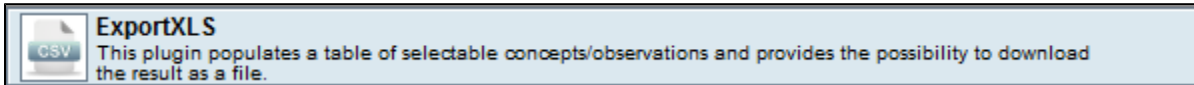


# ExportXLS Web Client Plugin



## Introduction

As of v.3.4, this plugin provides the following functions:

- Tabulates any selected concepts (ontology terms) relevant to (observed on) a set of selected patients.
- Optionally uses smaller queries of patient subgroups (from the large patient set) iteratively, in place of one single large query of that huge patient set, to reduce risk of overwhelming the server.
- Optionally uses selected subset of patients from a large patient set, to further reduce risk of overwhelming the server.
- Provides feedback on current progress, elapsed time, and estimated remaining run time.
- Provides notification & suggestion in cases of paging (query-subgrouping) by the server.
- Provides termination, indication & suggestion (for recovery) when the server failed.
- Provides detailed 'HELP' and 'HINT' dialogs in response to corresponding hotlinks strategically placed next to input fields that may need explanations or suggestion.
- Offers different formats and levels of detail.
  - Optionally returns appropriate 'Observation BLOBs' when 'valuetype\_cd' is 'B' and the user has the appropriate access right ("DATA\_DEID").
- Optionally replaces patient IDs with ascending numbers.
- Optionally adds a selection of demographic patient details.
- Optionally resolves concept codes and displays their denotation.
- Optionally includes ontology path of concept codes.
- Exports tabulated data into a CSV (delimiter may be specified, or defaulted to comma) file that can easily be used by Excel, SPSS and other statistics software.

v.3.3 can be downloaded from the [v.3.3 Download Page \(at codeplex\)](#); v3.4 can be downloaded from the [the v.3.4 Download Page \(at GitHub\)](#)

## Instructions

Refer to [this Installation Guide](#) and [this User's manual](#) for details.

Please refer to the built-in help ("Plugin Help" tab) for concise information after installation.

## Usage Case Suggestions

- Resolving concept/modifier codes is a very time consuming task. It is strongly recommended to enable this function only as a last step, after you are sure that the query itself is perfect.
- The default export CSV file encloses all data cells in quotation marks (""). This is necessary to export special characters like line breaks within a cell. However, some statistics software may get confused with the quotation marks. In this case, check the 'Exclude CSV Cell Delimiter (") Where Possible' box on the "Settings" tab to permit the writing of quotation marks where possible. Cells with special characters will still be enclosed in quotation marks, though... but it will be way less work to remove them manually than if it had to be done for every cell...
- If a query would return very large result sets, the server automatically pages the result. This causes a considerable delay that sometimes will fail or hang, due to timeouts. If you encounter this problem, the query can be paged manually by setting the 'Query Page Size' value on the "Settings" tab. This is still slower than an 'at-once' query, but faster than automatic paging and it avoids server overload. The necessary value cannot be predicted in general and strongly depends on the number of observations returned, but 20 - 50 is a good idea for beginning. Higher values result in faster processing but higher risk of server overload.
- If a patient set contains thousands of patients, and you are not sure if the concepts you are specifying would result in large run time or large result set, then it is better to start with a subset of the patient set (e.g. '*Starting Patient*: 1, and '*Number of Patients*: 500, etc.) first, as you can always run again with subsequent subsets (e.g. '*Starting Patient*: 501, and '*Number of Patients*: 500, etc.).
- The '*1 row per observation (detailed, 1 column per observation detail)*' option of tabulation is the only output option where the 'Observation Value' column will contain the appropriate 'Observation BLOBs' (if the 'valuetype\_cd' is 'B' and the user has the "DATA\_DEID" access right).

## Browser Compatibility

- This plugin has been successfully tested with the following browsers: Firefox (v18.0.2, v28.0), Chrome (v24.0, v33.0), Internet Explorer 32/64 (v9.0.13, v10.0, v11.0 - *there seems to be a problem with scrolling bars in small windows, though*), Safari (v5.1.7) and Opera (v18.0, v20.0).

- The i2b2 web client itself does not work with Opera (v12.11, v12.16).

## i2b2 version compatibility

This version (v3.3) is compatible with i2b2 v.1.3-1.7, in particular v.1.7.0.7.

## Version History of this Plugin

|             |  |                      |
|-------------|--|----------------------|
| 1<br>.<br>0 | Initial release, for i2b2 v1.5.<br>By Mauro Bucalo, Università di Pavia, Italy.  | Ju<br>ne<br>20<br>11 |
| 1<br>.<br>6 | Updated for i2b2 v1.6.<br>By Mauro Bucalo, Università di Pavia, Italy.   | Ja<br>n.<br>20<br>12 |
| 2<br>.<br>0 | Updated for i2b2 v1.3-1.6, Internet Explorer compatibilities; added flexible column exclusion, table title & caption, leading row count column, and other enhancements.<br>By Wayne Chan, University of Massachusetts Medical School, Worcester, MA, USA; and Mauro Bucalo, Università di Pavia, Italy.  | Fe<br>b.<br>20<br>12 |
| 3<br>.<br>0 | Major upgrade; many new features (CSV export, detailed tabulating of all observations, formatting options, paged queries...), heavily re-engineered.<br>By Axel Neue, Friedrich Alexander University Erlangen-Nuremberg, Germany.  | Fe<br>b.<br>20<br>13 |
| 3<br>.<br>2 | Added options of using a subset of a large patient set; fixed blank 'Birth year' bug; added 'locality' column per request; added more user-friendly feedback (estimated run-time, etc.), help & hint; added server failure termination & notification. (for UMass Med School internal use only)<br>By Wayne Chan, University of Massachusetts Medical School, Worcester, MA, USA.                                    | No<br>v.<br>20<br>13 |
| 3<br>.<br>3 | Added support of displaying observation blobs (for users with appropriate access) and added several useful columns to the output option of '1 row per observation (detailed, 1 column per observation detail)'.<br>By PARIS Nicolas, Hôpital Ambroise Paré, Boulogne, France; and Wayne Chan, University of Massachusetts Medical School, Worcester, MA, USA.  | M<br>ar.<br>20<br>14 |
| 3<br>.<br>4 | fixed compatibility issue with the new prototype.js v1.7.2 (ships with webclient v1.7.0.7), other minor touch-ups; fixed selected patient subset size and starting & ending patient numbers off by 1 problems; added option to select delimiter for CSV export file; & repackaged to work with the new i2b2 Automatic Webclient Plugins Installer; etc.<br>By Wayne Chan, Partners HealthCare, Charlestown, MA, USA. | De<br>c.<br>20<br>15 |

## Release Notes

### Version 3.4

- Optionally specify delimiter for CSV export file.
- Repackaged to work with the new i2b2 Automatic Webclient Plugins Installer.
- Certified to be compatible with webclient v1.7.0.7.

### Version 3.3

- Optionally returns appropriate 'Observation BLOBs' when 'valuetype\_cd' is 'B' and the user has the appropriate access right ("DATA\_DEID"), for the '**1 row per observation (detailed, 1 column per observation detail)**' option of tabulation.

### Version 3.2

- Optionally uses selected subset of patients from a large patient set, to further reduce risk of overwhelming the server.
- Provides feedbacks on current progress, elapsed time, and estimated remaining run time.
- Provides notification & suggestion in cases of paging (query-subgrouping) by the server.

- Provides termination, indication & suggestion (for recovery) when the server failed.
- Provides detailed 'HELP' and 'HINT' dialogs in response to corresponding hotlinks strategically placed next to input fields that may need explanations or suggestion.

## Version 3.0

- Added export of CSV files.
- Improved tabulating of observations: all observations of a patient are now tabulated (not only the first one).
- Added flexible formatting of the output table.
- Added resolving of concept (and modifier) codes to export their denotation.
- Added inclusion of ontology path of concepts.
- Added replacing patient IDs by numbers (independently from i2b2 features)
- Added more flexible selection of demographic data.
- Added activity feedback for long running queries.
- Added re-querying of automatically paged results.
- Added possibility to page queries manually.

## Version 2.0

Based on feedback and input from other researchers, we have made the following updates, adjustments, enhancements, and fixes that may better serve everyone in the i2b2 community:

1. Updated patient\_list params to render this plugin compatible with i2b2 v1.3; and fixed a problem in the version for i2b2 v1.6 (it should now work on i2b2 v1.3-v1.6).
2. Added table title and caption to the resulting output table.
3. Added new 1st column for patient row counts (no column title).
4. Renamed the "StateCity" column title to "State/City".
5. Removed any leading and trailing redundant "Zip codes" values from each state value string.
6. Defaulted to using "concept\_cd" for each selected concept entry if neither "tval\_char" nor "nval\_num" is available.
7. Improved efficiencies.
8. **Facilitated the flexible dropping of any columns (that may contain data too sensitive or personal) from the resulting output table.**
9. Fixed the Internet Explorer (IE) hang problem.
10. Fixed the missing "concept" columns on IE problem.
11. Fixed the blank "patient\_IDs" (when "Include Patient Date" not selected) on IE problem.
12. Fixed table content getting cutoff on IE problem.
13. Centered content in each table cell of the resulting output table.
14. Added unique time-stamp to name of exported XLS file.
15. Updated the description of this plugin displayed (in the available plugin list).
16. Added more descriptions in the "Specify Data" and "Plugin Help" tab pages.
17. Updated plugin category from "text" to "standard".

*This new release is packed with installation guide and version supplementary note, and is available from [the Google Code project download page](#) set up for it, as well as [the UMass Med School MICARD Downloads page](#).*

## About Us

- The initial version of this plugin was created by Mauro Bucalo, Università di Pavia, Italy, June 2011; based on the ExamplePDO plugin, by Nick Benik & Griffin Weber, Sept. 2008.
- The following major revision (v2.0) was released as a collaboration between the University of Massachusetts Medical School, Worcester, USA (S. Wayne Chan), and the Università di Pavia, Italy (Mauro Bucalo).
- Version 3.0 underwent heavy re-engineering and optimizations, together with the introduction of many new features. It was implemented by Axel Neue, Friedrich Alexander University Erlangen-Nuremberg, Germany with strong support from Wayne Chan and Mauro Bucalo (see above).
- Version 3.2 added GUI improvements & minor bug fixes, per local requests, and for internal usages only; in the University of Massachusetts Medical School, Worcester, USA (S. Wayne Chan).
- Version 3.3 was a collaboration between the Hôpital Ambroise Paré, Boulogne, France (PARIS Nicolas), and University of Massachusetts Medical School, Worcester, USA (Wayne Chan).
- Version 3.4 updated by Wayne Chan, Partners HealthCare.

Please don't hesitate to contact us concerning any questions or problems. Thanks.

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