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Supplementary appendix

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Web Appendix (Supplementary material)

Comparisons of breast and cervical cancer stage distributions in ten newly independent states of the former Soviet Union: a population-based study

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Supplementary Table 1. Average annual female population, number of cases and truncated age-standardized rates (TASR) by cancer site in the participating cancer registries, 2013-2017.

Country / Region	Population		Female breast			Cervix		Cervix <i>in situ</i>		
	Average annual n	% 15+	n	TASR	GLOBOCAN-2020	n	TASR	GLOBOCAN-2020	n	TASR
Belarus	5,072,524	85.3	4,312	72.1	75.4	916	18.0	16.5	1,441	35.3
Georgia (2015-17)	1,938,342	82.4	1,793	87.7	83.3	338	18.2	15.4	37	2.4
Moldova (2016-17)	1,843,730	85.1	846	44.3	61.7	300	16.9	23.6	-	-
Russia, 60 regions	62,130,628	85.2	53,223	72.2	79.6	12,484	20.4	20.5	2,518	4.9
Ukraine	20,389,448	86.1	15,035	63.0	63.9	4,399	22.1	20.7	1,100	6.7
Total	91,374,672		75,209			18,437			5,096	

Abbreviations: TASR – truncated age-standardized rates; GLOBOCAN-2020¹ – truncated age-standardized rates in 2020 estimated by the IARC

Supplementary Table 2. Average annual female population, number of cases and truncated age-standardized rates (TASR) by cancer site in participating Russian subnational cancer registries, 2013-2017.

Country / Region	Population		Female breast		Cervix		Cervix <i>in situ</i>	
	Total	% 15+	n	TASR	n	TASR	n	TASR
Russia, NWFR	6,518,134	86.2	6,337	79.3	1,516	23.6	288	5.5
Russia, Arkhangelsk	629,472	84.2	499	65.7	152	29.4	72	14.7
Russia, Samara	1,739,966	86.0	1,761	81.9	346	19.7	84	5.4
Russia, Tomsk	569,044	84.2	530	87.3	179	33.5	14	2.8

Abbreviations: TASR – truncated age-standardized rates; NWFR – North-Western Federal Region

Supplementary Table 3. Number and proportion of new breast and cervix cancer patients/cases reported in official statistics by stage at diagnosis and country, 2013-2017.

Country	Stage I-II		Stage III		Stage IV		Stage unknown		Total	
	n	%	n	%	n	%	n	%	n	%
Breast (C50)										
Armenia	3,327	65.4	398	7.8	1,056	20.8	304	6.0	5,085	100.0
Azerbaijan	4,731	55.6	2,512	29.5	1,266	14.9	0	0.0	8,509	100.0
Belarus	16,286	76.8	3,450	16.3	1,300	6.1	164	0.8	21,200	100.0
Georgia	3,850	51.6	1,664	22.3	1,160	15.5	791	10.6	7,465	100.0
Kazakhstan	17,217	80.3	2,919	13.6	943	4.4	369	1.7	21,448	100.0
Kyrgyzstan	1,868	63.3	684	23.2	376	12.8	21	0.7	2,949	100.0
Moldova	2,576	62.7	760	18.5	584	14.2	186	4.5	4,106	100.0
Russia	227,550	68.8	72,974	22.1	27,272	8.3	2,733	0.8	330,529	100.0
Ukraine	53,006	76.7	9,499	13.7	5,108	7.4	1,496	2.2	69,109	100.0
Uzbekistan	7,987	55.8	4,676	32.6	1,611	11.2	52	0.4	14,326	100.0
Cervix (C53)										
Armenia	438	35.6	573	46.5	205	16.7	15	1.2	1,231	100.0
Azerbaijan	939	50.7	632	34.1	282	15.2	0	0.0	1,853	100.0
Belarus	3,116	69.9	824	18.5	461	10.3	59	1.3	4,460	100.0
Georgia	706	51.8	340	24.9	194	14.2	123	9.0	1,363	100.0
Kazakhstan	7,297	82.8	1,015	11.5	223	2.5	277	3.1	8,812	100.0
Kyrgyzstan	1,431	58.4	744	30.4	249	10.2	25	1.0	2,449	100.0
Moldova	539	43.7	551	44.7	79	6.4	65	5.3	1,234	100.0
Russia	52,137	63.8	20,387	24.9	7,636	9.3	1,575	1.9	81,735	100.0
Ukraine	16,167	78.7	2,861	13.9	922	4.5	585	2.8	20,535	100.0
Uzbekistan	4,066	56.4	2,629	36.5	472	6.6	37	0.5	7,204	100.0

Supplementary Table 4. Truncated age-standardized rates (TASR) and estimated annual percentage change (EAPC) for selected registries, breast cancer, 2008-2017.

Country / Region	Stage I				Stage II				Stage III				Stage IV				Stage Unknown			
	2008	2017	EAPC,%	p	2008	2017	EAPC	p	2008	2017	EAPC	p	2008	2017	EAPC	p	2008	2017	EAPC	p
Belarus	16.4	24.2	5	<0.0001	30.7	32.2	-1	0.1978	12.4	14.5	2	0.0001	3.1	5.0	6	0.0001	0.3	0.6	13	0.0083
Russia, 60 regions	10.5	18.8	7	<0.0001	28.2	31.0	1	0.0021	15.7	15.7	0	0.9195	5.5	5.7	0	0.1907	1.4	0.4	-15	0.0001
Russia, NWFR	11.5	24.2	9	<0.0001	26.0	34.7	2	0.0008	18.0	17.6	0	0.2534	4.5	5.6	3	0.0156	4.6	1.9	-10	0.0009
Russia, Arkhangelsk	9.7	14.8	7	0.0094	24.3	28.6	3	0.0293	15.1	16.4	1	0.5	4.4	4.8	-2	0.1894	0.7	0.4	-6	0.0474
Russia, Samara	12.5	22.4	8	0.0001	39.5	35.0	0	0.7551	17.7	20.1	1	0.4676	7.9	5.0	-5	0.0024	1.9	0.2	-27	0.0001
Russia, Tomsk	9.3	20.0	8	0.0071	29.5	42.2	4	0.0028	17.1	17.8	3	0.0786	10.2	7.0	-4	0.2414	1.7	0.5	-9	0.1795
Ukraine	8.4	13.0	5	<0.0001	35.0	34.1	0	0.637	9.9	9.7	0	0.516	5.0	5.2	0	0.356	1.2	1.4	1	0.285

Abbreviations: EAPC – estimated annual percentage change; NWFR – North-Western Federal Region

Note: If the slope coefficient of the log-liner model is significantly different from a zero gradient at p=0.05, we consider the EAPC be statistically significant (marked bold).

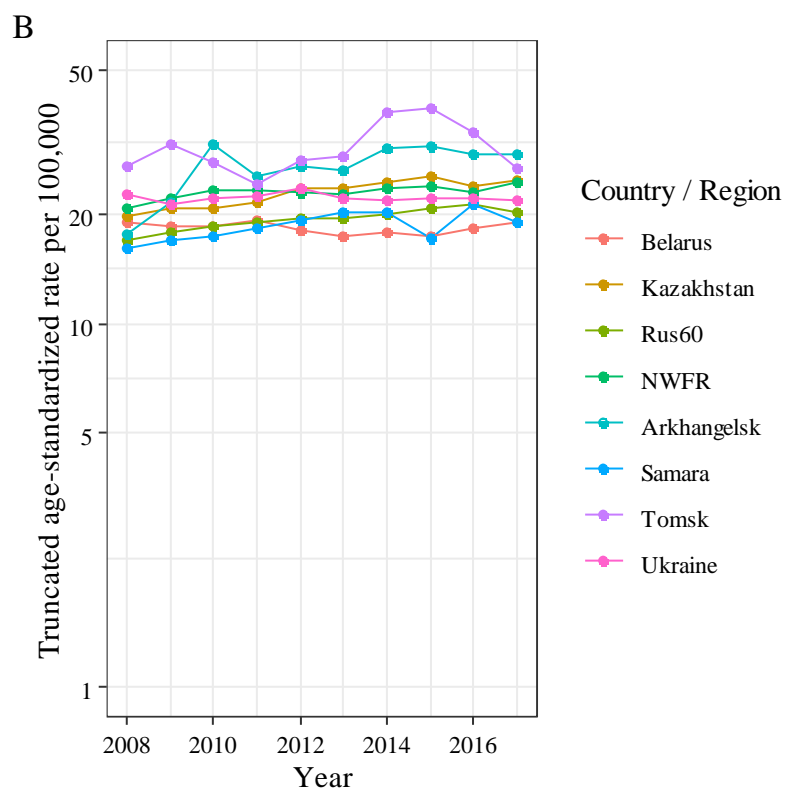
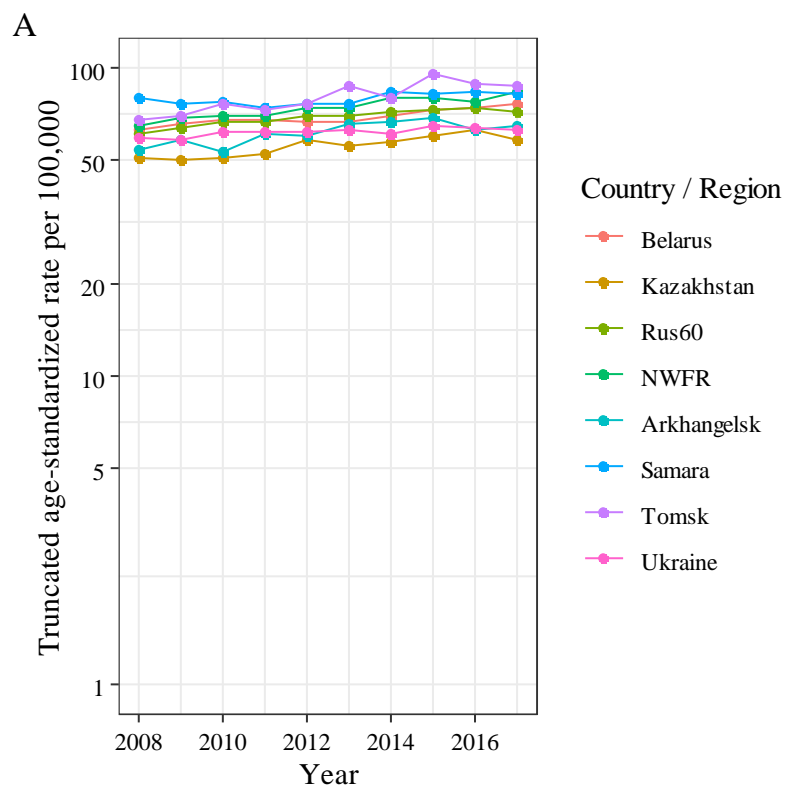
Supplementary Table 5. Truncated age-standardized rates (TASR) and estimated annual percentage change (EAPC) for selected registries, cervical cancer, 2008-2017.

Country / Region	In situ		Stage I				Stage II				Stage III				Stage IV				Stage Unknown					
	2008	2017	EAPC,%	p	2008	2017	EAPC,%	p	2008	2017	EAPC,%	p	2008	2017	EAPC,%	p	2008	2017	EAPC,%	p	2008	2017	EAPC,%	p
Belarus	20.0	42.7	8	<0.0001	7.9	7.4	-2	0.1795	6.6	5.2	-4	0.0012	2.9	4.2	5	0.0004	1.5	2.0	6	0.0042	0.2	0.2	1	0.7725
Russia, 60 regions	2.7	5.8	9	<0.0001	4.8	7.1	5	<0.0001	5.2	5.5	1	0.0522	5.0	5.3	1	0.0555	1.4	2.1	5	<0.0001	0.6	0.2	-11	0.0001
Russia, NWFR	6.8	5.9	-3	0.1431	8.0	9.8	1	0.2272	4.7	6.4	3	0.0215	5.2	5.5	1	0.434	1.5	2.1	4	0.0017	1.4	0.8	-5	0.0346
Russia, Arkhangelsk	4.0	17.2	17	0.0001	7.5	14.7	5	0.0723	4.2	6.6	4	0.0481	4.6	4.7	5	0.1502	1.1	2.7	4	0.3161	0.3	0.6	-6	0.3712
Russia, Samara	1.0	7.5	22	<0.0001	3.8	8.9	9	0.0003	6.9	5.9	0	0.7732	3.8	3.4	-3	0.1842	1.0	0.8	-2	0.4377	0.7	0.1	-	-
Russia, Tomsk	2.3	3.6	3	0.6086	7.7	9.0	5	0.2308	6.1	3.9	-1	0.8657	11.4	9.9	-1	0.5051	1.0	3.5	18	0.0153	1.0	0.7	-14	0.2142
Ukraine	6.1	6.9	2	0.0008	9.2	9.7	1	0.197	8.6	7.0	-2	0.0235	3.6	3.4	0	0.8980	0.9	1.2	3	0.0014	0.5	0.7	2	0.221

Abbreviations: EAPC, estimated annual percentage change; NWFR – North-Western Federal Region

Note: If the slope coefficient of the log-liner model is significantly different from a zero gradient at p=0.05, we consider the EAPC be statistically significant (marked bold).

Supplementary Figure 1. Trends in truncated age-standardised cancer incidence rates (TASR) of breast (A) and cervix (B) by participating PBCRs, 2008-2017



Legend: TASR – truncated age-standardized rates (World Standard Population); PBCR – population-based cancer registry; Rus60 – 60 regions of Russia combined; NWFR – North-Western Federal Region

References

- 1 Sung H, Ferlay J, Siegel RL, Laversanne M, Soerjomataram I, Jemal A, Bray F. Global Cancer Statistics 2020: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. *CA Cancer J Clin*, in press.