

Appendix C

Estimates of Sampling Errors

The sample of respondents selected in the Kazakhstan Multiple Indicator Cluster Survey is only one of the samples that could have been selected from the same population, using the same design and size. Each of these samples would yield results that differ somewhat from the results of the actual sample selected. Sampling errors are a measure of the variability between all possible samples. The extent of variability is not known exactly, but can be estimated statistically from the survey results.

The following sampling error measures are presented in this appendix for each of the selected indicators:

- ◆ Standard error (se): Sampling errors are usually measured in terms of standard errors for particular indicators (means, proportions etc). Standard error is the square root of the variance. The Taylor linearization method is used for the estimation of standard errors.
- ◆ Coefficient of variation (se/r) is the ratio of the standard error to the value of the indicator.
- ◆ Design effect ($deff$) is the ratio of the actual variance of an indicator, under the sampling method used in the survey, to the variance calculated under the assumption of simple random sampling. The square root of the design effect ($deft$) is used to show the efficiency of the sample design. A $deft$ value of 1.0 indicates that the sample design is as efficient as a simple random sample, while a $deft$ value above 1.0 indicates the increase in the standard error due to the use of a more complex sample design.
- ◆ Confidence limits are calculated to show the interval within which the true value for the population can be reasonably assumed to fall. For any given statistic calculated from the survey, the value of that statistic will fall within a range of plus or minus two times the standard error ($p + 2se$ or $p - 2se$) of the statistic in 95 percent of all possible samples of identical size and design.

For the calculation of sampling errors from MICS data, SPSS Version 14 Complex Samples module has been used. The results are shown in the tables that follow. In addition to the sampling error measures described above, the tables also include weighted and unweighted counts of denominators for each indicator.

Sampling errors are calculated for indicators of primary interest, for the national total, for the regions, and for urban and rural areas. Two of the selected indicators are based on households, 6 are based on household members, 9 are based on women, and 12 are based on children under 5. All indicators presented here are in the form of proportions. Table SE.1 shows the list of indicators for which sampling errors are calculated, including the base population (denominator) for each indicator. Tables SE.2 to SE.9 show the calculated sampling errors.

Table SE.1. Indicators selected for sampling error calculations

List of indicators selected for sampling error calculations, and base populations (denominators) for each indicator, Kazakhstan, 2006

MICS Indicator	Base Population
HOUSEHOLDS	
41 Iodized salt consumption	All households
74 Child discipline	Children aged 2-14 years selected
HOUSEHOLD MEMBERS	
11 Use of improved drinking water sources	All household members
12 Use of improved sanitation facilities	All household members
55 Net primary school attendance rate	Children of primary school age
56 Net secondary school attendance rate	Children of secondary school age
59 Primary completion rate	Children of primary school completion age
71 Child labor	Children aged 5-14 years
WOMEN	
4 Skilled attendant at delivery	Women aged 15-49 years with a live birth in the last 2 years
20 Antenatal care	Women aged 15-49 years with a live birth in the last 2 years
21 Contraceptive prevalence	Women aged 15-49 currently married/in union
60 Adult literacy	Women aged 15-24 years
67 Marriage before age 18	Women aged 20-49 years
82 Comprehensive knowledge about HIV prevention among young people	Women aged 15-24 years
86 Attitude towards people with HIV/AIDS	Women aged 15-49 years
88 Women who have been tested for HIV	Women aged 15-49 years
89 Knowledge of mother- to-child transmission of HIV	Women aged 15-49 years
UNDER-5s	
6 Underweight prevalence	Children under age 5
25 Tuberculosis immunization coverage	Children aged 12-23 months
26 Polio immunization coverage	Children aged 12-23 months
27 Immunization coverage for DPT	Children aged 12-23 months
28 Measles immunization coverage	Children aged 12-23 months
31 Fully immunized children	Children aged 12-23 months
- Acute respiratory infection in last two weeks	Children under age 5
22 Antibiotic treatment of suspected pneumonia	Children under age 5 with suspected pneumonia in the last 2 weeks
- Diarrhoea in last two weeks	Children under age 5
35 Received ORT or increased fluids and continued feeding	Children under age 5 with diarrhoea in the last 2 weeks
46 Support for learning	Children under age 5
62 Birth registration	Children under age 5

Table SE.2. Sampling errors: total sample

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Kazakhstan, 2006

	Table	Value $\hat{}$	Standard error (se)	Coefficient of variation (se/r)	Households		Design effect (deff)	Square root of design effect (deft)	Weighted count	Unweighted count	Confidence limits		
					NU.5	CP.4	0.920	0.003	0.004	2.356	1.535	14426	14458
Iodized salt consumption												r - 2 se	r + 2 se
Child discipline												0.506	0.537
Use of improved drinking water sources	EN.1	0.937	0.006	0.006	8.137	2.853	51261	14564	0.925	0.948			
Use of improved sanitation facilities	EN.5	0.992	0.002	0.002	7.348	2.711	51261	14564	0.989	0.996			
Net primary school attendance rate	ED.3	0.980	0.003	0.003	1.252	1.119	3076	3387	0.975	0.986			
Net secondary school attendance rate	ED.4	0.953	0.003	0.003	1.383	1.176	7119	7804	0.947	0.958			
Primary completion rate	ED.6	0.884	0.010	0.011	0.831	0.911	847	928	0.865	0.903			
Child labor	CP.2	0.022	0.002	0.085	1.523	1.234	8321	9192	0.018	0.026			
WOMEN													
Skilled attendant at delivery	RH.5	0.998	0.001	0.001	0.801	0.895	1719	1784	0.997	1.000			
Antenatal care	RH.3	0.999	0.001	0.001	0.592	0.770	1719	1784	0.997	1.000			
Contraceptive prevalence	RH.1	0.507	0.007	0.013	1.542	1.242	8349	8370	0.493	0.521			
Adult literacy	ED.8	0.998	0.001	0.001	1.181	1.087	4577	4697	0.996	0.999			
Marriage before age 18	CP.5	0.085	0.003	0.037	1.561	1.249	12089	12032	0.079	0.092			
Comprehensive knowledge about HIV prevention among young people	HA.3	0.223	0.006	0.025	2.675	1.635	14558	14560	0.211	0.234			
Attitude towards people with HIV/AIDS	HA.5	0.038	0.003	0.070	2.733	1.653	14362	14310	0.032	0.043			
Women who have been tested for HIV	HA.6	0.617	0.007	0.011	2.788	1.670	14558	14560	0.604	0.631			
Knowledge of mother- to -child transmission of HIV	HA.4	0.545	0.007	0.013	2.869	1.694	14558	14560	0.531	0.559			
UNDER-5s													
Underweight prevalence	NU.1	0.040	0.003	0.085	1.269	1.127	4190	4181	0.033	0.047			
Tuberculosis immunization coverage	CH.2	0.996	0.002	0.002	1.376	1.173	991	976	0.992	1.000			
Polio immunization coverage	CH.2	0.967	0.008	0.008	1.774	1.332	989	974	0.952	0.982			
Immunization coverage for DPT	CH.2	0.980	0.006	0.006	1.634	1.278	986	971	0.969	0.992			
Measles immunization coverage	CH.2	0.994	0.003	0.003	1.110	1.054	986	972	0.989	0.999			
Fully immunized children	CH.2	0.962	0.008	0.008	1.644	1.282	988	973	0.947	0.978			
Acute respiratory infection in last two weeks	CH.6	0.015	0.002	0.146	1.455	1.206	4415	4415	0.011	0.020			
Antibiotic treatment of suspected pneumonia	CH.7	0.317	0.010	0.032	0.032	0.178	67	66	0.296	0.337			
Diarrhoea in last two weeks	CH.4	0.018	0.002	0.125	1.267	1.126	4415	4415	0.014	0.023			
Received ORT or increased fluids and Continued feeding	CH.5	0.480	0.012	0.025	0.041	0.203	80	75	0.456	0.504			
Support for learning	CD.1	0.810	0.007	0.008	1.264	1.124	4415	4415	0.797	0.823			
Birth registration	CP1	0.997	0.001	0.001	1.153	1.074	4415	4415	0.989	0.995			

Table SE.3. Sampling errors: urban areas

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Kazakhstan, 2006

	Table	Value $\hat{}$	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Unweighted count	Confidence limits r - 2 se r + 2 se
HOUSEHOLDS									
Iodized salt consumption	NU.5	0.921	0.004	0.005	2.195	1.481	9211	8151	0.912 0.929
Child discipline	CP.4	0.547	0.011	0.020	1.640	1.281	3525	3276	0.525 0.570
HOUSEHOLD MEMBERS									
Use of improved drinking water sources	EN.1	0.981	0.004	0.004	8.566	2.927	29172	8246	0.973 0.990
Use of improved sanitation facilities	EN.5	0.995	0.002	0.002	9.835	3.136	29172	8246	0.990 1.000
Net primary school attendance rate	ED.3	0.981	0.004	0.004	1.188	1.090	1558	1482	0.973 0.989
Net secondary school attendance rate	ED.4	0.956	0.004	0.004	1.367	1.169	3673	3431	0.948 0.965
Primary completion rate	ED.6	0.886	0.014	0.016	0.758	0.870	419	397	0.858 0.914
Child labor	CP.2	0.025	0.003	0.117	1.415	1.190	4203	3982	0.019 0.031
WOMEN									
Skilled attendant at delivery	RH.5	0.998	0.002	0.002	1.012	1.006	890	802	0.995 1.000
Antenatal care	RH.3	1.000	0.000	0.000	na	na	890	802	1.000 1.000
Contraceptive prevalence	RH.1	0.540	0.010	0.019	1.687	1.299	4652	4080	0.520 0.561
Adult literacy	ED.8	0.997	0.001	0.001	1.207	1.099	2627	2355	0.995 1.000
Marriage before age 18	CP.5	0.078	0.004	0.053	1.551	1.246	7271	6372	0.070 0.087
Comprehensive knowledge about HIV prevention among young people	HA.3	0.238	0.008	0.034	2.735	1.654	8655	7608	0.222 0.254
Attitude towards people with HIV/AIDS	HA.5	0.038	0.004	0.103	3.182	1.784	8590	7534	0.030 0.046
Women who have been tested for HIV	HA.6	0.638	0.010	0.015	3.020	1.738	8655	7608	0.619 0.657
Knowledge of mother-to-child transmission of HIV	HA.4	0.558	0.010	0.018	3.191	1.786	8655	7608	0.538 0.578
UNDER-5s									
Underweight prevalence	NU.1	0.030	0.004	0.147	1.209	1.100	2126	1823	0.021 0.039
Tuberculosis immunization coverage	CH.2	0.996	0.004	0.004	1.503	1.226	509	428	0.989 1.000
Polio immunization coverage	CH.2	0.979	0.008	0.008	1.200	1.095	509	428	0.964 0.994
Immunization coverage for DPT	CH.2	0.990	0.005	0.005	1.236	1.112	507	427	0.979 1.000
Measles immunization coverage	CH.2	0.995	0.004	0.004	0.977	0.988	507	427	0.988 1.000
Fully immunized children	CH.2	0.974	0.008	0.008	1.029	1.015	509	428	0.959 0.990
Acute respiratory infection in last two weeks	CH.6	0.018	0.004	0.217	1.652	1.285	2251	1942	0.010 0.025
Antibiotic treatment of suspected pneumonia	CH.7	(0.323)	(*)	(*)	(*)	(*)	40	29	(*) (*)
Diarrhoea in last two weeks	CH.4	0.020	0.004	0.188	1.396	1.182	2251	1942	0.012 0.027
Received ORT or increased fluids and Continued feeding	CH.5	(0.422)	(*)	(*)	(*)	(*)	45	33	(*) (*)
Support for learning	CD.1	0.829	0.010	0.012	1.266	1.125	2251	1942	0.809 0.848
Birth registration	CP.1	0.992	0.002	0.002	1.055	1.027	2251	1942	0.988 0.996

(*) – indicators are based on less than 50 cases of unweighted observations
na – not applicable

Table SE4. Sampling errors: rural areas

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Kazakhstan, 2006

	Table	Value \textcircled{R}	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Unweighted count	Confidence limits r - 2 se r + 2 se
HOUSEHOLDS									
Iodized salt consumption	NU.5	0.918	0.006	0.006	2.573	1.604	5215	6307	0.907 0.929
Child discipline	CP.4	0.491	0.011	0.021	1.583	1.258	2886	3588	0.470 0.512
HOUSEHOLD MEMBERS									
Use of improved drinking water sources	EN.1	0.877	0.012	0.014	8.337	2.887	22089	6318	0.853 0.901
Use of improved sanitation facilities	EN.5	0.989	0.003	0.003	5.844	2.417	22089	6318	0.983 0.996
Net primary school attendance rate	ED.3	0.980	0.004	0.004	1.289	1.136	1518	1905	0.973 0.987
Net secondary school attendance rate	ED.4	0.949	0.004	0.004	1.358	1.165	3446	4373	0.941 0.956
Primary completion rate	ED.6	0.882	0.013	0.015	0.889	0.943	427	531	0.856 0.908
Child labor	CP.2	0.019	0.002	0.124	1.555	1.247	4118	5210	0.014 0.024
WOMEN									
Skilled attendant at delivery	RH.5	0.999	0.000	0.000	0.001	0.033	829	982	0.999 0.999
Antenatal care	RH.3	0.997	0.001	0.001	0.670	0.819	829	982	0.994 1.000
Contraceptive prevalence	RH.1	0.465	0.008	0.018	1.226	1.107	3697	4290	0.448 0.482
Adult literacy	ED.8	0.998	0.001	0.001	1.049	1.024	1951	2342	0.996 1.000
Marriage before age 18	CP.5	0.095	0.005	0.051	1.533	1.238	4818	5660	0.086 0.105
Comprehensive knowledge about HIV prevention among young people	HA.3	0.200	0.007	0.036	2.317	1.522	5903	6952	0.186 0.215
Attitude towards people with HIV/AIDS	HA.5	0.037	0.003	0.079	1.647	1.283	5773	6776	0.031 0.043
Women who have been tested for HIV	HA.6	0.586	0.009	0.015	2.305	1.518	5903	6952	0.569 0.604
Knowledge of mother-to-child transmission of HIV	HA.4	0.527	0.009	0.016	2.100	1.449	5903	6952	0.509 0.544
UNDER-5s									
Underweight prevalence	NU.1	0.051	0.005	0.104	1.358	1.165	2064	2358	0.040 0.061
Tuberculosis immunization coverage	CH.2	0.996	0.003	0.003	1.170	1.082	483	548	0.990 1.000
Polio immunization coverage	CH.2	0.955	0.013	0.014	2.234	1.495	481	546	0.928 0.981
Immunization coverage for DPT	CH.2	0.970	0.010	0.011	1.966	1.402	478	544	0.950 0.991
Measles immunization coverage	CH.2	0.993	0.004	0.004	1.244	1.115	479	545	0.986 1.000
Fully immunized children	CH.2	0.949	0.014	0.015	2.151	1.467	479	545	0.922 0.977
Acute respiratory infection in last two weeks	CH.6	0.012	0.002	0.169	0.887	0.942	2164	2473	0.008 0.017
Antibiotic treatment of suspected pneumonia	CH.7	(0.308)	(*)	(*)	(*)	(*)	27	37	(*) (*)
Diarrhoea in last two weeks	CH.4	0.016	0.002	0.152	0.941	0.970	2164	2473	0.011 0.021
Received ORT or increased fluids and	CH.5	(0.555)	(*)	(*)	(*)	(*)	35	42	(*) (*)
Continued feeding	CD.1	0.791	0.009	0.011	1.219	1.104	2164	2473	0.773 0.809
Support for learning	CP.1	0.992	0.002	0.002	1.235	1.111	2164	2473	0.988 0.996

(*) – indicators are based on less than 50 cases of unweighted observations

Table SE.5. Sampling errors: Akmola Oblast

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Kazakhstan, 2006

	Table	Value \bar{x}	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Unweighted count	Confidence limits r - 2 se r + 2 se
HOUSEHOLDS									
Iodized salt consumption									
Child discipline									
HOUSEHOLD MEMBERS									
Use of improved drinking water sources									
Use of improved sanitation facilities									
Net primary school attendance rate									
Net secondary school attendance rate									
Primary completion rate									
Child labor									
WOMEN									
Skilled attendant at delivery									
Antenatal care									
Contraceptive prevalence									
Adult literacy									
Marriage before age 18									
Comprehensive knowledge about HIV prevention among young people									
Attitude towards people with HIV/AIDS									
Women who have been tested for HIV									
Knowledge of mother- to-child transmission of HIV									
UNDER-5s									
Underweight prevalence									
Tuberculosis immunization coverage									
Polio immunization coverage									
Immunization coverage for DPT									
Measles immunization coverage									
Fully immunized children									
Acute respiratory infection in last two weeks									
Diarrhoea in last two weeks									
Support for learning									
Birth registration									

(*) – indicators are based on less than 50 cases of unweighted observations
na – not applicable

Table SE.6. Sampling errors: Aktobe Oblast

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Kazakhstan, 2006

	Table	Value ^④	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Unweighted count	Confidence limits	
									r - 2 se	r + 2 se
HOUSEHOLDS										
Iodized salt consumption	NU.5	0.912	0.020	0.022	4.195	2.048	626	833	0.871	0.952
Child discipline	CP4	0.395	0.045	0.115	3.567	1.889	298	416	0.304	0.485
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	EN.1	0.950	0.026	0.027	11.967	3.459	2292	837	0.898	1.000
Use of improved sanitation facilities	EN.5	0.936	0.031	0.033	12.908	3.593	2292	837	0.875	0.997
Net primary school attendance rate	ED.3	0.987	0.008	0.008	1.010	1.005	152	216	0.971	1.000
Net secondary school attendance rate	ED.4	0.949	0.009	0.009	0.761	0.872	321	461	0.932	0.967
Primary completion rate	ED.6	0.885	0.031	0.035	0.560	0.749	41	60	0.823	0.947
Child labor	CP.2	0.026	0.010	0.391	2.248	1.499	390	557	0.006	0.046
WOMEN										
Skilled attendant at delivery	RH.5	1.000	0.000	0.000	na	na	68	93	1.000	1.000
Antenatal care	RH.3	1.000	0.000	0.000	na	na	68	93	1.000	1.000
Contraceptive prevalence	RH.1	0.479	0.040	0.084	2.998	1.731	348	461	0.398	0.560
Adult literacy	ED.8	0.997	0.003	0.003	0.837	0.915	217	296	0.992	1.000
Marriage before age 18	CP.5	0.058	0.012	0.202	1.829	1.353	560	729	0.034	0.081
Comprehensive knowledge about HIV prevention among young people	HA.3	0.215	0.044	0.207	10.382	3.222	675	887	0.126	0.303
Attitude towards people with HIV/AIDS	HA.5	0.061	0.018	0.291	4.707	2.170	659	861	0.025	0.096
Women who have been tested for HIV	HA.6	0.587	0.029	0.050	3.100	1.761	675	887	0.529	0.646
Knowledge of mother-to-child transmission of HIV	HA.4	0.489	0.044	0.089	6.766	2.601	675	887	0.401	0.576
UNDER-5s										
Underweight prevalence	NU.1	0.057	0.023	0.404	2.185	1.478	171	221	0.011	0.104
Tuberculosis immunization coverage	CH.2	1.000	0.000	0.000	na	na	43	56	1.000	1.000
Polio immunization coverage	CH.2	1.000	0.000	0.000	na	na	43	56	1.000	1.000
Immunization coverage for DPT	CH.2	1.000	0.000	0.000	na	na	43	56	1.000	1.000
Measles immunization coverage	CH.2	1.000	0.000	0.000	na	na	43	56	1.000	1.000
Fully immunized children	CH.2	1.000	0.000	0.000	na	na	43	56	1.000	1.000
Acute respiratory infection in last two weeks	CH.6	0.010	0.006	0.576	0.796	0.892	181	234	0.000	0.022
Diarrhoea in last two weeks	CH.4	0.023	0.010	0.453	1.112	1.054	181	234	0.002	0.043
Support for learning	CD.1	0.787	0.029	0.037	1.200	1.095	181	234	0.728	0.846
Birth registration	CP.1	0.997	0.003	0.003	0.814	0.902	181	234	0.990	1.000
na – not applicable										

Table SE.7. Sampling errors: Almaty Oblast

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Kazakhstan, 2006

	Table	Value ^(*)	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Unweighted count	Confidence limits
									r - 2 se r + 2 se
HOUSEHOLDS									
Iodized salt consumption	NU.5	0.997	0.002	0.002	2.052	1.433	1332	1081	0.992 1.000
Child discipline	CP.4	0.246	0.022	0.091	1.575	1.255	705	582	0.201 0.291
HOUSEHOLD MEMBERS									
Use of improved drinking water sources	EN.1	0.976	0.007	0.007	2.130	1.459	5474	1096	0.963 0.990
Use of improved sanitation facilities	EN.5	0.994	0.004	0.004	3.055	1.748	5474	1096	0.986 1.000
Net primary school attendance rate	ED.3	0.985	0.008	0.008	1.270	1.127	368	304	0.969 1.000
Net secondary school attendance rate	ED.4	0.933	0.009	0.010	0.847	0.921	750	624	0.914 0.951
Primary completion rate	ED.6	0.797	0.039	0.049	0.811	0.901	105	87	0.718 0.875
Child labor	CP.2	0.009	0.004	0.420	1.270	1.127	954	790	0.001 0.017
WOMEN									
Skilled attendant at delivery	RH.5	1.000	0.000	0.000	na	na	225	179	1.000 1.000
Antenatal care	RH.3	0.995	0.005	0.005	0.897	0.947	225	179	0.985 1.000
Contraceptive prevalence	RH.1	0.402	0.020	0.051	1.181	1.087	875	686	0.362 0.443
Adult literacy	ED.8	0.997	0.003	0.003	0.924	0.961	451	357	0.992 1.000
Marriage before age 18	CP.5	0.090	0.009	0.105	1.035	1.017	1225	956	0.071 0.109
Comprehensive knowledge about HIV prevention among young people	HA.3	0.311	0.020	0.066	2.244	1.498	1475	1155	0.270 0.351
Attitude towards people with HIV/AIDS	HA.5	0.039	0.007	0.186	1.587	1.260	1435	1123	0.025 0.054
Women who have been tested for HIV	HA.6	0.427	0.016	0.037	1.207	1.099	1475	1155	0.395 0.459
Knowledge of mother- to-child transmission of HIV	HA.4	0.461	0.020	0.043	1.833	1.354	1475	1155	0.422 0.501
UNDER-5s									
Underweight prevalence	NU.1	0.081	0.013	0.165	0.923	0.961	506	383	0.054 0.108
Tuberculosis immunization coverage	CH.2	0.990	0.010	0.010	0.907	0.953	119	91	0.969 1.000
Polio immunization coverage	CH.2	0.843	0.045	0.054	1.390	1.179	118	90	0.752 0.934
Immunization coverage for DPT	CH.2	0.882	0.039	0.045	1.294	1.137	115	88	0.804 0.961
Measles immunization coverage	CH.2	0.979	0.014	0.015	0.858	0.926	115	88	0.950 1.000
Fully immunized children	CH.2	0.820	0.047	0.058	1.330	1.153	117	89	0.726 0.915
Acute respiratory infection in last two weeks	CH.6	0.000	0.000	0.000	na	na	545	412	0.000 0.000
Diarrhoea in last two weeks	CH.4	0.002	0.002	0.988	0.911	0.954	545	412	0.000 0.007
Support for learning	CD.1	0.604	0.028	0.046	1.313	1.146	545	412	0.549 0.659
Birth registration	CP.1	0.988	0.004	0.004	0.639	0.800	545	412	0.979 0.997

(*) – indicators are based on less than 50 cases of unweighted observations
na – not applicable

Table SE.8. Sampling errors: Atyrau Oblast

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Kazakhstan, 2006

	Table	Value ^(*)	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Unweighted count	Confidence limits r - 2 se r + 2 se
Iodized salt consumption	NU.5	0.870	0.010	0.012	0.750	0.866	334	782	0.849 0.891
Child discipline	CP.4	0.554	0.023	0.041	0.916	0.957	184	444	0.508 0.599
HOUSEHOLDS									
HOUSEHOLD MEMBERS									
Use of improved drinking water sources	EN.1	0.893	0.035	0.039	9.801	3.131	1511	782	0.823 0.962
Use of improved sanitation facilities	EN.5	1.000	0.000	0.000	na	na	1511	782	1.000 1.000
Net primary school attendance rate	ED.3	0.989	0.007	0.007	0.922	0.960	101	247	0.976 1.000
Net secondary school attendance rate	ED.4	0.959	0.013	0.013	2.483	1.576	245	610	0.934 0.984
Primary completion rate	ED.6	0.904	0.032	0.036	0.809	0.899	28	69	0.840 0.968
Child labor	CP.2	0.002	0.002	1.023	1.344	1.159	274	681	0.000 0.006
WOMEN									
Skilled attendant at delivery	RH.5	1.000	0.000	0.000	na	na	53	124	1.000 1.000
Antenatal care	RH.3	1.000	0.000	0.000	na	na	53	124	1.000 1.000
Contraceptive prevalence	RH.1	0.524	0.028	0.054	1.698	1.303	236	532	0.467 0.580
Adult literacy	ED.8	1.000	0.000	0.000	na	na	175	396	1.000 1.000
Marriage before age 18	CP.5	0.042	0.005	0.129	0.579	0.761	356	798	0.031 0.053
Comprehensive knowledge about HIV prevention among young people	HA.3	0.19	0.023	0.122	3.555	1.886	458	1026	0.144 0.236
Attitude towards people with HIV/AIDS	HA.5	0.076	0.023	0.300	7.487	2.736	450	1004	0.030 0.122
Women who have been tested for HIV	HA.6	0.458	0.029	0.064	3.490	1.868	458	1026	0.399 0.516
Knowledge of mother- to-child transmission of HIV	HA.4	0.398	0.032	0.081	4.454	2.110	458	1026	0.334 0.463
UNDER-5s									
Underweight prevalence	NU.1	0.022	0.009	0.435	1.223	1.106	134	292	0.003 0.041
Tuberculosis immunization coverage	CH.2	1.000	0.000	0.000	na	na	26	59	1.000 1.000
Polio immunization coverage	CH.2	1.000	0.000	0.000	na	na	26	59	1.000 1.000
Immunization coverage for DPT	CH.2	1.000	0.000	0.000	na	na	26	59	1.000 1.000
Measles immunization coverage	CH.2	1.000	0.000	0.000	na	na	26	59	1.000 1.000
Fully immunized children	CH.2	1.000	0.000	0.000	na	na	26	59	1.000 1.000
Acute respiratory infection in last two weeks	CH.6	0.014	0.006	0.437	0.840	0.917	143	314	0.002 0.026
Diarrhoea in last two weeks	CH.4	0.009	0.005	0.604	1.028	1.014	143	314	0.000 0.020
Support for learning	CD.1	0.794	0.025	0.032	1.242	1.114	143	314	0.743 0.845
Birth registration	CP.1	1.000	0.000	0.000	na	na	143	314	1.000 1.000

(*) – indicators are based on less than 50 cases of unweighted observations
na – not applicable

Table SE.9. Sampling errors: West Kazakhstan Oblast

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Kazakhstan, 2006

	Table	Value \bar{x}	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Unweighted count	Confidence limits r - 2 se r + 2 se
HOUSEHOLDS									
Iodized salt consumption									
Child discipline									
NU.5	0.905	0.028	0.031	7.575	2.752	600	820	0.848	0.961
CP.4	0.570	0.032	0.056	1.649	1.284	276	395	0.506	0.634
HOUSEHOLD MEMBERS									
Use of improved drinking water sources									
Use of improved sanitation facilities									
ED.3	0.998	0.001	0.001	0.210	0.458	2264	820	0.817	0.993
ED.3	0.994	0.006	0.006	0.913	0.955	113	820	0.996	0.999
ED.4	0.945	0.008	0.008	0.547	0.740	335	163	0.983	1.000
ED.6	(0.956)	(*)	(*)	(*)	(*)	28	485	0.930	0.961
CP.2	0.024	0.009	0.386	1.861	1.364	344	40	(*)	(*)
Child labor									
WOMEN									
Skilled attendant at delivery									
Antenatal care									
Contraceptive prevalence									
Adult literacy									
Marriage before age 18									
Comprehensive knowledge about HIV prevention among young people									
Attitude towards people with HIV/AIDS									
Women who have been tested for HIV									
Knowledge of mother-to-child transmission of HIV									
HA.3	0.324	0.029	0.090	3.529	1.878	699	905	0.265	0.382
HA.5	0.028	0.006	0.218	1.214	1.102	694	898	0.016	0.040
HA.6	0.836	0.015	0.018	1.503	1.226	699	905	0.806	0.866
HA.4	0.560	0.026	0.046	2.444	1.563	699	905	0.509	0.612
UNDER-5s									
Underweight prevalence									
Tuberculosis immunization coverage									
Polio immunization coverage									
Immunization coverage for DPT									
Measles immunization coverage									
Fully immunized children									
Acute respiratory infection in last two weeks									
Diarrhoea in last two weeks									
Support for learning									
Birth registration									
NU.1	0.088	0.019	0.217	0.902	0.950	149	200	0.049	0.126
CH.2	(0.978)	(*)	(*)	(*)	(*)	31	42	(*)	(*)
CH.2	(0.978)	(*)	(*)	(*)	(*)	31	41	(*)	(*)
CH.2	(0.978)	(*)	(*)	(*)	(*)	31	41	(*)	(*)
CH.2	(0.947)	(*)	(*)	(*)	(*)	31	42	(*)	(*)
CH.2	(0.946)	(*)	(*)	(*)	(*)	31	41	(*)	(*)
CH.6	0.047	0.010	0.212	0.448	0.669	152	203	0.027	0.067
CH.4	0.038	0.012	0.323	0.832	0.912	152	203	0.013	0.063
CD.1	0.873	0.023	0.026	0.927	0.963	152	203	0.828	0.918
CP.1	0.995	0.005	0.005	0.925	0.962	152	203	0.986	1.000

(*) – indicators are based on less than 50 cases of unweighted observations
na – not applicable

Table SE.10. Sampling errors: Zhambyl Oblast

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Kazakhstan, 2006

	Table	Value ^④	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Unweighted count	Confidence limits r - 2 se r + 2 se
HOUSEHOLDS									
Iodized salt consumption	NU.5	0.912	0.015	0.016	2.575	1.605	821	961	0.883 0.941
Child discipline	CP4	0.625	0.025	0.040	1.426	1.194	441	527	0.575 0.676
HOUSEHOLD MEMBERS									
Use of improved drinking water sources	EN.1	0.996	0.003	0.003	1.602	1.266	3190	974	0.991 1.000
Use of improved sanitation facilities	EN.5	0.988	0.004	0.005	1.587	1.260	3190	974	0.979 0.997
Net primary school attendance rate	ED.3	0.972	0.013	0.014	1.681	1.296	212	257	0.945 0.999
Net secondary school attendance rate	ED.4	0.955	0.009	0.009	1.090	1.044	478	577	0.937 0.973
Primary completion rate	ED.6	0.895	0.026	0.030	0.563	0.750	63	77	0.842 0.948
Child labor	CP.2	0.010	0.005	0.057	2.254	1.501	603	734	0.000 0.021
WOMEN									
Skilled attendant at delivery	RH.5	1.000	0.000	0.000	na	na	139	165	1.000 1.000
Antenatal care	RH.3	1.000	0.000	0.000	na	na	139	165	1.000 1.000
Contraceptive prevalence	RH.1	0.428	0.023	0.053	1.255	1.120	510	592	0.382 0.474
Adult literacy	ED.8	0.997	0.003	0.003	0.824	0.907	276	316	0.992 1.000
Marriage before age 18	CP.5	0.120	0.012	0.102	1.177	1.085	725	826	0.096 0.145
Comprehensive knowledge about HIV prevention among young people	HA.3	0.115	0.017	0.151	2.974	1.724	877	998	0.080 0.150
Attitude towards people with HIV/AIDS	HA.5	0.019	0.006	0.311	1.773	1.332	854	968	0.007 0.030
Women who have been tested for HIV	HA.6	0.420	0.021	0.050	1.835	1.355	877	998	0.377 0.462
Knowledge of mother-to-child transmission of HIV	HA.4	0.647	0.030	0.046	3.870	1.967	877	998	0.587 0.706
UNDER-5s									
Underweight prevalence	NU.1	0.021	0.007	0.333	0.886	0.942	337	379	0.007 0.035
Tuberculosis immunization coverage	CH.2	1.000	0.000	0.000	na	na	78	89	1.000 1.000
Polio immunization coverage	CH.2	1.000	0.000	0.000	na	na	78	89	1.000 1.000
Immunization coverage for DPT	CH.2	1.000	0.000	0.000	na	na	78	89	1.000 1.000
Measles immunization coverage	CH.2	1.000	0.000	0.000	na	na	78	89	1.000 1.000
Fully immunized children	CH.2	1.000	0.000	0.000	na	na	78	89	1.000 1.000
Acute respiratory infection in last two weeks	CH.6	0.013	0.006	0.475	1.189	1.090	345	387	0.001 0.026
Diarrhoea in last two weeks	CH.4	0.025	0.008	0.307	0.914	0.956	345	387	0.009 0.040
Support for learning	CD.1	0.697	0.031	0.045	1.809	1.345	345	387	0.634 0.760
Birth registration	CP.1	0.986	0.007	0.007	1.460	1.208	345	387	0.971 1.000

na – not applicable

Table SE.11. Sampling errors: Karagandy Oblast

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Kazakhstan, 2006

	Table	Value \bar{x}	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Unweighted count	Confidence limits r - 2 se r + 2 se
HOUSEHOLDS									
HOUSEHOLD MEMBERS									
Iodized salt consumption	NU.5	0.895	0.012	0.013	1.628	1.276	1614	1052	0.871 0.919
Child discipline	CP.4	0.688	0.022	0.031	0.874	0.935	614	404	0.645 0.731
WOMEN									
Use of improved drinking water sources	EN.1	0.961	0.019	0.020	10.616	3.258	4958	1052	0.922 1.000
Use of improved sanitation facilities	EN.5	0.993	0.002	0.002	0.551	0.742	4958	1052	0.989 0.997
Net primary school attendance rate	ED.3	0.988	0.008	0.008	1.040	1.020	271	180	0.971 1.000
Net secondary school attendance rate	ED.4	0.959	0.011	0.011	1.354	1.163	657	440	0.938 0.981
Primary completion rate	ED.6	(0.902)	(*)	(*)	(*)	(*)	67	44	(*) (*)
Child labor	CP.2	0.005	0.003	0.698	1.064	1.032	718	478	0.000 0.011
Skilled attendant at delivery	RH.5	1.000	0.000	0.000	na	na	129	81	1.000 1.000
Antenatal care	RH.3	1.000	0.000	0.000	na	na	129	81	1.000 1.000
Contraceptive prevalence	RH.1	0.550	0.021	0.038	0.909	0.954	799	505	0.508 0.593
Adult literacy	ED.8	1.000	0.000	0.000	na	na	486	305	1.000 1.000
Marriage before age 18	CP.5	0.111	0.013	0.118	1.312	1.145	1207	757	0.085 0.137
Comprehensive knowledge about HIV prevention among young people	HA.3	0.250	0.020	0.081	2.009	1.417	1476	924	0.210 0.291
Attitude towards people with HIV/AIDS	HA.5	0.017	0.005	0.283	1.314	1.146	1473	922	0.008 0.027
Women who have been tested for HIV	HA.6	0.711	0.020	0.028	1.771	1.331	1476	924	0.671 0.750
Knowledge of mother-to-child transmission of HIV	HA.4	0.535	0.025	0.047	2.343	1.531	1476	924	0.485 0.586
WOMEN									
Underweight prevalence	NU.1	0.032	0.016	0.496	1.456	1.207	296	179	0.000 0.064
Tuberculosis immunization coverage	CH.2 (0.977)	(*)	(*)	(*)	(*)	(*)	79	46	(*) (*)
Polio immunization coverage	CH.2 (0.977)	(*)	(*)	(*)	(*)	(*)	79	46	(*) (*)
Immunization coverage for DPT	CH.2 (0.977)	(*)	(*)	(*)	(*)	(*)	79	46	(*) (*)
Measles immunization coverage	CH.2 (0.977)	(*)	(*)	(*)	(*)	(*)	79	46	(*) (*)
Fully immunized children	CH.2 (0.977)	(*)	(*)	(*)	(*)	(*)	79	46	(*) (*)
Acute respiratory infection in last two weeks	CH.6	0.053	0.019	0.353	1.322	1.150	316	191	0.016 0.090
Diarrhoea in last two weeks	CH.4	0.040	0.016	0.398	1.245	1.116	316	191	0.008 0.071
Support for learning	CD.1	0.853	0.024	0.028	0.852	0.923	316	191	0.805 0.900
Birth registration	CP.1	0.989	0.008	0.008	1.121	1.059	316	191	0.972 1.000

(*) – indicators are based on less than 50 cases of unweighted observations
na – not applicable

Table SE.12. Sampling errors: Kostanai Oblast

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Kazakhstan, 2006

	Table	Value	®	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Unweighted count	Confidence limits r - 2 se r + 2 se
Iodized salt consumption	NU.5	0.983		0.006	0.006	1.725	1.313	1168	920	0.972 0.994
Child discipline	CP.4	0.449		0.029	0.064	1.241	1.114	452	371	0.391 0.506
HOUSEHOLDS										
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	EN.1	0.832		0.039	0.047	10.157	3.187	3617	921	0.753 0.910
Use of improved sanitation facilities	EN.5	1.000		0.000	0.000	na	na	3617	921	1.000 1.000
Net primary school attendance rate	ED.3	0.979		0.008	0.008	0.447	0.669	198	165	0.963 0.994
Net secondary school attendance rate	ED.4	0.957		0.013	0.014	1.591	1.261	466	387	0.931 0.983
Primary completion rate	ED.6	0.880		0.045	0.051	1.000	1.000	66	54	0.791 0.969
Child labor	CP.2	0.048		0.012	0.250	1.359	1.166	514	430	0.024 0.072
WOMEN										
Skilled attendant at delivery	RH.5	1.000		0.000	0.000	na	na	84	67	1.000 1.000
Antenatal care	RH.3	1.000		0.000	0.000	na	na	84	67	1.000 1.000
Contraceptive prevalence	RH.1	0.604		0.032	0.052	1.902	1.379	584	456	0.541 0.668
Adult literacy	ED.8	0.995		0.005	0.005	1.202	1.096	296	228	0.984 1.000
Marriage before age 18	CP.5	0.101		0.013	0.133	1.304	1.142	851	653	0.074 0.128
Comprehensive knowledge about HIV prevention among young people	HA.3	0.218		0.019	0.087	1.658	1.288	1016	782	0.180 0.256
Attitude towards people with HIV/AIDS	HA.5	0.033		0.010	0.304	2.409	1.552	1002	771	0.013 0.053
Women who have been tested for HIV	HA.6	0.694		0.020	0.028	1.419	1.191	1016	782	0.655 0.734
Knowledge of mother- to-child transmission of HIV	HA.4	0.557		0.025	0.045	1.991	1.411	1016	782	0.506 0.607
UNDER-5s										
Underweight prevalence	NU.1	0.039		0.013	0.331	0.836	0.914	254	191	0.013 0.064
Tuberculosis immunization coverage	CH.2	(1.000)	(*)	(*)	na	na	54	42	(*)	(*)
Polio immunization coverage	CH.2	(1.000)	(*)	(*)	na	na	54	42	(*)	(*)
Immunization coverage for DPT	CH.2	(1.000)	(*)	(*)	na	na	54	42	(*)	(*)
Measles immunization coverage	CH.2	(1.000)	(*)	(*)	na	na	54	42	(*)	(*)
Fully immunized children	CH.2	(1.000)	(*)	(*)	na	na	54	42	(*)	(*)
Acute respiratory infection in last two weeks	CH.6	0.022	0.011	0.500	1.137	1.066	267	201	0.000	0.044
Diarrhoea in last two weeks	CH.4	0.029	0.013	0.453	1.245	1.116	267	201	0.003	0.056
Support for learning	CD.1	0.879	0.017	0.019	0.538	0.734	267	201	0.845	0.913
Birth registration	CP.1	0.985	0.008	0.008	0.951	0.975	267	201	0.969	1.000

(*) – indicators are based on less than 50 cases of unweighted observations

na – not applicable

Table SE.13. Sampling errors: Kyzylorda Oblast

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Kazakhstan, 2006

	Table	Value $\hat{\alpha}$	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Unweighted count	Confidence limits r - 2 se r + 2 se
HOUSEHOLDS									
HOUSEHOLD MEMBERS									
Iodized salt consumption	NU.5	0.946	0.013	0.013	2.520	1.587	409	830	0.921 0.971
Child discipline	CP.4	0.587	0.021	0.035	0.960	0.980	265	547	0.546 0.628
WOMEN									
Use of improved drinking water sources	EN.1	0.967	0.026	0.027	17.643	4.200	1921	830	0.915 1.000
Use of improved sanitation facilities	EN.5	1.000	0.000	0.000	na	na	1921	830	1.000 1.000
Net primary school attendance rate	ED.3	0.985	0.005	0.005	0.549	0.741	143	297	0.975 0.996
Net secondary school attendance rate	ED.4	0.956	0.008	0.008	1.026	1.013	333	695	0.940 0.971
Primary completion rate	ED.6	0.952	0.024	0.025	1.066	1.033	40	84	0.904 1.000
Child labor	CP.2	0.072	0.013	0.175	1.997	1.413	403	842	0.047 0.097
Skilled attendant at delivery	RH.5	1.000	0.000	0.000	na	na	80	156	1.000 1.000
Antenatal care	RH.3	1.000	0.000	0.000	na	na	80	156	1.000 1.000
Contraceptive prevalence	RH.1	0.571	0.022	0.039	1.215	1.102	301	592	0.527 0.616
Adult literacy	ED.8	0.994	0.004	0.004	0.968	0.984	177	341	0.986 1.000
Marriage before age 18	CP.5	0.069	0.010	0.138	1.174	1.083	429	832	0.050 0.088
Comprehensive knowledge about HIV prevention among young people	HA.3	0.1285	0.013	0.101	1.533	1.238	528	1022	0.103 0.154
Attitude towards people with HIV/AIDS	HA.5	0.030	0.005	0.174	0.896	0.947	497	957	0.020 0.041
Women who have been tested for HIV	HA.6	0.533	0.019	0.036	1.500	1.225	528	1022	0.495 0.571
Knowledge of mother-to-child transmission of HIV	HA.4	0.607	0.025	0.042	2.723	1.650	528	1022	0.557 0.658
UNDER-5s									
Underweight prevalence	NU.1	0.039	0.010	0.257	0.946	0.973	188	359	0.019 0.058
Tuberculosis immunization coverage	CH.2	1.000	0.000	0.000	na	na	44	82	1.000 1.000
Polio immunization coverage	CH.2	1.000	0.000	0.000	na	na	44	82	1.000 1.000
Immunization coverage for DPT	CH.2	1.000	0.000	0.000	na	na	44	82	1.000 1.000
Measles immunization coverage	CH.2	1.000	0.000	0.000	na	na	44	82	1.000 1.000
Fully immunized children	CH.2	1.000	0.000	0.000	na	na	44	82	1.000 1.000
Acute respiratory infection in last two weeks	CH.6	0.010	0.005	0.502	1.019	1.009	209	397	0.000 0.020
Diarrhoea in last two weeks	CH.4	0.005	0.003	0.688	0.954	0.977	209	397	0.000 0.012
Support for learning	CD.1	0.717	0.024	0.033	1.103	1.050	209	397	0.669 0.764
Birth registration	CP.1	0.997	0.003	0.003	1.186	1.089	209	397	0.991 1.000

na – not applicable

Table SE.14. Sampling errors: Mangistau Oblast

Standard errors, coefficients of variation, design effects (deff), square root of design effects (dfeff) and confidence intervals for selected indicators, Kazakhstan, 2006

	Table	Value $\hat{\beta}$	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (dfeff)	Weighted count	Unweighted count	Confidence limits r - 2 se r + 2 se
Iodized salt consumption	NU.5	0.995	0.002	0.002	0.411	0.641	273	758	0.991 0.998
Child discipline	CP4	0.409	0.027	0.066	1.283	1.133	142	421	0.355 0.464
HOUSEHOLDS									
Use of improved drinking water sources	EN.1	0.998	0.002	0.002	1.748	1.322	1127	758	0.993 1.000
Use of improved sanitation facilities	EN.5	0.999	0.001	0.001	0.635	0.797	1127	758	0.998 1.000
Net primary school attendance rate	ED.3	0.993	0.005	0.005	1.014	1.007	84	259	0.982 1.000
Net secondary school attendance rate	ED.4	0.987	0.005	0.005	1.133	1.064	164	497	0.977 0.998
Primary completion rate	ED.6	0.911	0.045	0.050	1.621	1.273	21	65	0.820 1.000
Child labor	CP.2	0.018	0.012	0.639	4.831	2.198	207	632	0.000 0.042
HOUSEHOLD MEMBERS									
Skilled attendant at delivery	RH.5	1.000	0.000	0.000	na	na	45	133	1.000 1.000
Antenatal care	RH.3	1.000	0.000	0.000	na	na	45	133	1.000 1.000
Contraceptive prevalence	RH.1	0.534	0.020	0.037	0.835	0.914	183	519	0.494 0.574
Adult literacy	ED.8	1.000	0.000	0.000	na	na	117	339	1.000 1.000
Marriage before age 18	CP.5	0.046	0.010	0.213	1.678	1.296	279	778	0.026 0.065
Comprehensive knowledge about HIV prevention among young people	HA.3	0.107	0.029	0.270	8.164	2.857	335	938	0.049 0.165
Attitude towards people with HIV/AIDS	HA.5	0.015	0.002	0.104	0.153	0.391	332	931	0.012 0.018
Women who have been tested for HIV	HA.6	0.528	0.028	0.053	2.961	1.721	335	938	0.472 0.585
Knowledge of mother-to-child transmission of HIV	HA.4	0.612	0.045	0.073	7.926	2.815	335	938	0.523 0.702
UNDER-5s									
Underweight prevalence	NU.1	0.027	0.013	0.468	1.817	1.348	102	298	0.002 0.053
Tuberculosis immunization coverage	CH.2	1.000	0.000	0.000	na	na	26	76	1.000 1.000
Polio immunization coverage	CH.2	1.000	0.000	0.000	na	na	26	76	1.000 1.000
Immunization coverage for DPT	CH.2	1.000	0.000	0.000	na	na	26	76	1.000 1.000
Measles immunization coverage	CH.2	1.000	0.000	0.000	na	na	26	76	1.000 1.000
Fully immunized children	CH.2	1.000	0.000	0.000	na	na	26	76	1.000 1.000
Acute respiratory infection in last two weeks	CH.6	0.019	0.009	0.480	1.383	1.176	109	319	0.001 0.036
Diarrhoea in last two weeks	CH.4	0.004	0.004	0.946	1.230	1.109	109	319	0.000 0.012
Support for learning	CD.1	0.843	0.024	0.028	1.340	1.158	109	319	0.796 0.890
Birth registration	CP.1	0.994	0.005	0.005	1.129	1.063	109	319	0.984 1.000

na – not applicable

Table SE.15. Sampling errors: South Kazakhstan Oblast

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Kazakhstan, 2006

	Table	Value $\hat{\alpha}$	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Unweighted count	Confidence limits
									r - 2 se r + 2 se
HOUSEHOLDS									
Iodized salt consumption	NU.5	0.946	0.007	0.007	1.084	1.041	1414	1124	0.932 0.960
Child discipline	CP4	0.557	0.023	0.041	1.560	1.249	899	726	0.511 0.603
HOUSEHOLD MEMBERS									
Use of improved drinking water sources	EN.1	0.857	0.020	0.024	3.807	1.951	6790	1125	0.817 0.898
Use of improved sanitation facilities	EN.5	0.999	0.001	0.001	0.705	0.840	6790	1125	0.998 1.000
Net primary school attendance rate	ED.3	0.994	0.003	0.003	0.857	0.926	572	468	0.988 1.000
Net secondary school attendance rate	ED.4	0.940	0.009	0.010	1.337	1.156	1116	913	0.922 0.958
Primary completion rate	ED.6	0.953	0.019	0.020	1.123	1.060	169	141	0.915 0.991
Child labor	CP2	0.016	0.005	0.306	1.866	1.366	1481	1210	0.006 0.026
WOMEN									
Skilled attendant at delivery	RH.5	1.000	0.000	0.000	na	na	309	243	1.000 1.000
Antenatal care	RH.3	1.000	0.000	0.000	na	na	309	243	1.000 1.000
Contraceptive prevalence	RH.1	0.266	0.016	0.061	1.214	1.102	1156	895	0.233 0.298
Adult literacy	ED.8	0.998	0.002	0.002	0.866	0.931	602	473	0.994 1.000
Marriage before age 18	CP5	0.078	0.010	0.130	1.584	1.259	1459	1111	0.058 0.099
Comprehensive knowledge about HIV prevention among young people	HA.3	0.124	0.010	0.078	1.152	1.073	1768	1352	0.105 0.143
Attitude towards people with HIV/AIDS	HA.5	0.020	0.004	0.219	1.340	1.158	1756	1344	0.011 0.029
Women who have been tested for HIV	HA.6	0.561	0.031	0.055	5.156	2.271	1768	1352	0.500 0.622
Knowledge of mother-to-child transmission of HIV	HA.4	0.606	0.015	0.025	1.303	1.141	1768	1352	0.576 0.637
UNDER-5s									
Underweight prevalence	NU.1	0.028	0.007	0.234	0.960	0.980	807	603	0.015 0.041
Tuberculosis immunization coverage	CH.2	1.000	0.000	0.000	na	na	184	139	1.000 1.000
Polio immunization coverage	CH.2	0.990	0.009	0.009	1.282	1.132	184	139	0.972 1.000
Immunization coverage for DPT	CH.2	0.990	0.009	0.009	1.282	1.132	184	139	0.972 1.000
Measles immunization coverage	CH.2	1.000	0.000	0.000	na	na	183	138	1.000 1.000
Fully immunized children	CH.2	0.990	0.009	0.009	1.282	1.132	184	139	0.972 1.000
Acute respiratory infection in last two weeks	CH.6	0.011	0.005	0.515	1.754	1.324	827	619	0.000 0.022
Diarrhoea in last two weeks	CH.4	0.006	0.004	0.569	1.278	1.131	827	619	0.000 0.014
Support for learning	CD.1	0.943	0.007	0.008	0.593	0.770	827	619	0.929 0.958
Birth registration	CP1	0.992	0.003	0.003	0.506	0.712	827	619	0.987 0.997

na – not applicable

Table SE.16. Sampling errors: Pavlodar Oblast

Standard errors, coefficients of variation, design effects (def), square root of design effects (sqrt def) and confidence intervals for selected indicators, Kazakhstan, 2006

	Table	Value ®	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Unweighted count	Confidence limits	
									r - 2 se	r + 2 se
Iodized salt consumption	NU.5	0.683	0.020	0.029	1.554	1.247	909	871	0.643	0.722
Child discipline	CP.4	0.715	0.023	0.032	0.815	0.903	332	328	0.670	0.760
HOUSEHOLDS										
Use of improved drinking water sources	EN.1	0.963	0.012	0.012	3.330	1.825	2754	873	0.940	0.986
Use of improved sanitation facilities	EN.5	1.000	0.000	0.000	na	2754	873	1.000	1.000	1.000
Net primary school attendance rate	ED.3	0.966	0.012	0.012	0.620	0.787	140	140	0.942	0.990
Net secondary school attendance rate	ED.4	0.946	0.012	0.013	1.018	1.009	364	366	0.923	0.970
Primary completion rate	ED.6	(0.815)	(*)	(*)	(*)	(*)	34	36	(*)	(*)
Child labor	CP.2	0.059	0.012	0.211	1.063	1.031	382	384	0.034	0.083
HOUSEHOLD MEMBERS										
Skilled attendant at delivery	RH.5	1.000	0.000	0.000	na	na	84	75	1.000	1.000
Antenatal care	RH.3	1.000	0.000	0.000	na	na	84	75	1.000	1.000
Contraceptive prevalence	RH.1	0.610	0.023	0.038	0.974	0.987	463	433	0.564	0.656
Adult literacy	ED.8	0.995	0.005	0.005	1.159	1.077	255	234	0.985	1.000
Marriage before age 18	CP.5	0.090	0.010	0.108	0.723	0.850	686	630	0.071	0.110
Comprehensive knowledge about HIV prevention among young people	HA.3	0.348	0.015	0.042	0.727	0.852	820	756	0.319	0.378
Attitude towards people with HIV/AIDS	HA.5	0.052	0.007	0.138	0.775	0.880	813	749	0.037	0.066
Women who have been tested for HIV	HA.6	0.903	0.010	0.012	0.943	0.971	820	756	0.882	0.924
Knowledge of mother- to-child transmission of HIV	HA.4	0.650	0.018	0.027	1.027	1.014	820	756	0.615	0.685
UNDER-5s										
Underweight prevalence	NU.1	0.021	0.011	0.496	0.889	0.943	190	168	0.000	0.042
Tuberculosis immunization coverage	CH.2	(1.000)	(*)	(*)	na	na	47	41	(*)	(*)
Polio immunization coverage	CH.2	(1.000)	(*)	(*)	na	na	47	41	(*)	(*)
Immunization coverage for DPT	CH.2	(1.000)	(*)	(*)	na	na	47	41	(*)	(*)
Measles immunization coverage	CH.2	(1.000)	(*)	(*)	na	na	47	41	(*)	(*)
Fully immunized children	CH.2	(1.000)	(*)	(*)	na	na	47	41	(*)	(*)
Acute respiratory infection in last two weeks	CH.6	0.027	0.012	0.446	0.953	0.976	197	173	0.003	0.051
Diarrhoea in last two weeks	CH.4	0.036	0.016	0.441	1.239	1.113	197	173	0.004	0.067
Support for learning	CD.1	0.861	0.025	0.030	0.932	0.966	197	173	0.810	0.912
Birth registration	CP1	0.993	0.007	0.007	1.207	1.099	197	173	0.980	1.000

(*) – indicators are based on less than 50 cases of unweighted observations

Table SE.17. Sampling errors: North Kazakhstan Oblast

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Kazakhstan, 2006

	Table	Value \bar{x}	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Unweighted count	Confidence limits r - 2 se r + 2 se
HOUSEHOLDS									
Iodized salt consumption									
Child discipline									
HOUSEHOLD MEMBERS									
Use of improved drinking water sources									
Use of improved sanitation facilities									
Net primary school attendance rate									
Net secondary school attendance rate									
Primary completion rate									
Child labor									
WOMEN									
Skilled attendant at delivery									
Antenatal care									
Contraceptive prevalence									
Adult literacy									
Marriage before age 18									
Comprehensive knowledge about HIV prevention among young people									
Attitude towards people with HIV/AIDS									
Women who have been tested for HIV									
Knowledge of mother-to-child transmission of HIV									
UNDER-5s									
Underweight prevalence									
Tuberculosis immunization coverage									
Polio immunization coverage									
Immunization coverage for DPT									
Measles immunization coverage									
Fully immunized children									
Acute respiratory infection in last two weeks									
Diarrhoea in last two weeks									
Support for learning									
Birth registration									

(*) – indicators are based on less than 50 cases of unweighted observations
na – not applicable

Table SE.18. Sampling errors; East Kazakhstan Oblast

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Kazakhstan, 2006

	Table	Value $\hat{\beta}$	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Unweighted count	Confidence limits	
									r - 2 se	r + 2 se
Iodized salt consumption	NU.5	0.928	0.016	0.017	3.967	1.992	1652	1082	0.896	0.959
Child discipline	CP.4	0.529	0.031	0.059	1.511	1.229	558	385	0.467	0.592
HOUSEHOLDS										
Use of improved drinking water sources	EN.1	0.964	0.012	0.013	4.556	2.135	5097	1082	0.940	0.988
Use of improved sanitation facilities	EN.5	1.000	0.000	0.000	na	na	5097	1082	1.000	1.000
Net primary school attendance rate	ED.3	0.936	0.021	0.022	1.098	1.048	213	151	0.894	0.978
Net secondary school attendance rate	ED.4	0.979	0.008	0.008	1.338	1.157	647	450	0.963	0.995
Primary completion rate	ED.6	(0.793)	(*)	(*)	(*)	(*)	63	43	(*)	(*)
Child labor	CP.2	0.010	0.003	0.342	0.487	0.698	611	433	0.003	0.016
HOUSEHOLD MEMBERS										
Skilled attendant at delivery	RH.5	1.000	0.000	0.000	na	na	141	94	1.000	1.000
Antenatal care	RH.3	0.991	0.001	0.001	0.004	0.065	141	94	0.990	0.993
Contraceptive prevalence	RH.1	0.611	0.030	0.048	1.921	1.386	809	524	0.552	0.670
Adult literacy	ED.8	0.996	0.004	0.004	1.246	1.116	469	305	0.988	1.000
Marriage before age 18	CP.5	0.093	0.013	0.136	1.470	1.212	1216	777	0.067	0.118
Comprehensive knowledge about HIV prevention among young people	HA.3	0.234	0.023	0.100	2.854	1.689	1467	940	0.187	0.280
Attitude towards people with HIV/AIDS	HA.5	0.024	0.006	0.257	1.507	1.227	1453	930	0.012	0.036
Women who have been tested for HIV	HA.6	0.500	0.024	0.047	2.085	1.444	1467	940	0.452	0.547
Knowledge of mother- to-child transmission of HIV	HA.4	0.495	0.032	0.064	3.798	1.949	1467	940	0.431	0.558
UNDER-5s										
Underweight prevalence	NU.1	0.056	0.017	0.306	0.980	0.990	282	179	0.022	0.090
Tuberculosis immunization coverage	CH.2	1.000	0.000	0.000	na	na	87	56	1.000	1.000
Polio immunization coverage	CH.2	0.948	0.038	0.040	1.581	1.257	87	56	0.873	1.000
Immunization coverage for DPT	CH.2	1.000	0.000	0.000	na	na	87	56	1.000	1.000
Measles immunization coverage	CH.2	1.000	0.000	0.000	na	na	87	56	1.000	1.000
Fully immunized children	CH.2	0.948	0.038	0.040	1.581	1.257	87	56	0.873	1.000
Acute respiratory infection in last two weeks	CH.6	0.007	0.007	1.009	1.300	1.140	304	195	0.000	0.020
Diarrhoea in last two weeks	CH.4	0.026	0.011	0.442	0.999	1.000	304	195	0.003	0.048
Support for learning	CD.1	0.763	0.031	0.040	1.020	1.010	304	195	0.701	0.824
Birth registration	CP.1	1.000	0.000	0.000	na	na	304	195	1.000	1.000

(*) – indicators are based on less than 50 cases of unweighted observations

na – not applicable

Table SE.19. Sampling errors: Astana City

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Kazakhstan, 2006

	Table	Value $\hat{}$	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Unweighted count	Confidence limits r - 2 se r + 2 se
HOUSEHOLDS									
Iodized salt consumption	NU.5	0.943	0.008	0.009	0.972	0.986	334	754	0.926 0.960
Child discipline	CP.4	0.611	0.035	0.058	1.664	1.290	142	321	0.540 0.681
HOUSEHOLD MEMBERS									
Use of improved drinking water sources	EN.1	1.000	0.000	0.000	na	na	1063	755	1.000 1.000
Use of improved sanitation facilities	EN.5	1.000	0.000	0.000	na	na	1063	755	1.000 1.000
Net primary school attendance rate	ED.3	0.934	0.023	0.025	1.069	1.034	54	122	0.888 0.981
Net secondary school attendance rate	ED.4	0.975	0.010	0.010	1.190	1.091	124	281	0.955 0.995
Primary completion rate	ED.6	(0.882)	(*)	(*)	(*)	(*)	15	34	(*) (*)
Child labor	CP.2	0.046	0.022	0.470	3.700	1.923	154	349	0.003 0.089
WOMEN									
Skilled attendant at delivery	RH.5	0.988	0.012	0.012	0.990	0.995	40	84	0.964 1.000
Antenatal care	RH.3	1.000	0.000	0.000	na	na	40	84	1.000 1.000
Contraceptive prevalence	RH.1	0.617	0.035	0.057	2.200	1.483	204	426	0.547 0.687
Adult literacy	ED.8	0.996	0.004	0.004	1.037	1.019	109	228	0.987 1.000
Marriage before age 18	CP.5	0.056	0.014	0.245	2.341	1.530	319	664	0.028 0.083
Comprehensive knowledge about HIV prevention among young people	HA.3	0.458	0.039	0.084	4.604	2.146	368	766	0.381 0.536
Attitude towards people with HIV/AIDS	HA.5	0.026	0.008	0.311	1.990	1.411	363	757	0.010 0.043
Women who have been tested for HIV	HA.6	0.709	0.037	0.052	5.007	2.238	368	766	0.635 0.782
Knowledge of mother-to-child transmission of HIV	HA.4	0.594	0.049	0.083	7.630	2.762	368	766	0.496 0.692
UNDER-5s									
Underweight prevalence	NU.1	0.035	0.015	0.435	1.169	1.081	84	172	0.005 0.065
Tuberculosis immunization coverage	CH.2	(1.000)	(*)	(*)	na	na	19	39	(*) (*)
Polio immunization coverage	CH.2	(0.795)	(*)	(*)	(*)	(*)	19	39	(*) (*)
Immunization coverage for DPT	CH.2	(0.923)	(*)	(*)	(*)	(*)	19	39	(*) (*)
Measles immunization coverage	CH.2	(1.000)	(*)	(*)	na	na	19	39	(*) (*)
Fully immunized children	CH.2	(0.718)	(*)	(*)	(*)	(*)	19	39	(*) (*)
Acute respiratory infection in last two weeks	CH.6	0.000	0.000	0.000	na	na	90	185	0.000 0.000
Diarrhoea in last two weeks	CH.4	0.016	0.009	0.579	1.018	1.009	90	185	0.000 0.035
Support for learning	CD.1	0.881	0.024	0.028	1.033	1.016	90	185	0.833 0.930
Birth registration	CP.1	1.000	0.000	0.000	na	na	90	185	1.000 1.000

(*) – indicators are based on less than 50 cases of unweighted observations
na – not applicable

Table SE.20. Sample errors: Almaty City

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Kazakhstan, 2006

	Table	Value $\hat{\sigma}$	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Unweighted count	Confidence limits r - 2 se r + 2 se
Iodized salt consumption	NU.5 CP.4	0.967 0.373	0.008 0.038	0.008 0.102	1.686 1.857	1.298 1.363	1257 424	897 303	0.951 0.297
Child discipline									0.982 0.449
HOUSEHOLDS									
Use of improved drinking water sources	EN.1	1.000	0.000	0.000	na	na	3839	966	1.000
Use of improved sanitation facilities	EN.5	0.983	0.016	0.016	14.330	3.786	3839	966	0.951
Net primary school attendance rate	ED.3	0.991	0.009	0.009	1.032	1.016	154	110	0.972
Net secondary school attendance rate	ED.4	0.962	0.012	0.012	1.119	1.058	410	293	0.939
Primary completion rate	ED.6 (0.900)	(*)	(*)	(*)	(*)	(*)	42	30	(*)
Child labor	CP.2	0.024	0.006	0.268	0.586	0.765	468	334	0.011
HOUSEHOLD MEMBERS									
Skilled attendant at delivery	RH.5	1.000	0.000	0.000	na	na	124	84	1.000
Antenatal care	RH.3	1.000	0.000	0.000	na	na	124	84	1.000
Contraceptive prevalence	RH.1	0.559	0.037	0.066	2.068	1.438	547	370	0.485
Adult literacy	ED.8	1.000	0.000	0.000	na	na	312	211	1.000
Marriage before age 18	CP.5	0.058	0.011	0.186	1.401	1.184	969	656	0.036
Comprehensive knowledge about HIV prevention among young people	HA.3	0.110	0.019	0.175	2.904	1.704	1126	762	0.072
Attitude towards people with HIV/AIDS	HA.5	0.074	0.021	0.289	5.052	2.248	1124	761	0.031
Women who have been tested for HIV	HA.6	0.730	0.032	0.044	3.896	1.974	1126	762	0.666
Knowledge of mother - to-child transmission of HIV	HA.4	0.625	0.029	0.047	2.748	1.658	1126	762	0.566
UNDER-5s									
Underweight prevalence	NU.1	0.021	0.014	0.684	1.902	1.379	291	189	0.000
Tuberculosis immunization coverage	CH.2	1.000	0.000	0.000	na	na	88	57	1.000
Polio immunization coverage	CH.2	1.000	0.000	0.000	na	na	88	57	1.000
Immunization coverage for DPT	CH.2	1.000	0.000	0.000	na	na	88	57	1.000
Measles immunization coverage	CH.2	1.000	0.000	0.000	na	na	88	57	1.000
Fully immunized children	CH.2	1.000	0.000	0.000	na	na	88	57	1.000
Acute respiratory infection in last two weeks	CH.6	0.005	0.005	1.003	1.007	1.003	324	211	0.000
Diarrhoea in last two weeks	CH.4	0.009	0.007	0.712	1.018	1.009	324	211	0.000
Support for learning	CD.1	0.896	0.029	0.033	1.924	1.387	324	211	0.837
Birth registration	CP.1	1.000	0.000	0.000	na	na	324	211	1.000

(*) – indicators are based on less than 50 cases of unweighted observations

na – not applicable