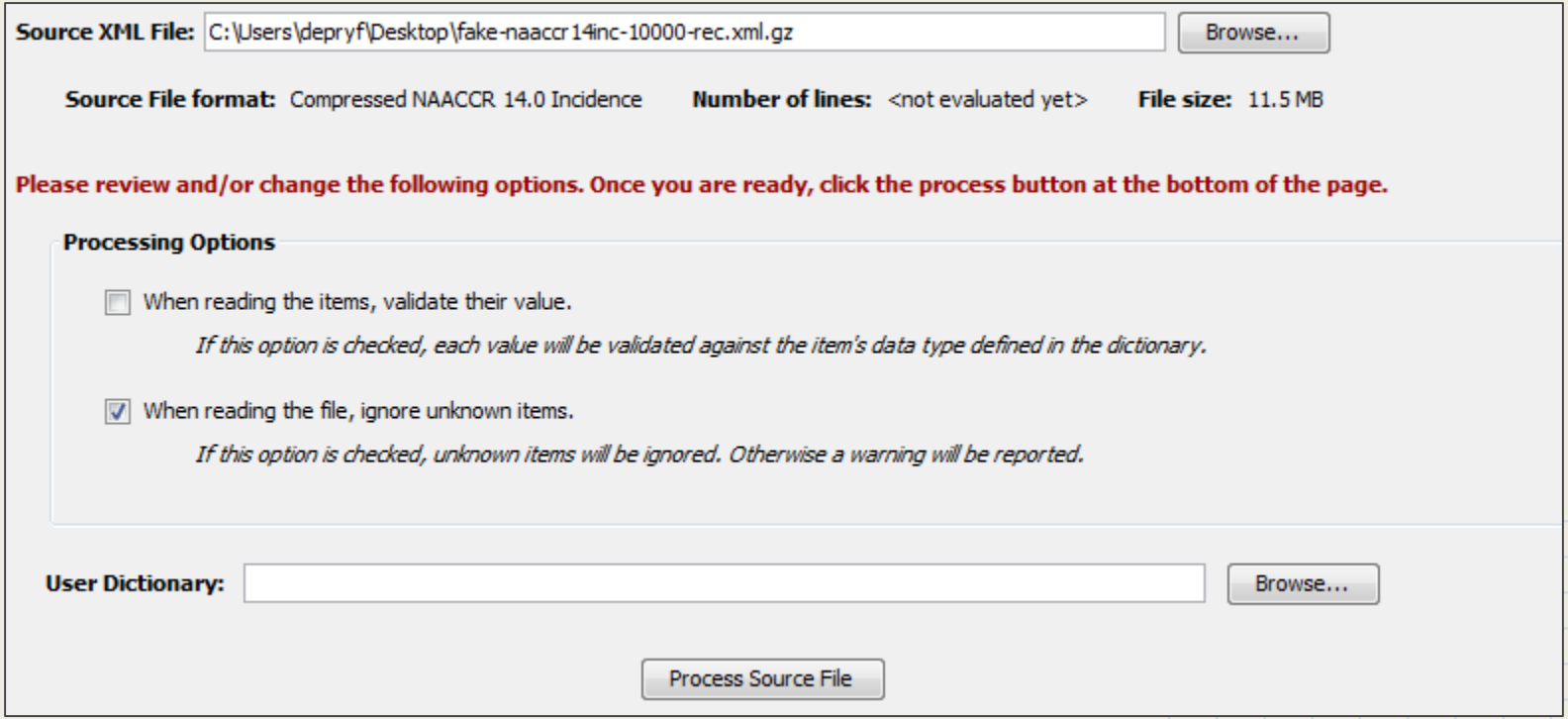
Going from Flat to XML (step 7 of 7)



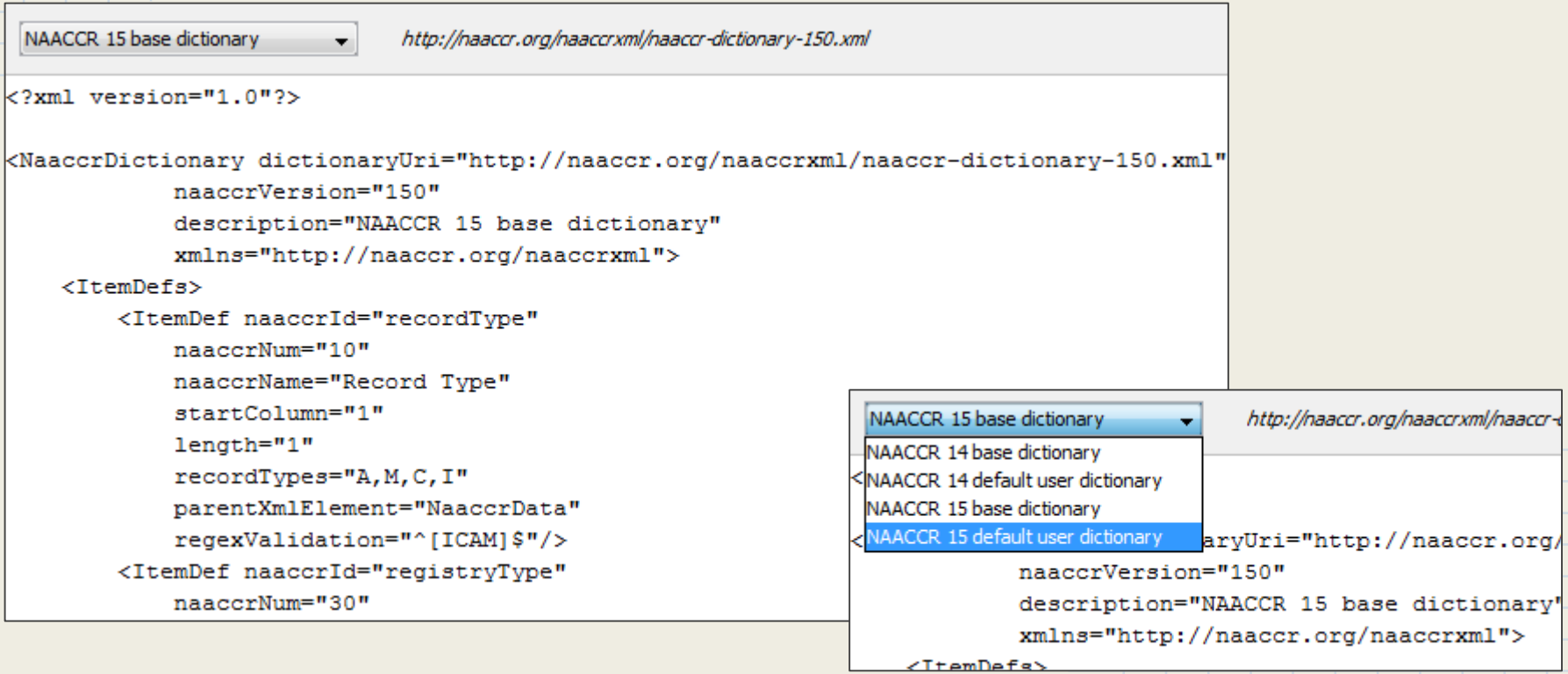
Going from XML to Flat



XML Validation



Viewing the Dictionaries



Evaluating Speed and Size

	Source	Record Type	Num Records	Compression	Time to XML (h:m:s)	Records Converted/sec	Original Size	Converted Size	Conversion Factor (Size)
1	Florida - full extract test file (data on network)	A	2.8M	None	3:32:00	220 (network)	62.4GB	25.2GB	0.4
2	Florida - full extract test file (data local)	A	2.8M	None	0:37:00	1261 (local)	62.4GB	25.2GB	0.4
3	Los Angeles (SEER 35) - 11/2014 sub file	I	1.0M	None	0:03:15	5128	3.1GB	6.6GB	2.1
4	Los Angeles (SEER 35) - 11/2014 sub	I	1.0M	GZ	0:03:05	5411	103MB	188MB	1.8
5	Ontario Cancer Registry - 2014	I	2.2M	GZ	0:09:00	4074	224MB	405MB	1.8
6	Greater Calif (SEER 41) - 2/2015 sub file	I	2.2M	None	0:05:17	6944	6.7GB	11.4GB	1.7
7	Ontario Cancer Registry - eMaRC Abstract	A	1567	None	0:03:50	7 (network)	35K	3K	0.1
8	Ontario Cancer Registry - CSA Abstracts	A	2033	None	0:05:45	6 (network)	45K	4K	0.1
9	Kentucky Cancer Registry - 11/2014 sub file	I	465K	None	0:01:18	5962	1.5GB	2.1GB	1.4
10	Kentucky Cancer Registry - 11/2014 pre sub file	C	466K	None	0:02:26	3196	2.5GB	5.4GB	2.1
11	Kentucky Cancer Registry - Large case file	A	566K	None	0:05:40	2664	12.6GB	6.0GB	0.5
12	SEER Submission data - .GZ compressed	I	2.2M	GZ	0:10:30	3492	224MB	404MB	1.8
13	SEER Submission data - .GZ compressed	I	468K	GZ	0:03:03	2557	76.6MB	188MB	2.5
14	SEER Submission data - .GZ compressed	I	201K	GZ	0:00:49	4102	18.4MB	33.5MB	1.8
15	SEER Submission data - .XZ compressed	I	201K	XZ	0:01:29	2258	18.4MB	23.9MB	1.2
16	Synthetic Test	A	2.5M	None	0:26:00	1603	56GB	61GB	1.1
17	Synthetic Test - .GZ compressed	A	2.5M	GZ	0:26:00	1603	1.3GB	1.7GB	1.3
18	Synthetic Test - with Grouped (nested) ON	A	25K	None	n/a	n/a	544MB	622MB	1.1
19	Synthetic Test - with Grouped (nested) OFF	A	25K	None	n/a	n/a	544MB	638MB	1.1

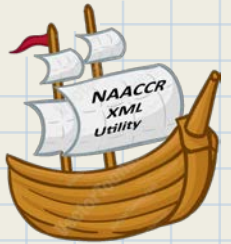
Other tools

- Our task force did other proof of concept with
  - SAS
  - Python
  - XML persistence (database mapping)

- But other tools will need to be written by the community

Conclusion

- The XML format will work, if it’s embraced by NAACCR and the community.
- More work needs to be done, and not only in terms of design and implementation, but also decisions about the logical level of the items.
- The Task Force will keep improving the tools to make the transition as smooth as possible!



Conclusion

Thank you!

Check out our work and/or download the tool:

http://naaccrxml.org/