

State of Alaska
Department of Health & Social Services
WIC Nutrition Reports

Technical Documentation

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1.0 Overview

This document gives technical information about the 11 WIC Nutrition Reports added to the AKWIC PowerBuilder program. This document is intended for use by the state support team for this application, as well as being used as a reference document for any future development on reports.

These reports were added in 2004 and 2005 by Resource Data, Inc.

Development Environment

PowerBuilder Enterprise, version 8.0.1, Build 8004 was used for development.

Microsoft SQL Server 2000 was used as the database

Source Code was delivered to the State, who handled the compile and distribution of the project.

Design Overview

The addition of these new WIC reports was modular, and had very little impact on the rest of the system. To contain all the source code, a new PowerBuilder library was created: rptnutr.pbl. All code for this task is contained in this library.

The existing reports module within AKWIC is mainly data driven. The process of running a report follows these steps:

- The user runs AKWIC, then presses the F9 key to see a report list
- A list of reports is retrieved from the database and displayed
- The user selects a report from this list
- A reports window is opened (the specific window depends on the report chosen),
- The user enters report-specific parameters in the window and clicks the OK button
- A Print Preview of the report appears that lets the user view and print the report.

2.0 Report Overview

This section gives an overview and general business information about each of the reports created by this project.

340: Overweight Children

This report shows how many overweight children there are by clinic.

Clients are shown if they have a valid certification within the reporting period. If there are multiple certifications, only the most recent within the reporting period is selected. All information on the client (such as age and client status) is for the date of the certification event. Certifications are reported for the location the certification event took place for the time period of the report (not the current client location). The certification must have been active (enrolled) for the time period of the report for it to be included.

The medical information used for this report is the medical information date closest to the certification date, that falls within 60 days of the certification date. The medical date may be before or after the certification date. If there are multiple medical certifications, only the one closest to the certification date is used.

The “All LA Children” is a count of all children having certifications during the reporting period, regardless of whether they had the risk or not.

Percents shown for each clinic are the percent of children from that clinic that had this risk.

The percents on the bottom line of the report show the percent of children having this risk from all clinics.

“Overweight” is defined for this report as either:

- * overweight by a height/weight chart
- (or) * having a BMI over the 95th percentile

See charts below:

Height/Weight Chart

Males

Overweight at indicated pounds, for the given height:

Height	30”	31”	32”	33”	34”	35”	36”	37”
(pounds)	26	27	28.25	29.5	31	32.5	34	35.75

Height	38”	39”	40”	41”	42”	43”	44”	45”
(pounds)	37.5	39.5	41	43	45.25	48.25	50.5	53.75

Height	46"	47"	48"
(pounds)	56.25	60	62.5

Females

Overweight at indicated pounds, for the given height:

Height	30"	31"	32"	33"	34"	35"	36"	37"
(pounds)	25.75	26.5	28	29	30.75	32.25	33.75	35.75

Height	38"	39"	40"	41"	42"	43"	44"	45"
(pounds)	37.5	39.75	41.75	44	46.75	49.5	51.75	54.75

Height	46"	47"	48"
(pounds)	57.25	60	62.5

BMI Chart

BMI is calculated as: (Pounds / Inches²) * 703

Males

Overweight at indicated BMI

Age:	2	3	4	5
BMI:	19.3	18.3	17.8	17.9

Females

Overweight at indicated BMI

Age:	2	3	4	5
BMI:	19.1	18.3	18	18.2

341: Low Birth Weight / Prematurity

This report shows counts of infants and children meeting the criteria for low birth weight or prematurity.

Clients are shown if they have a valid certification within the reporting period. If there are multiple certifications, only the most recent within the reporting period is selected. All information on the client (such as age and client status) is for the date of the certification event. Certifications are reported for the location the certification event took place for the time period of the report (not the current client location). The certification must have been active (enrolled) for the time period of the report for it to be included.

The "All LA Infants/Children" is a count of all infants or children having certifications during the reporting period, regardless of whether they had the risk or not.

Percents shown for each clinic are the percent of children from that clinic that had this risk.

The percents on the bottom line of the report show the percent of children having this risk from all clinics.

Birth weight is from the infant's birth weight field. 5 pounds 8 ounces is the defined low birth weight for this report.

Gestation is calculated by comparing the mother's due date with the infant's birth date. 37 weeks is the prematurity threshold for this report.

The column 141 & 142 shows infants/children that have both risks at the same time.

342: High Risk: Low Birth Weight & Premature Participant List

This report shows a participant list of childrens/infants meeting the criteria for high risk, having a low birth weight or prematurity .

Clients are shown if they have a valid certification within the reporting period. If there are multiple certifications, only the most recent within the reporting period is selected. All information on the client (such as age and client status) is for the date of the certification event. Certifications are reported for the location the certification event took place for the time period of the report (not the current client location). The certification must have been active (enrolled) for the time period of the report for it to be included.

The guardian shown is the most recent guardian on file for the child, regardless of the date of the report.

Birth weight is from the infant's birth weight field. 5 pounds is the defined high risk for low birth weight for this report.

Gestation is calculated by comparing the mother's due date with the infant's birth date. 37 weeks is the defined high risk prematurity threshold for this report.

The columns 141 and 142 indicates which risk each child has.

343: Low Hemoglobin by Client Type and Age Range

This report shows counts, by LA or clinic, for USDA risk 201: low hemoglobin or low hematocrit.

Clients are shown if they have a valid certification within the reporting period. If there are multiple certifications, only the most recent within the reporting period is selected. All information on the client (such as age and client status) is for the date of the certification event. Certifications are reported for the location the certification event took place for the time period of the report (not the current client location). The certification must have been active (enrolled) for the time period of the report for it to be included.

The medical information used for this report is the medical information date closest to the certification date, that falls within 60 days of the certification date. The medical date may be before or after the certification date. If there are multiple medical certifications, only the one closest to the certification date is used.

The hemoglobin limits used are:

- <11.0 for W1 and W3 client types
- <10.5 for W2 client types
- <12.0 for WB and WP client types
- <11.0 for infants (birth to 24 months)
- <11.1 for children (2 to 5 years)

The hematocrit limits used are:

- <33 for W1 and W3 client types
- <32 for W2 client types
- <35.7 for WB and WP client types
- <32.9 for infants (birth to 24 months)
- <33 for children (2 years to 4 years 2 months)

344: High Risk: Low Hemoglobin Participant List

This report shows counts, by LA or clinic, for low hemoglobin or low hematocrit that qualify as high risk.

Clients are shown if they have a valid certification within the reporting period. If there are multiple certifications, only the most recent within the reporting period is selected. All information on the client (such as age and client status) is for the date of the certification event. Certifications are reported for the location the certification event took place for the time period of the report (not the current client location). The certification must have been active (enrolled) for the time period of the report for it to be included.

The medical information used for this report is the medical information date closest to the certification date, that falls within 60 days of the certification date. The medical date may be before or after the certification date. If there are multiple medical certifications, only the one closest to the certification date is used.

Clients with hemoglobin tested <9 gms/dl or tested hematocrit<30% are shown on this report. The clients shown may have a low hemoglobin, a low hematocrit, or both.

345: Breast and Formula Feeding Rates

This report shows counts and percentages, by LA or clinic, of breast and formula feeding.

Clients are shown if they have a valid certification within the reporting period. If there are multiple certifications, only the most recent within the reporting period is selected. All information on the client (such as age and client status) is for the date of the certification event. Certifications are reported for the location the certification event took place for the time period of the report (not the current client location). The certification must have been active (enrolled) for the time period of the report for it to be included.

The following definitions are used for each category:

IF: Full Formula The Infant was never breastfed, and has always been given formula feedings.

IFEB: Infant Formula

IB: Full Breast The Infant was always breastfed, and was never given formula.

IP: Part Breast

346: Breastfeeding Initiation and Duration Rates

This report shows counts and percentages, by LA or clinic, of the initiation of breastfeeding, and duration of breastfeeding.

Clients are shown if they have a valid certification within the reporting period. If there are multiple certifications, only the most recent within the reporting period is selected. All information on the client (such as age and client status) is for the date of the certification event. Certifications are reported for the location the certification event took place for the time period of the report (not the current client location). The certification must have been active (enrolled) for the time period of the report for it to be included.

347: High Risk Summary

This report shows counts and percentages, by client type and LA or clinic, of clients meeting any of the high risk criteria.

Clients are shown if they have a valid certification within the reporting period. If there are multiple certifications, only the most recent within the reporting period is selected. All information on the client (such as age and client status) is for the date of the certification event. Certifications are reported for the location the certification event took place for the time period of the report (not the current client location). The certification must have been active (enrolled) for the time period of the report for it to be included.

348: High Risk: Teen Participant Listing

This report shows a list of clients that were pregnant and/or breast feeding while 15 years old or younger.

Clients are shown if they have a valid certification within the reporting period. If there are multiple certifications, only the most recent within the reporting period is selected. All information on the client (such as age and client status) is for the date of the certification event. Certifications are reported for the location the certification event took place for the time period of the report (not the current client location). The certification must have been active (enrolled) for the time period of the report for it to be included.

349: Certification Summary

This report shows a count of clients that were certified or recertified during the reporting period.

Clients are shown if they have a valid certification or recertification within the reporting period. If there are multiple certifications, only the most recent within the reporting period is selected. All information on the client (such as age and client status) is for the date of the certification event. Certifications are reported for the location the certification event took place for the time period of the report (not the current client location). The certification must have been active (enrolled) for the time period of the report for it to be included.

350: Risk Factor Analysis

This report shows a count of clients , by client type, having any of the standard USDA risks.

Clients are shown if they have a valid certification or recertification within the reporting period. If there are multiple certifications, only the most recent within the reporting period is selected. All information on the client (such as age and client status) is for the date of the certification event. Certifications are reported for the location the certification event took place for the time period of the report (not the current client location). The certification must have been active (enrolled) for the time period of the report for it to be included.

3.0 Database

The first step in developing the new reports was to add entries into the Reports table for each of the new reports. Each report was added twice: once under the Nutrition/Special category, and once under the All Reports category.

The data added to the Reports table includes the window that these reports use for report criteria, the window used to run the report, and the name of the report.

The SQL used to add reports to the database is included in Appendix A.

No schema changes were required for this project.

4.0 Code

The new library rptnutr.pbl, contains the following objects:



4.1 Windows

The window: w_wic_nutrition contains all PowerScript code for the project.

The main event in this window is the open() event. It contains the code that kicks off each individual report.

Some reports can be run as an SQL query without any powerscript code needed. These are: 342, 344, and 348. These three reports are run by a normal datawindow.retrieve.

If a report does need powerscript, the windows function for it will retrieve the data, run through the data in a cursor, and then push the formatted and processed data into the datawindow. This type of report includes: 340, 341, 343, 345, 346, 347, 349, and 350.

There are a series of windows functions on the window for these, one for each report : wf_report_340 for report 340, wf_report_341 for report 341, etc.

There are also 3 helper functions that are called from various reports:

- wf_gethighriskcodes - Gets an array to indicate risk codes that are high risk
- wf_isoverweight - checks BMI and weight
- wf_replace - search and replace function for strings

All of the reports generated by a windows function (340, 341, 343, 345, 346, 347, 349, and 350) have a similar layout. This layout is shown in pseudo-code below:

```
=== Typical Code Layout for wf_ generated reports =====  
Comment section  
  
Variable Declarations  
  
Initialization Code  
- get handles to child datawindows within the composite datawindow  
- initialize any variables  
- parse any passed parameters (such as date ranges and selected Local Agencies)  
  
SQL Creation  
- build a SQL statement for the report. This will be the data basis for the report  
- adds in any criteria from the user into the SQL  
  
Loop through the Data in a Cursor  
- uses the SQL built above  
- goes through each line of data, and summarizes it into local variables  
- gets any local agency numbers or clinic numbers so that the datawindow headings can be set  
- Note: Some functions may add data directly into the datawindow while looping through the data cursor  
  
Adds data into the datawindow  
- Note: Some functions may have already added data to the datawindow in the prior step, and will not need  
this step.  
- builds all data in variables into a string, then imports the string into the datawindow  
=====
```

4.2 Crosstab Reports

The reports: 345 and 349 are crosstab reports. These reports list the Local Agency in the report header and Clinics down the left side of the report as rows.

Participant types (Infant, Child, etc...) are grouped across the report with group and summary totals broken down by Initial Certs and Recerts.

SQL Server functions “f_FeedingRates” and “f_CertSummary” are used to generate the reporting data

4.3 Data Importing

For performance reasons, some of the windows functions that generate reports will buffer data into local variables, and then import the data in a single shot into the datawindow.

This allows the reports to run about 10 times faster than if data was inserted line by line. The code to do the import will be near the bottom of each function, and will look like this:

```
IsBigString = ""
for liLine = 1 to 35
    IsBigString = IsBigString + IsRowText[liLine] + "~r~n"
next
ldwDetail.ImportString(IsBigString)
```

4.4 Report Datawindows

Each report consists of a main, composite datawindow, and then either one or two datawindow to contain data (a detail, or a header and a detail)

Example: report 340 consists of the following:

- r_wic_340_main - the composite datawindow, contains the other 2 datawindows
- r_wic_340_header - contains column headings
- r_wic_340_detail - to contain the data for the report

If a report has only 2 datawindow, that report is retrieved directly from the database. The SQL for the report is in the r_wic_xxx_detail datawindow.

If a report has 3 datawindows, that report is created by a windows function on the w_wic_nutrition window. The SQL for the report is contained in the windows function.

4.5 Report Data Source

The following chart shows which tables each of the reports accesses:

WIC Reports

Report	Tables							
	certification_event	medical_information	person	clinic	infants_born	lookup_table	relationship	risk_factor
340 Overweight Children	X	X	X	X				
341 Low Birth Weight/Prematurity	X			X	X			
342 High Risk: Low Birth Weight/Prematurity	X		X	X		X	X	
343 Low Hemoglobin by client Type and age range	X	X	X	X		X		
344 Low Hemoglobin: Participant list	X	X	X	X		X		
345 Breast and formula feeding rates	X		X	X	X			
346 breastfeeding initiation and duration rates	X		X	X	X			
347 high risk summary	X			X		X		X
348 high risk: teen participants	X		X	X		X		
349 certification summary	X		X	X	X	X		
350 risk factor analysis	X			X		X		X

The Certification_Event table is the main table for all reports. When a report date range is selected by the user, the dates in this table are used to determine which data goes on the report.

4.6 Report 345 & 349 Revisions

Nutrition reports 345 and 349 have been revised to display clinic information as rows going down the page rather than columns across the page. Functionally they remain the same but the following technical changes were introduced to facilitate the revised display:

- 1) Two new SQL functions, f_CertSummary and f_FeedingRates, were added.
- 2) The 345 and 349 powerbuilder objects were modified to use the new SQL functions instead of generating the SQL dynamically in PowerScript code.

Appendix 1: Adding Reports to the Reports Table

Each new report needs to be added to the Reports table. To be consistent with the existing reports, each report is added twice into the Reports table: once under its own grouping, and once under the 'All Reports' grouping.

The SQL below was run to add the new reports:

```

'
' Nutrition / Special Grouping
'
INSERT INTO dbo.report
(RepoID,RepoReportDesc,RepoReportName,RepoDataWindow,RepoSheet,ReportType,ReportSubType,
RepoCriteria,RepoCriteriaWindow)
VALUES
(3270, 'Overweight Children {Land-Ltr}',
'WIC 340 Overweight Children',"','w_wic_nutrition', 'Nutrition', 'Special',2,'w_rpt_criteria');

INSERT INTO dbo.report
(RepoID,RepoReportDesc,RepoReportName,RepoDataWindow,RepoSheet,ReportType,ReportSubType
,RepoCriteria,RepoCriteriaWindow)
VALUES (3280, 'Low Birth Weight / Prematurity {Land-Ltr}',
'WIC 341 Low Birth Weight / Prematurity',"','w_wic_nutrition', 'Nutrition', 'Special',2,'w_rpt_criteria');

INSERT INTO dbo.report
(RepoID,RepoReportDesc,RepoReportName,RepoDataWindow,RepoSheet,ReportType,ReportSubType,
RepoCriteria,RepoCriteriaWindow)
VALUES (3290, 'High Risk: Low Birth Weight & Premature Participant Listing {Land-Ltr}',
'WIC 342 High Risk: Low Birth Weight / Premature',"','w_wic_nutrition','Nutrition','Special',2,'w_rpt_criteria');

INSERT INTO dbo.report
(RepoID,RepoReportDesc,RepoReportName,RepoDataWindow,RepoSheet,ReportType,ReportSubType
,RepoCriteria,RepoCriteriaWindow)
VALUES (3300, 'Low Hemoglobin by Client Type and age range (Land-Ltr)',
'WIC 343 Low Hemoglobin by Client Type and age range',"','w_wic_nutrition','Nutrition','Special', 2, 'w_rpt_criteria');

INSERT INTO dbo.report
(RepoID,RepoReportDesc,RepoReportName,RepoDataWindow,RepoSheet,ReportType,ReportSubType
,RepoCriteria,RepoCriteriaWindow)
VALUES (3310, 'High Risk: Low Birth Weight & Premature Participant Listing {Land-Ltr}',
'WIC 344 Low Hemoglobin Participant List',"','w_wic_nutrition','Nutrition','Special',2,'w_rpt_criteria');

INSERT INTO dbo.report
(RepoID,RepoReportDesc,RepoReportName,RepoDataWindow,RepoSheet,ReportType,ReportSubType,
RepoCriteria,RepoCriteriaWindow)
VALUES (3320, 'Breast and Formula Feeding Rates {port-Ltr}',
'WIC 345 Breast and Formula Feeding Rates',"','w_wic_nutrition','Nutrition','Special',2,'w_rpt_criteria');

INSERT INTO dbo.report
(RepoID,RepoReportDesc,RepoReportName,RepoDataWindow,RepoSheet,ReportType,ReportSubType
,RepoCriteria,RepoCriteriaWindow)
VALUES (3330, 'Breastfeeding Initiation and Duration Rates {port-Ltr}',
'WIC 346 Breastfeeding Initiation and Duration Rates',"','w_wic_nutrition','Nutrition','Special',2,'w_rpt_criteria');

INSERT INTO dbo.report
(RepoID,RepoReportDesc,RepoReportName,RepoDataWindow,RepoSheet,ReportType,ReportSubType,
RepoCriteria,RepoCriteriaWindow)
VALUES (3350, 'High Risk: Teen Participant List {Land-Ltr}',
'WIC 348 High Risk: Teen Participant List',"','w_wic_nutrition','Nutrition','Special',2,'w_rpt_criteria');
```

```

INSERT INTO dbo.report
(RepoID,RepoReportDesc,RepoReportName,RepoDataWindow,RepoSheet,ReportType,ReportSubType,
RepoCriteria,RepoCriteriaWindow)
VALUES (3360, 'Certification Summary {Land-Ltr}',
'WIC 349 Certification Summary','w_wic_nutrition','Nutrition','Special',2,'w_rpt_criteria');

INSERT INTO dbo.report
(RepoID,RepoReportDesc,RepoReportName,RepoDataWindow,RepoSheet,ReportType,ReportSubType,
RepoCriteria,RepoCriteriaWindow)
VALUES (3340, 'High Risk Summary {Land-Ltr}',
'WIC 347 High Risk Summary','w_wic_nutrition','Nutrition','Special',2,'w_rpt_criteria')

INSERT INTO dbo.report
(RepoID,RepoReportDesc,RepoReportName,RepoDataWindow,RepoSheet,ReportType,ReportSubType,
RepoCriteria,RepoCriteriaWindow)
VALUES (3370, 'Risk Factor Analysis {Land-Ltr}',
'WIC 350 Risk Factor Analysis','w_wic_nutrition','Nutrition','Special',2,'w_rpt_criteria')

,
' All Reports Grouping
,

INSERT INTO dbo.report
(RepoID,RepoReportDesc,RepoReportName,RepoDataWindow,RepoSheet,ReportType,ReportSubType,
RepoCriteria,RepoCriteriaWindow)
VALUES (13270, 'Overweight Children {Land-Ltr}',
'WIC 340 Overweight Children','w_wic_nutrition','All Reports','Report List',2,'w_rpt_criteria');

INSERT INTO dbo.report
(RepoID,RepoReportDesc,RepoReportName,RepoDataWindow,RepoSheet,ReportType,ReportSubType,
RepoCriteria,RepoCriteriaWindow)
VALUES (13280, 'Low Birth Weight / Prematurity {Land-Ltr}',
'WIC 341 Low Birth Weight / Prematurity','w_wic_nutrition','All Reports','Report List',2,'w_rpt_criteria');

INSERT INTO dbo.report
(RepoID,RepoReportDesc,RepoReportName,RepoDataWindow,RepoSheet,ReportType,ReportSubType,
RepoCriteria,RepoCriteriaWindow)
VALUES (13290, 'High Risk: Low Birth Weight & Premature Participant Listing {Land-Ltr}',
'WIC 342 High Risk: Low Birth Weight / Premature','w_wic_nutrition','All Reports','Report List',2,'w_rpt_criteria');

INSERT INTO dbo.report
(RepoID,RepoReportDesc,RepoReportName,RepoDataWindow,RepoSheet,ReportType,ReportSubType,
RepoCriteria,RepoCriteriaWindow)
VALUES (13300, 'Low Hemoglobin by Client Type and age range {Land-Ltr}',
'WIC 343 Low Hemoglobin by Client Type and age range','w_wic_nutrition','All Reports','Report List', 2,
'w_rpt_criteria');

INSERT INTO dbo.report
(RepoID,RepoReportDesc,RepoReportName,RepoDataWindow,RepoSheet,ReportType,ReportSubType,
RepoCriteria,RepoCriteriaWindow)
VALUES (13310, 'High Risk: Low Birth Weight & Premature Participant Listing {Land-Ltr}',
'WIC 344 Low Hemoglobin Participant List','w_wic_nutrition','All Reports','Report List',2,'w_rpt_criteria');

INSERT INTO dbo.report
(RepoID,RepoReportDesc,RepoReportName,RepoDataWindow,RepoSheet,ReportType,ReportSubType,
RepoCriteria,RepoCriteriaWindow
) VALUES (13320, 'Breast and Formula Feeding Rates {port-Ltr}',
'WIC 345 Breast and Formula Feeding Rates','w_wic_nutrition','All Reports','Report List',2,'w_rpt_criteria');

INSERT INTO dbo.report
(RepoID,RepoReportDesc,RepoReportName,RepoDataWindow,RepoSheet,ReportType,ReportSubType
,RepoCriteria,RepoCriteriaWindow)
VALUES (13330, 'Breastfeeding Initiation and Duration Rates {port-Ltr}',
'WIC 346 Breastfeeding Initiation and Duration Rates','w_wic_nutrition','All Reports','Report List',2,'w_rpt_criteria');

INSERT INTO dbo.report
(RepoID,RepoReportDesc,RepoReportName,RepoDataWindow,RepoSheet,ReportType,ReportSubType,
RepoCriteria,RepoCriteriaWindow)
VALUES (13350, 'High Risk: Teen Participant List {Land-Ltr}',
'WIC 348 High Risk: Teen Participant List','w_wic_nutrition','All Reports','Report List',2,'w_rpt_criteria')

```

```
INSERT INTO dbo.report
(RepoID,RepoReportDesc,RepoReportName,RepoDataWindow,RepoSheet,ReportType,ReportSubType,
RepoCriteria,RepoCriteriaWindow)
VALUES (13360, 'Certification Summary {Land-Ltr}',
'WIC 349 Certification Summary', 'w_wic_nutrition', 'All Reports', 'Report List', 2, 'w_rpt_criteria');
```

```
INSERT INTO dbo.report
(RepoID,RepoReportDesc,RepoReportName,RepoDataWindow,RepoSheet,ReportType,ReportSubType
,RepoCriteria,RepoCriteriaWindow)
VALUES (13340, 'High Risk Summary {Land-Ltr}',
'WIC 347 High Risk Summary', 'w_wic_nutrition', 'All Reports', 'Report List', 2, 'w_rpt_criteria');
```

```
INSERT INTO dbo.report
(RepoID,RepoReportDesc,RepoReportName,RepoDataWindow,RepoSheet,ReportType,ReportSubType,
RepoCriteria,RepoCriteriaWindow)
VALUES (13370, 'Risk Factor Analysis {Land-Ltr}',
'WIC 350 Risk Factor Analysis', 'w_wic_nutrition', 'All Reports', 'Report List', 2, 'w_rpt_criteria');
```

Appendix 2: Table Joins

The relationship between the tables used in these reports is somewhat complex. The SQL snippets below show how joins were created between the Certification_Event table and the other tables in the queries.

==== Cert_Events ====

```
FROM dbo.certification_event a
WHERE a.CertStartDate <= '12/31/04'
      AND a.CertTermDate >= '01/01/04'
      AND (a.certdate = (select max(h.certdate)
                        from dbo.certification_event h
                        where h.persid = a.persid
                        and h.lageid = a.lageid
                        and h.clinid = a.clinid
                        and h.CertStartDate <= '12/31/04'
                        and h.CertTermDate >= '01/01/04'
                        and h.CertDate <= '12/31/04' ) )
```

(Optional subselect to return only initial certs: used only in Report 349)

```
AND not exists (SELECT 'x'
                FROM dbo.certification_event b
                WHERE a.PersID = b.PersID
                AND b.CertStartDate between datediff(mm,-6,a.CertStartDate) and a.CertStartDate
                AND b.CertStartDate < a.CertStartDate
                )
```

==== join to Medical Information ====

```
(FROM Clause)
  join dbo.medical_information as m on (a.persid = m.persid)
(WHERE Clause)
and abs(datediff(day, m.medimedinfodate, a.CertStartDate)) =
(
  select top 1 abs(datediff(day, m2.medimedinfodate, a.certstartdate))
  from dbo.medical_information m2
  where m2.persid = a.persid
  and abs(datediff(day, m2.medimedinfodate, a.CertStartDate)) <= 60
  order by abs(datediff(day, m2.medimedinfodate, a.CertStartDate)) asc )
```

==== join to Clinic ====

```
(FROM Clause)
  dbo.clinic c
(WHERE clause)
  and c.lageid IN (01,02,03,... )
```

==== join to Person ====

```
(FROM clause)
  ,dbo.person b
(WHERE clause)
  and a.persid=b.persid
  and b.persSex is not null
```

==== join to Infants_Born ====

```
(FROM clause)
  left outer join dbo.infants_born e on a.CertID = e.CertID and a.PersID=e.PersID
(WHERE clause)
  -- no where clause needef --
```

=== join to Lookup_Table ===

```
(FROM clause)
    dbo.lookup_table c
(WHERE clause)
    AND a.CertPersType=c.LkUpItemID
    AND c.LkUpType='Client'
    AND c.LkupSubtype='Type'
    AND c.LkupCode IN('IB','IF','IP','C', 'WB','WP', 'W1', 'W2', 'W3')
```

=== join to Relationship ===

```
(FROM clause)
    dbo.relationship r,
    dbo.relationship r2,
(WHERE clause)
    and d.PersID = r.PersID
    and r.CaseID = r2.CaseID
    and r2.RelRelType = 0
    and r2.RelRelEndDate is null
    and r2.PersID = e.PersID
```

=== join to Risk_Factor ===

```
(FROM clause)
    dbo.risk_factor r
(WHERE clause)
    and a.persID = r.PersID
    and r.MediMedInfoDate between a.CertDate - 1 and a.CertDate + 30
```