

Results of Comparison Testing between SAS 4.2 and WinQI 4.2 Software
September 30, 2010

This document provides the results of comparison testing between the SAS 4.2 and WinQI 4.2 versions of AHRQ's QI software, released on September 30, 2010. Testing was performed on the most recent year (2008) of AHRQ's intramural Nationwide Inpatient Sample (NIS) database and on AHRQ's 4th quarter 2009 Healthcare Costs and Utilization Project (HCUP) data. These results are provided as information for QI software users.

KEY		
Field Name	Description	Notes
QI	ID for AHRQ Quality Indicator or composite	
n_WinQI	Number of hospitals (for provider-level indicators) or regions (for area-level indicators) for which QI values were calculated in WinQI	
n_SAS	Number of hospitals (for provider-level indicators) or regions (for area-level indicators) for which QI values were calculated in SAS	
Max_Diff_Num	Maximum difference in numerator count between SAS and WinQI	
Max_Diff_Denom	Maximum difference in denominator count between SAS and WinQI	
Max_Diff_ObsRate	Maximum difference in observed rate between SAS and WinQI	
Max_%Diff_ObsRate	Maximum percentage difference in observed rate between SAS and WinQI	
%<2Percentile_Diff_RARate	Percentage of hospitals for which the risk-adjusted rate differs by greater than two (2) percentiles between SAS and WinQI	Calculated only for provider-level indicators for which SAS and WinQI produce risk-adjusted and smoothed rates.
%Diff_StatSig_RARate	Percentage of hospitals whose risk-adjusted rate differs in statistical significance between SAS and WinQI	Calculated only for provider-level indicators for which SAS and WinQI produce risk-adjusted and smoothed rates.
%<2Percentile_Diff_SmoothRate	Percentage of hospitals for which the smoothed rate differs by greater than two (2) percentiles between SAS and WinQI	Calculated only for provider-level indicators for which SAS and WinQI produce risk-adjusted and smoothed rates.
%Diff_StatSig_SmoothRate	Percentage of hospitals whose smoothed rate differs in statistical significance between SAS and WinQI	Calculated only for provider-level indicators for which SAS and WinQI produce risk-adjusted and smoothed rates.
Max_Diff_Comp	Maximum difference in composite value between SAS and WinQI	For composites only.

Max_%Diff_Comp	Maximum percentage difference in composite value between SAS and WinQI	For composites only.
Max_Diff_Comp_Var	Maximum difference in composite variance between SAS and WinQI	For composites only.
Max_Diff_%Comp_Var	Maximum percentage difference in composite variance between SAS and WinQI	For composites only.
Max_Diff_Comp_SE	Maximum difference in composite statistical error between SAS and WinQI	For composites only.
Max_Diff_%Comp_SE	Maximum percentage difference in composite statistical error between SAS and WinQI	For composites only.
%<2Percentile_Diff_Comp	Percentage of hospitals for which the composite value differs by greater than two (2) percentiles between SAS and WinQI	For provider-level composites only.
%Diff_StatSig_Comp	Percentage of hospitals whose composite value differs in statistical significance between SAS and WinQI	For provider-level composites only.

Individual QIs										
QI	n_WinQI*	n_SAS*	Max_Diff_Num	Max_Diff_Denom	Max_Diff_ObsRate	Max_%Diff_ObsRate	%<2Percentile_Diff_RARate	%Diff_StatSig_RARate	%<2Percentile_Diff_SmoothRate	%Diff_StatSig_SmoothRate
Inpatient Quality Indicators										
IQI01	413	413	0	NA (volume)	NA (volume)	NA (volume)	NA (volume)	NA (volume)	NA (volume)	NA (volume)
IQI02	396	396	0	NA (volume)	NA (volume)	NA (volume)	NA (volume)	NA (volume)	NA (volume)	NA (volume)
IQI04	829	829	0	NA (volume)	NA (volume)	NA (volume)	NA (volume)	NA (volume)	NA (volume)	NA (volume)
IQI05	554	554	0	NA (volume)	NA (volume)	NA (volume)	NA (volume)	NA (volume)	NA (volume)	NA (volume)
IQI06	819	819	0	NA (volume)	NA (volume)	NA (volume)	NA (volume)	NA (volume)	NA (volume)	NA (volume)
IQI07	1052	1052	0	NA (volume)	NA (volume)	NA (volume)	NA (volume)	NA (volume)	NA (volume)	NA (volume)
IQI08	376	376	0	0	0.0000	0.00%	0.00%	0.00%	0.00%	0.00%
IQI09	345	345	0	0	0.0000	0.00%	0.00%	0.00%	0.00%	0.00%
IQI11	836	836	0	0	0.0000	0.00%	0.00%	0.00%	0.00%	0.00%
IQI12	554	554	0	0	0.0000	0.00%	0.00%	0.00%	0.00%	0.00%
IQI13	657	657	0	0	0.0000	0.00%	0.00%	0.00%	0.00%	0.00%
IQI14	1548	1548	0	0	0.0000	0.00%	0.00%	0.00%	0.00%	0.00%
IQI15	1898	1898	0	0	0.0000	0.00%	0.00%	0.00%	0.00%	0.00%
IQI16	2308	2308	0	0	0.0000	0.00%	0.00%	0.00%	0.00%	0.00%

IQI17	2124	2124	0	0	0.0000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
IQI18	2149	2149	0	0	0.0000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
IQI19	1744	1744	0	0	0.0000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
IQI20	2365	2365	0	0	0.0000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
IQI21	1621	1621	0	0	0.0000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
IQI22	1577	1577	0	0	0.0000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
IQI23	1901	1901	0	0	0.0000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
IQI24	1937	1937	0	0	0.0000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
IQI25	1056	1056	0	0	0.0000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
IQI26	811	811	0	0	0.0000	0.02%	NA (area level)	NA (area level)	NA (area level)	NA (area level)	NA (area level)
IQI27	11000	11000	0	0	0.0000	0.00%	NA (area level)	NA (area level)	NA (area level)	NA (area level)	NA (area level)
IQI28	11000	11000	0	0	0.0000	0.01%	NA (area level)	NA (area level)	NA (area level)	NA (area level)	NA (area level)
IQI29	11000	11000	0	0	0.0000	0.03%	NA (area level)	NA (area level)	NA (area level)	NA (area level)	NA (area level)
IQI30	1052	1052	0	0	0.0000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
IQI31	1878	1878	0	0	0.0000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
IQI32	1620	1620	0	0	0.0000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
IQI33	1620	1620	0	0	0.0000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
IQI34	1579	1579	0	0	0.0000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Neonatal Quality Indicators

NQI01	1396	1396	0	0	0.0000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NQI02	pending	pending	pending	pending	pending	pending	pending	pending	pending	pending	pending
NQI03	1017	1017	0	1	0.0023	2.38%	0.00%	0.17%	0.50%	0.00%	0.00%

Pediatric Quality Indicators

PDI01	2254	2254	0	1	0.0000	0.13%	0.00%	0.00%	0.00%	0.00%	0.00%
PDI02	1432	1432	0	1	0.0000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
PDI03	2	2	0		not enough data	not enough data	not enough data	not enough data	not enough data	not enough data	not enough data
PDI05	2249	2249	0	1	0.0000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
PDI06	112	112	0	0	0.0000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
PDI07	173	173	0		NA (volume)	NA (volume)	NA (volume)	NA (volume)	NA (volume)	NA (volume)	NA (volume)
PDI08	1091	1091	0	1	0.0000	0.00%	0.00%	0.00%	4.61%	0.00%	0.00%
PDI09	1080	1080	0	0	0.0000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
PDI10	818	818	0	0	0.0000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
PDI11	1146	1146	0	0	0.0000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
PDI12	2188	2188	0	1	0.0000	0.00%	0.00%	0.00%	0.05%	0.00%	0.00%
PDI13	1	1	0		not enough data	not enough data	not enough data	not enough data	not enough data	not enough data	not enough data
PDI14	6416	6413	0	0	0.0000	0.11%	NA (area level)	NA (area level)	NA (area level)	NA (area level)	NA (area level)
PDI15	6335	6413	0	0	0.0000	0.11%	NA (area level)	NA (area level)	NA (area level)	NA (area level)	NA (area level)
PDI16	6415	6412	0	0	0.0000	0.50%	NA (area level)	NA (area level)	NA (area level)	NA (area level)	NA (area level)
PDI17	2136	2136	0	0	0.0000	0.00%	NA (area level)	NA (area level)	NA (area level)	NA (area level)	NA (area level)

PDI18	6415	6412	0	0	0.0000	0.13%	NA (area level)	NA (area level)	NA (area level)	NA (area level)
Prevention Quality Indicators										
PQI01	11000	11000	0	0	0.0000	0.03%	NA (area level)	NA (area level)	NA (area level)	NA (area level)
PQI02	3494	3494	0	0	0.0000	0.00%	NA (area level)	NA (area level)	NA (area level)	NA (area level)
PQI03	11000	11000	0	0	0.0000	0.03%	NA (area level)	NA (area level)	NA (area level)	NA (area level)
PQI05	11000	11000	0	0	0.0000	0.01%	NA (area level)	NA (area level)	NA (area level)	NA (area level)
PQI07	11000	11000	0	0	0.0000	0.01%	NA (area level)	NA (area level)	NA (area level)	NA (area level)
PQI08	11000	11000	0	0	0.0000	0.01%	NA (area level)	NA (area level)	NA (area level)	NA (area level)
PQI09	4829	4829	0	0	0.0000	0.00%	NA (area level)	NA (area level)	NA (area level)	NA (area level)
PQI10	11000	11000	0	0	0.0000	0.03%	NA (area level)	NA (area level)	NA (area level)	NA (area level)
PQI11	11000	11000	0	0	0.0000	0.01%	NA (area level)	NA (area level)	NA (area level)	NA (area level)
PQI12	11000	11000	0	0	0.0000	0.01%	NA (area level)	NA (area level)	NA (area level)	NA (area level)
PQI13	11000	11000	0	0	0.0000	0.03%	NA (area level)	NA (area level)	NA (area level)	NA (area level)
PQI14	11000	11000	0	0	0.0000	0.03%	NA (area level)	NA (area level)	NA (area level)	NA (area level)
PQI15	11000	11000	0	0	0.0000	0.03%	NA (area level)	NA (area level)	NA (area level)	NA (area level)
PQI16	11000	11000	0	0	0.0000	0.03%	NA (area level)	NA (area level)	NA (area level)	NA (area level)
Patient Safety Indicators										
PSI02	2381	2381	0	0	0.0000	0	0.00%	0.00%	0.00%	0.00%
PSI03	2437	2437	1	1	0.0014	14.29%	0.00%	0.00%	0.00%	0.00%
PSI04	1744	1744	0	0	0.0000	0.00%	0.00%	0.00%	0.00%	0.00%
PSI05	152	161	1		not enough data	not enough data	not enough data	not enough data	not enough data	not enough data
PSI06	2504	2504	0	0	0.0000	0.00%	0.00%	0.00%	0.00%	0.00%
PSI07	2503	2503	0	0	0.0000	0.00%	0.00%	0.00%	0.00%	0.00%
PSI08	2214	2214	0	1	0.0000	0.00%	0.00%	0.00%	0.00%	0.00%
PSI09	2229	2229	0	0	0.0000	0.00%	0.00%	0.00%	0.00%	0.00%
PSI10	1975	1975	0	0	0.0000	0.00%	0.00%	0.00%	0.00%	0.00%
PSI11	1966	1966	0	0	0.0000	0.00%	0.00%	0.00%	0.00%	0.00%
PSI12	2232	2232	0	0	0.0000	0.00%	0.00%	0.00%	0.00%	0.00%
PSI13	1800	1800	0	0	0.0000	0.00%	0.00%	0.00%	0.00%	0.00%
PSI14	205	205	0	0	0.0000	0.00%	0.00%	0.00%	0.00%	0.00%
PSI15	2504	2504	0	0	0.0000	0.00%	0.00%	0.00%	0.00%	0.00%
PSI16	20	21	0		not enough data	not enough data	not enough data	not enough data	not enough data	not enough data
PSI17	1618	1618	0	0	0.0000	0.00%	0.00%	0.00%	0.00%	0.00%
PSI18	1489	1489	0	0	0.0000	0.00%	0.00%	0.00%	0.00%	0.00%
PSI19	1619	1619	0	0	0.0000	0.00%	0.00%	0.00%	0.00%	0.00%
PSI21	11000	11000	1	0	0.0001	0.01%	NA (area level)	NA (area level)	NA (area level)	NA (area level)
PSI22	11000	11000	0	0	0.0000	0.03%	NA (area level)	NA (area level)	NA (area level)	NA (area level)
PSI23	11000	11000	1	0	0.0000	33.33%	NA (area level)	NA (area level)	NA (area level)	NA (area level)

PSI24	11000	11000	0	0	0.0000	0.00%	NA (area level)	NA (area level)	NA (area level)	NA (area level)
PSI25	11000	11000	0	0	0.0000	0.03%	NA (area level)	NA (area level)	NA (area level)	NA (area level)
PSI26	11000	11000	0	0	0.0000	0.01%	NA (area level)	NA (area level)	NA (area level)	NA (area level)
PSI27	11000	11000	0	0	0.0000	0.03%	NA (area level)	NA (area level)	NA (area level)	NA (area level)

QI Composites										
QI	n_WinQI*	n_SAS*	Max_Diff_ Comp	Max_%Diff_ Comp	Max_Diff_ Comp_Var	Max_%Diff_ Comp_Var	Max_Diff_ Comp_SE	Max_%Diff_ Comp_SE	%<2Percentile_ Diff_Comp	%Diff_StatSig_ Comp
IQI36 -- Mortality for Selected Medical Conditions	2512	2507	0.0000	0.00%	0.0000	0.00%	0.0000	0.00%	0.00%	0.00%
IQI37 -- Mortality for Selected Medical Procedures	2512	2507	0.0000	0.00%	0.0000	0.00%	0.0000	0.00%	0.00%	0.00%
PDI19 -- Pediatric Patient Safety for Selected Indicators	2512	2259	0.0076	0.43%	0.0007	1.80%	0.0012	0.90%	0.00%	0.00%
PDI90	2248	2243	0.0002	2.22%	0.0000	2.22%	0.0000	1.12%	NA (area level)	NA (area level)
PDI91	1623	1627	0.0001	2.28%	0.0000	2.28%	0.0000	1.15%	NA (area level)	NA (area level)
PDI92	1814	1809	0.0011	2.08%	0.0000	2.08%	0.0000	1.04%	NA (area level)	NA (area level)
PQI90	6764	6759	0.0032	9.95%	0.0000	10.30%	0.0007	5.02%	NA (area level)	NA (area level)
PQI91	5449	5444	0.0013	7.34%	0.0000	7.50%	0.0000	3.68%	NA (area level)	NA (area level)
PQI92	5833	5828	0.0016	8.23%	0.0000	8.34%	0.0005	4.09%	NA (area level)	NA (area level)
PSI28 -- Patient Safety for Selected Indicators	2512	2507	0.0460	3.62%	0.0000	0.09%	0.0001	0.04%	0.00%	0.00%

* Please note that n differs between SAS and WinQI for some area-level indicators and some composites.