

## Chemotherapy agents - Alkylating agents (including Platinum drugs): All cancers

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			BCNU (Carmustine)		Busulfan		Carboplatin		CCNU (Lomustine)		Chlorambucil		Cis- Platinum		Cyclophos phamide		DTIC		Ifosfamide		Melphalan		Nitrogen Mustard		Procarbazine		ThioTepa		
			All cases	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
<b>Both sexes</b>	<b>All cases</b>		<b>12596</b>	<b>506</b>	<b>4.0</b>	<b>47</b>	<b>0.4</b>	<b>62</b>	<b>0.5</b>	<b>477</b>	<b>3.8</b>	<b>75</b>	<b>0.6</b>	<b>716</b>	<b>5.7</b>	<b>5659</b>	<b>45.0</b>	<b>597</b>	<b>4.7</b>	<b>181</b>	<b>1.4</b>	<b>133</b>	<b>1.1</b>	<b>773</b>	<b>6.1</b>	<b>1246</b>	<b>9.9</b>	<b>62</b>	<b>0.5</b>
	<b>Age at baseline</b>	<18	3606	104	2.9	24	0.7	34	0.9	133	3.7	6	0.2	286	7.9	1797	49.9	180	5.0	76	2.1	37	1.0	81	2.2	145	4.0	17	0.5
		18-19	1112	42	3.8	5	0.5	6	0.5	30	2.7	1	0.1	59	5.3	508	45.7	42	3.8	17	1.5	4	0.4	30	2.7	43	3.9	4	0.4
		20-24	2665	88	3.3	9	0.3	16	0.6	107	4.0	15	0.6	157	5.9	1203	45.2	142	5.3	56	2.1	10	0.4	133	5.0	203	7.6	6	0.2
		25-29	2406	137	5.7	5	0.2	5	0.2	106	4.4	13	0.5	128	5.3	1044	43.4	126	5.2	17	0.7	13	0.5	184	7.7	295	12.3	7	0.3
		30-34	1697	87	5.1	3	0.2	1	0.1	74	4.4	18	1.1	74	4.4	733	43.3	78	4.6	12	0.7	33	1.9	183	10.8	311	18.4	12	0.7
		35+	1110	48	4.4	1	0.1	.	.	27	2.4	22	2.0	12	1.1	374	33.9	29	2.6	3	0.3	36	3.3	162	14.7	249	22.6	16	1.5
	<b>Years since diagnosis</b>	5-9	1932	99	5.1	25	1.3	38	2.0	140	7.3	17	0.9	290	15.0	1067	55.3	173	9.0	107	5.5	31	1.6	124	6.4	209	10.8	29	1.5
		10-14	4649	152	3.3	19	0.4	21	0.5	162	3.5	11	0.2	329	7.1	2241	48.2	268	5.8	63	1.4	37	0.8	245	5.3	419	9.0	11	0.2
		15-19	3456	143	4.1	3	0.1	3	0.1	126	3.7	17	0.5	90	2.6	1391	40.3	121	3.5	10	0.3	33	1.0	240	7.0	357	10.3	11	0.3
		20+	2559	112	4.4	.	.	.	.	49	1.9	30	1.2	7	0.3	960	37.6	35	1.4	1	0.0	32	1.3	164	6.4	261	10.2	11	0.4
	<b>Age at diagnosis</b>	<1	882	9	1.0	3	0.3	7	0.8	19	2.2	.	.	55	6.2	381	43.2	79	9.0	4	0.5	10	1.1	21	2.4	22	2.5	.	.
		1-4	4186	129	3.1	14	0.3	19	0.5	84	2.0	8	0.2	168	4.0	1828	43.7	112	2.7	51	1.2	22	0.5	71	1.7	95	2.3	9	0.2
		5-9	2777	125	4.5	8	0.3	12	0.4	136	4.9	15	0.5	129	4.7	1299	46.8	79	2.8	40	1.4	16	0.6	109	3.9	208	7.5	8	0.3
		10-14	2531	127	5.0	14	0.6	12	0.5	122	4.8	21	0.8	186	7.4	1243	49.2	142	5.6	40	1.6	24	1.0	255	10.1	427	16.9	11	0.4
		15-20	2220	116	5.2	8	0.4	12	0.5	116	5.2	31	1.4	178	8.0	908	41.0	185	8.4	46	2.1	61	2.8	317	14.3	494	22.3	34	1.5
	<b>Treatment</b>	Chemotherapy, no radiation	3091	129	4.2	11	0.4	9	0.3	39	1.3	5	0.2	301	9.7	1762	57.0	148	4.8	39	1.3	45	1.5	81	2.6	105	3.4	6	0.2
		Chemotherapy and radiation	7024	376	5.4	36	0.5	53	0.8	438	6.2	70	1.0	413	5.9	3885	55.3	449	6.4	141	2.0	88	1.3	692	9.9	1141	16.2	56	0.8
<b>Males</b>	<b>All cases</b>		<b>6650</b>	<b>309</b>	<b>4.7</b>	<b>24</b>	<b>0.4</b>	<b>32</b>	<b>0.5</b>	<b>296</b>	<b>4.5</b>	<b>36</b>	<b>0.5</b>	<b>395</b>	<b>5.9</b>	<b>3130</b>	<b>47.1</b>	<b>337</b>	<b>5.1</b>	<b>111</b>	<b>1.7</b>	<b>63</b>	<b>0.9</b>	<b>440</b>	<b>6.6</b>	<b>694</b>	<b>10.5</b>	<b>33</b>	<b>0.5</b>
	<b>Age at baseline</b>	<18	1919	61	3.2	11	0.6	18	0.9	89	4.6	5	0.3	160	8.3	1021	53.2	100	5.2	47	2.5	13	0.7	45	2.3	98	5.1	9	0.5
		18-19	606	30	5.0	2	0.3	3	0.5	19	3.1	.	.	34	5.6	304	50.2	30	5.0	12	2.0	2	0.3	22	3.6	30	5.0	1	0.2
		20-24	1380	47	3.4	5	0.4	7	0.5	67	4.9	10	0.7	75	5.4	624	45.3	82	6.0	30	2.2	5	0.4	82	6.0	123	8.9	2	0.1
		25-29	1331	93	7.0	4	0.3	4	0.3	67	5.0	4	0.3	74	5.6	594	44.7	62	4.7	12	0.9	7	0.5	109	8.2	177	13.3	6	0.5
		30-34	886	58	6.6	2	0.2	.	.	40	4.5	7	0.8	45	5.1	404	45.6	49	5.5	10	1.1	18	2.0	96	10.8	150	16.9	9	1.0
		35+	528	20	3.8	.	.	.	.	14	2.7	10	1.9	7	1.3	183	34.9	14	2.7	.	.	18	3.4	86	16.4	116	22.1	6	1.1
	<b>Years since diagnosis</b>	5-9	1073	62	5.8	11	1.0	15	1.4	91	8.5	11	1.0	161	15.0	638	59.5	98	9.1	62	5.8	13	1.2	76	7.1	130	12.1	14	1.3
		10-14	2495	93	3.7	12	0.5	14	0.6	105	4.2	4	0.2	186	7.5	1248	50.1	149	6.0	44	1.8	20	0.8	134	5.4	236	9.5	8	0.3
		15-19	1764	87	4.9	1	0.1	3	0.2	75	4.3	7	0.4	45	2.6	737	41.9	70	4.0	4	0.2	16	0.9	137	7.8	199	11.3	5	0.3
		20+	1318	67	5.1	.	.	.	.	25	1.9	14	1.1	3	0.2	507	38.6	20	1.5	1	0.1	14	1.1	93	7.1	129	9.8	6	0.5
	<b>Age at diagnosis</b>	<1	446	5	1.1	1	0.2	4	0.9	12	2.7	.	.	24	5.4	188	42.2	40	9.0	1	0.2	2	0.4	8	1.8	13	2.9	.	.

		1-4	2174	75	3.4	6	0.3	10	0.5	53	2.4	6	0.3	90	4.1	1029	47.3	62	2.9	34	1.6	10	0.5	43	2.0	60	2.8	7	0.3
		5-9	1548	84	5.4	6	0.4	7	0.5	92	6.0	6	0.4	79	5.1	759	49.1	55	3.6	26	1.7	5	0.3	76	4.9	149	9.6	1	0.1
		10-14	1315	84	6.4	6	0.5	7	0.5	70	5.3	10	0.8	93	7.1	642	48.9	82	6.3	24	1.8	10	0.8	146	11.1	222	16.9	5	0.4
		15-20	1167	61	5.2	5	0.4	4	0.3	69	5.9	14	1.2	109	9.4	512	44.0	98	8.4	26	2.2	36	3.1	167	14.4	250	21.5	20	1.7
	<b>Treatment</b>	Chemotherapy, no radiation	1570	71	4.5	5	0.3	4	0.3	23	1.5	2	0.1	140	8.9	928	59.1	74	4.7	23	1.5	19	1.2	40	2.5	55	3.5	2	0.1
		Chemotherapy and radiation	3810	237	6.2	19	0.5	28	0.7	273	7.2	34	0.9	253	6.6	2197	57.7	263	6.9	87	2.3	44	1.2	400	10.5	639	16.8	31	0.8
<b>Females</b>	<b>All cases</b>		<b>5946</b>	<b>197</b>	<b>3.3</b>	<b>23</b>	<b>0.4</b>	<b>30</b>	<b>0.5</b>	<b>181</b>	<b>3.0</b>	<b>39</b>	<b>0.7</b>	<b>321</b>	<b>5.4</b>	<b>2529</b>	<b>42.6</b>	<b>260</b>	<b>4.4</b>	<b>70</b>	<b>1.2</b>	<b>70</b>	<b>1.2</b>	<b>333</b>	<b>5.6</b>	<b>552</b>	<b>9.3</b>	<b>29</b>	<b>0.5</b>
	<b>Age at baseline</b>	<18	1687	43	2.6	13	0.8	16	0.9	44	2.6	1	0.1	126	7.5	776	46.0	80	4.7	29	1.7	24	1.4	36	2.1	47	2.8	8	0.5
		18-19	506	12	2.4	3	0.6	3	0.6	11	2.2	1	0.2	25	5.0	204	40.4	12	2.4	5	1.0	2	0.4	8	1.6	13	2.6	3	0.6
		20-24	1285	41	3.2	4	0.3	9	0.7	40	3.1	5	0.4	82	6.4	579	45.1	60	4.7	26	2.0	5	0.4	51	4.0	80	6.2	4	0.3
		25-29	1075	44	4.1	1	0.1	1	0.1	39	3.6	9	0.8	54	5.0	450	41.9	64	6.0	5	0.5	6	0.6	75	7.0	118	11.0	1	0.1
		30-34	811	29	3.6	1	0.1	1	0.1	34	4.2	11	1.4	29	3.6	329	40.7	29	3.6	2	0.2	15	1.9	87	10.8	161	19.9	3	0.4
		35+	582	28	4.8	1	0.2	.	.	13	2.2	12	2.1	5	0.9	191	33.0	15	2.6	3	0.5	18	3.1	76	13.1	133	23.0	10	1.7
	<b>Years since diagnosis</b>	5-9	859	37	4.3	14	1.6	23	2.7	49	5.7	6	0.7	129	15.0	429	50.0	75	8.7	45	5.2	18	2.1	48	5.6	79	9.2	15	1.7
		10-14	2154	59	2.7	7	0.3	7	0.3	57	2.6	7	0.3	143	6.6	993	46.1	119	5.5	19	0.9	17	0.8	111	5.2	183	8.5	3	0.1
		15-19	1692	56	3.3	2	0.1	.	.	51	3.0	10	0.6	45	2.7	654	38.7	51	3.0	6	0.4	17	1.0	103	6.1	158	9.3	6	0.4
		20+	1241	45	3.6	.	.	.	.	24	1.9	16	1.3	4	0.3	453	36.6	15	1.2	.	.	18	1.5	71	5.7	132	10.7	5	0.4
	<b>Age at diagnosis</b>	<1	436	4	0.9	2	0.5	3	0.7	7	1.6	.	.	31	7.1	193	44.3	39	8.9	3	0.7	8	1.8	13	3.0	9	2.1	.	.
		1-4	2012	54	2.7	8	0.4	9	0.4	31	1.5	2	0.1	78	3.9	799	39.7	50	2.5	17	0.8	12	0.6	28	1.4	35	1.7	2	0.1
		5-9	1229	41	3.3	2	0.2	5	0.4	44	3.6	9	0.7	50	4.1	540	44.0	24	2.0	14	1.1	11	0.9	33	2.7	59	4.8	7	0.6
		10-14	1216	43	3.5	8	0.7	5	0.4	52	4.3	11	0.9	93	7.7	601	49.5	60	4.9	16	1.3	14	1.2	109	9.0	205	16.9	6	0.5
		15-20	1053	55	5.2	3	0.3	8	0.8	47	4.5	17	1.6	69	6.6	396	37.8	87	8.3	20	1.9	25	2.4	150	14.3	244	23.3	14	1.3
	<b>Treatment</b>	Chemotherapy, no radiation	1521	58	3.8	6	0.4	5	0.3	16	1.1	3	0.2	161	10.6	834	54.8	74	4.9	16	1.1	26	1.7	41	2.7	50	3.3	4	0.3
		Chemotherapy and radiation	3214	139	4.3	17	0.5	25	0.8	165	5.1	36	1.1	160	5.0	1688	52.5	186	5.8	54	1.7	44	1.4	292	9.1	502	15.6	25	0.8

CCSS data from February 2006 data freeze-all % based on denominator with non-missing values

Data for patients with medical records abstraction

Chemotherapy initiated more than 5 years post-diagnosis is not included.

## Chemotherapy agents - Alkylating agents (including Platinum drugs): All leukemias

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			BCNU (Carmustine)		Busulfan		Carboplatin		CCNU (Lomustine)		Chlorambucil		Cis-Platinum		Cyclophosphamide		DTIC		Ifosfamide		Melphalan		Nitrogen Mustard		Procarbazine		ThioTepa		
			All cases	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
<b>Both sexes</b>	<b>All cases</b>		4276	196	4.6	39	0.9	4	0.1	16	0.4	1	0.0	8	0.2	2363	55.3	4	0.1	27	0.6	4	0.1	7	0.2	2	0.0	15	0.4
	<b>Age at baseline</b>	<18	1636	60	3.7	20	1.2	2	0.1	11	0.7	1	0.1	6	0.4	1057	64.6	.	.	19	1.2	.	.	1	0.1	.	.	11	0.7
		18-19	503	12	2.4	4	0.8	2	0.4	3	0.6	.	.	1	0.2	250	49.7	.	.	4	0.8	1	0.2	2	0.4	.	.	2	0.4
		20-24	999	31	3.1	8	0.8	.	.	1	0.1	.	.	.	.	476	47.6	3	0.3	3	0.3	1	0.1	.	.	1	0.1	.	.
		25-29	714	61	8.5	4	0.6	.	.	.	.	.	.	1	0.1	359	50.3	.	.	.	.	.	.	3	0.4	.	.	1	0.1
		30-34	309	19	6.1	2	0.6	.	.	1	0.3	.	.	.	.	159	51.5	.	.	1	0.3	2	0.6	1	0.3	.	.	.	.
		35+	115	13	11.3	1	0.9	.	.	.	.	.	.	.	.	62	53.9	1	0.9	.	.	.	.	.	.	1	0.9	1	0.9
	<b>Years since diagnosis</b>	5-9	784	39	5.0	22	2.8	1	0.1	4	0.5	1	0.1	2	0.3	537	68.5	.	.	13	1.7	2	0.3	2	0.3	.	.	9	1.1
		10-14	1679	57	3.4	14	0.8	2	0.1	10	0.6	.	.	5	0.3	1080	64.3	1	0.1	12	0.7	.	.	2	0.1	.	.	4	0.2
		15-19	1096	39	3.6	3	0.3	1	0.1	2	0.2	.	.	1	0.1	441	40.2	1	0.1	2	0.2	2	0.2	1	0.1	1	0.1	1	0.1
		20+	717	61	8.5	.	.	.	.	.	.	.	.	.	.	305	42.5	2	0.3	.	.	.	.	2	0.3	1	0.1	1	0.1
	<b>Age at diagnosis</b>	<1	87	4	4.6	2	2.3	1	1.1	1	1.1	.	.	.	.	54	62.1	.	.	.	.	.	.	.	.	1	1.1	.	.
		1-4	2204	86	3.9	12	0.5	2	0.1	8	0.4	1	0.0	6	0.3	1145	52.0	1	0.0	14	0.6	.	.	1	0.0	.	.	8	0.4
		5-9	1109	45	4.1	7	0.6	1	0.1	5	0.5	.	.	1	0.1	599	54.0	2	0.2	6	0.5	.	.	3	0.3	.	.	4	0.4
		10-14	592	37	6.3	12	2.0	.	.	2	0.3	.	.	1	0.2	379	64.0	.	.	4	0.7	2	0.3	3	0.5	.	.	2	0.3
		15-20	284	24	8.5	6	2.1	.	.	.	.	.	.	.	.	186	65.5	1	0.4	3	1.1	2	0.7	.	.	1	0.4	1	0.4
	<b>Treatment</b>	Chemotherapy, no radiation	1302	69	5.3	11	0.8	.	.	2	0.2	.	.	4	0.3	676	51.9	1	0.1	4	0.3	1	0.1	1	0.1	1	0.1	1	0.1
		Chemotherapy and radiation	2955	127	4.3	28	0.9	4	0.1	14	0.5	1	0.0	4	0.1	1680	56.9	3	0.1	23	0.8	3	0.1	6	0.2	1	0.0	14	0.5
<b>Males</b>	<b>All cases</b>		2221	110	5.0	19	0.9	3	0.1	9	0.4	1	0.0	6	0.3	1284	57.8	2	0.1	19	0.9	2	0.1	5	0.2	.	.	8	0.4
	<b>Age at baseline</b>	<18	882	34	3.9	9	1.0	1	0.1	7	0.8	1	0.1	4	0.5	599	67.9	.	.	13	1.5	.	.	1	0.1	.	.	7	0.8
		18-19	268	8	3.0	2	0.7	2	0.7	2	0.7	.	.	1	0.4	147	54.9	.	.	4	1.5	.	.	2	0.7	.	.	1	0.4
		20-24	485	13	2.7	4	0.8	.	.	.	.	.	.	.	.	232	47.8	1	0.2	1	0.2	1	0.2	.	.	.	.	.	.
		25-29	383	39	10.2	3	0.8	.	.	.	.	.	.	1	0.3	197	51.4	.	.	.	.	.	.	1	0.3	.	.	.	.
		30-34	153	13	8.5	1	0.7	.	.	.	.	.	.	.	.	83	54.2	.	.	1	0.7	1	0.7	1	0.7	.	.	.	.
		35+	50	3	6.0	.	.	.	.	.	.	.	.	.	.	26	52.0	1	2.0	.	.	.	.	.	.	.	.	.	.
	<b>Years since diagnosis</b>	5-9	441	25	5.7	10	2.3	1	0.2	4	0.9	1	0.2	1	0.2	325	73.7	.	.	10	2.3	1	0.2	2	0.5	.	.	5	1.1
		10-14	888	32	3.6	8	0.9	1	0.1	5	0.6	.	.	4	0.5	577	65.0	1	0.1	8	0.9	.	.	2	0.2	.	.	3	0.3
		15-19	534	19	3.6	1	0.2	1	0.2	.	.	.	.	1	0.2	229	42.9	.	.	1	0.2	1	0.2	.	.	.	.	.	.
		20+	358	34	9.5	.	.	.	.	.	.	.	.	.	.	153	42.7	1	0.3	.	.	.	.	1	0.3	.	.	.	.



### Chemotherapy agents - Alkylating agents (including Platinum drugs): ALL

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			BCNU (Carmustine)		Busulfan		Carboplatin		CCNU (Lomustine)		Chlorambucil		Cis-Platinum		Cyclophosphamide		DTIC		Ifosfamide		Melphalan		Nitrogen Mustard		Procarbazine		ThioTepa		
			All cases	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
<b>Both sexes</b>	<b>All cases</b>		<b>3657</b>	<b>151</b>	<b>4.1</b>	<b>10</b>	<b>0.3</b>	<b>4</b>	<b>0.1</b>	<b>15</b>	<b>0.4</b>	<b>1</b>	<b>0.0</b>	<b>4</b>	<b>0.1</b>	<b>1986</b>	<b>54.3</b>	<b>1</b>	<b>0.0</b>	<b>24</b>	<b>0.7</b>	<b>1</b>	<b>0.0</b>	<b>5</b>	<b>0.1</b>	<b>1</b>	<b>0.0</b>	<b>11</b>	<b>0.3</b>
	<b>Age at baseline</b>	<18	1428	43	3.0	8	0.6	2	0.1	10	0.7	1	0.1	2	0.1	917	64.2	.	.	16	1.1	.	.	.	.	.	.	9	0.6
		18-19	436	8	1.8	1	0.2	2	0.5	3	0.7	.	.	1	0.2	214	49.1	.	.	4	0.9	.	.	2	0.5	.	.	1	0.2
		20-24	863	23	2.7	1	0.1	.	.	1	0.1	.	.	.	.	400	46.3	1	0.1	3	0.3	.	.	.	.	.	.	.	.
		25-29	600	53	8.8	.	.	.	.	.	.	.	.	1	0.2	293	48.8	.	.	.	.	.	.	2	0.3	.	.	1	0.2
		30-34	248	14	5.6	.	.	.	.	1	0.4	.	.	.	.	119	48.0	.	.	1	0.4	1	0.4	1	0.4	.	.	.	.
		35+	82	10	12.2	.	.	.	.	.	.	.	.	.	.	43	52.4	.	.	.	.	.	.	.	.	1	1.2	.	.
	<b>Years since diagnosis</b>	5-9	649	34	5.2	6	0.9	1	0.2	4	0.6	1	0.2	.	.	446	68.7	.	.	12	1.8	.	.	1	0.2	.	.	8	1.2
		10-14	1456	38	2.6	4	0.3	2	0.1	10	0.7	.	.	3	0.2	931	63.9	.	.	10	0.7	.	.	2	0.1	.	.	2	0.1
		15-19	937	28	3.0	.	.	1	0.1	1	0.1	.	.	1	0.1	357	38.1	1	0.1	2	0.2	1	0.1	.	.	1	0.1	.	.
		20+	615	51	8.3	.	.	.	.	.	.	.	.	.	.	252	41.0	.	.	.	.	.	.	2	0.3	.	.	1	0.2
	<b>Age at diagnosis</b>	<1	51	2	3.9	.	.	1	2.0	1	2.0	.	.	.	.	30	58.8	.	.	.	.	.	.	.	.	.	.	.	.
		1-4	1949	61	3.1	5	0.3	2	0.1	7	0.4	1	0.1	2	0.1	1003	51.5	.	.	12	0.6	.	.	.	.	.	.	7	0.4
		5-9	998	43	4.3	4	0.4	1	0.1	5	0.5	.	.	1	0.1	529	53.0	1	0.1	5	0.5	.	.	2	0.2	.	.	3	0.3
		10-14	464	27	5.8	1	0.2	.	.	2	0.4	.	.	1	0.2	294	63.4	.	.	4	0.9	.	.	3	0.6	.	.	1	0.2
		15-20	195	18	9.2	.	.	.	.	.	.	.	.	.	.	130	66.7	.	.	3	1.5	1	0.5	.	.	1	0.5	.	.
	<b>Treatment</b>	Chemotherapy, no radiation	1069	55	5.1	.	.	.	.	2	0.2	.	.	.	.	561	52.5	.	.	2	0.2	.	.	.	.	.	.	.	.
		Chemotherapy and radiation	2573	96	3.7	10	0.4	4	0.2	13	0.5	1	0.0	4	0.2	1418	55.1	1	0.0	22	0.9	1	0.0	5	0.2	1	0.0	11	0.4
<b>Males</b>	<b>All cases</b>		<b>1914</b>	<b>93</b>	<b>4.9</b>	<b>7</b>	<b>0.4</b>	<b>3</b>	<b>0.2</b>	<b>9</b>	<b>0.5</b>	<b>1</b>	<b>0.1</b>	<b>3</b>	<b>0.2</b>	<b>1095</b>	<b>57.2</b>	<b>.</b>	<b>.</b>	<b>17</b>	<b>0.9</b>	<b>.</b>	<b>.</b>	<b>4</b>	<b>0.2</b>	<b>.</b>	<b>.</b>	<b>7</b>	<b>0.4</b>
	<b>Age at baseline</b>	<18	774	29	3.7	6	0.8	1	0.1	7	0.9	1	0.1	1	0.1	524	67.7	.	.	11	1.4	.	.	.	.	.	.	6	0.8
		18-19	238	6	2.5	1	0.4	2	0.8	2	0.8	.	.	1	0.4	129	54.2	.	.	4	1.7	.	.	2	0.8	.	.	1	0.4
		20-24	418	10	2.4	.	.	.	.	.	.	.	.	.	.	192	45.9	.	.	1	0.2	.	.	.	.	.	.	.	.
		25-29	326	36	11.0	.	.	.	.	.	.	.	.	1	0.3	172	52.8	.	.	.	.	.	.	1	0.3	.	.	.	.
		30-34	121	10	8.3	.	.	.	.	.	.	.	.	.	.	60	49.6	.	.	1	0.8	.	.	1	0.8	.	.	.	.
		35+	37	2	5.4	.	.	.	.	.	.	.	.	.	.	18	48.6	.	.	.	.	.	.	.	.	.	.	.	.
	<b>Years since diagnosis</b>	5-9	366	23	6.3	5	1.4	1	0.3	4	1.1	1	0.3	.	.	271	74.0	.	.	9	2.5	.	.	1	0.3	.	.	5	1.4
		10-14	780	27	3.5	2	0.3	1	0.1	5	0.6	.	.	2	0.3	506	64.9	.	.	7	0.9	.	.	2	0.3	.	.	2	0.3
		15-19	457	13	2.8	.	.	1	0.2	.	.	.	.	1	0.2	186	40.7	.	.	1	0.2	.	.	.	.	.	.	.	.
		20+	311	30	9.6	.	.	.	.	.	.	.	.	.	.	132	42.4	.	.	.	.	.	.	1	0.3	.	.	.	.



## Chemotherapy agents - Alkylating agents (including Platinum drugs): AML

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			BCNU (Carmustine)		Busulfan		Carboplatin		CCNU (Lomustine)		Chlorambucil		Cis-Platinum		Cyclophosphamide		DTIC		Ifosfamide		Melphalan		Nitrogen Mustard		Procarbazine		ThioTepa		
			All cases	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
<b>Both sexes</b>	<b>All cases</b>		<b>322</b>	<b>29</b>	<b>9.0</b>	<b>11</b>	<b>3.4</b>	.	.	<b>1</b>	<b>0.3</b>	.	.	<b>4</b>	<b>1.2</b>	<b>222</b>	<b>68.9</b>	<b>1</b>	<b>0.3</b>	<b>2</b>	<b>0.6</b>	<b>1</b>	<b>0.3</b>	<b>1</b>	<b>0.3</b>	<b>1</b>	<b>0.3</b>	.	.
	<b>Age at baseline</b>	<18	103	12	11.7	5	4.9	.	.	1	1.0	.	.	4	3.9	74	71.8	.	.	2	1.9	.	.	.	.	.	.	.	.
		18-19	40	3	7.5	3	7.5	.	.	.	.	.	.	.	.	24	60.0	.	.	.	.	.	.	.	.	.	.	.	.
		20-24	62	3	4.8	2	3.2	.	.	.	.	.	.	.	.	42	67.7	.	.	.	.	1	1.6	.	.	1	1.6	.	.
		25-29	66	5	7.6	1	1.5	.	.	.	.	.	.	.	.	47	71.2	.	.	.	.	.	.	1	1.5	.	.	.	.
		30-34	35	4	11.4	.	.	.	.	.	.	.	.	.	.	27	77.1	.	.	.	.	.	.	.	.	.	.	.	.
		35+	16	2	12.5	.	.	.	.	.	.	.	.	.	.	8	50.0	1	6.3	.	.	.	.	.	.	.	.	.	.
	<b>Years since diagnosis</b>	5-9	70	.	.	8	11.4	.	.	.	.	.	.	2	2.9	50	71.4	.	.	1	1.4	1	1.4	.	.	.	.	.	.
		10-14	127	16	12.6	3	2.4	.	.	.	.	.	.	2	1.6	89	70.1	.	.	1	0.8	.	.	.	.	.	.	.	.
		15-19	86	6	7.0	.	.	.	.	1	1.2	.	.	.	.	55	64.0	.	.	.	.	.	.	1	1.2	.	.	.	.
		20+	39	7	17.9	.	.	.	.	.	.	.	.	.	.	28	71.8	1	2.6	.	.	.	.	.	1	2.6	.	.	
	<b>Age at diagnosis</b>	<1	28	2	7.1	2	7.1	.	.	.	.	.	.	.	.	20	71.4	.	.	.	.	.	.	.	1	3.6	.	.	
		1-4	106	17	16.0	1	0.9	.	.	1	0.9	.	.	4	3.8	70	66.0	.	.	1	0.9	.	.	.	.	.	.	.	.
		5-9	57	.	.	1	1.8	.	.	.	.	.	.	.	.	41	71.9	.	.	1	1.8	.	.	1	1.8	.	.	.	.
		10-14	74	5	6.8	5	6.8	.	.	.	.	.	.	.	.	55	74.3	.	.	.	.	.	.	.	.	.	.	.	.
		15-20	57	5	8.8	2	3.5	.	.	.	.	.	.	.	.	36	63.2	1	1.8	.	.	1	1.8	.	.	.	.	.	.
	<b>Treatment</b>	Chemotherapy, no radiation	166	12	7.2	6	3.6	.	.	.	.	.	.	4	2.4	100	60.2	.	.	2	1.2	.	.	1	0.6	1	0.6	.	.
		Chemotherapy and radiation	155	17	11.0	5	3.2	.	.	1	0.6	.	.	.	.	122	78.7	1	0.6	.	.	1	0.6	.	.	.	.	.	.
<b>Males</b>	<b>All cases</b>		<b>153</b>	<b>10</b>	<b>6.5</b>	<b>4</b>	<b>2.6</b>	.	.	.	.	.	.	<b>3</b>	<b>2.0</b>	<b>102</b>	<b>66.7</b>	<b>1</b>	<b>0.7</b>	<b>1</b>	<b>0.7</b>	<b>1</b>	<b>0.7</b>	.	.	.	.	.	
	<b>Age at baseline</b>	<18	52	3	5.8	2	3.8	.	.	.	.	.	.	3	5.8	35	67.3	.	.	1	1.9	.	.	.	.	.	.	.	.
		18-19	19	1	5.3	1	5.3	.	.	.	.	.	.	.	.	11	57.9	.	.	.	.	.	.	.	.	.	.	.	.
		20-24	32	1	3.1	1	3.1	.	.	.	.	.	.	.	.	23	71.9	.	.	.	.	1	3.1	.	.	.	.	.	.
		25-29	27	2	7.4	.	.	.	.	.	.	.	.	.	.	16	59.3	.	.	.	.	.	.	.	.	.	.	.	.
		30-34	18	2	11.1	.	.	.	.	.	.	.	.	.	.	14	77.8	.	.	.	.	.	.	.	.	.	.	.	.
		35+	5	1	20.0	.	.	.	.	.	.	.	.	.	.	3	60.0	1	20.0	.	.	.	.	.	.	.	.	.	.
	<b>Years since diagnosis</b>	5-9	41	.	.	4	9.8	.	.	.	.	.	.	1	2.4	29	70.7	.	.	1	2.4	1	2.4	.	.	.	.	.	.
		10-14	58	4	6.9	.	.	.	.	.	.	.	.	2	3.4	37	63.8	.	.	.	.	.	.	.	.	.	.	.	.
		15-19	39	3	7.7	.	.	.	.	.	.	.	.	.	.	26	66.7	.	.	.	.	.	.	.	.	.	.	.	.
		20+	15	3	20.0	.	.	.	.	.	.	.	.	.	.	10	66.7	1	6.7	.	.	.	.	.	.	.	.	.	.





## Chemotherapy agents - Alkylating agents (including Platinum drugs): All CNS

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			BCNU (Carmustine)		Busulfan		Carboplatin		CCNU (Lomustine)		Chlorambucil		Cis-Platinum		Cyclophosphamide		DTIC		Ifosfamide		Melphalan		Nitrogen Mustard		Procarbazine		ThioTepa		
			All cases	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
<b>Both sexes</b>	<b>All cases</b>		<b>1663</b>	<b>36</b>	<b>2.2</b>	.	.	<b>23</b>	<b>1.4</b>	<b>263</b>	<b>15.9</b>	.	.	<b>149</b>	<b>9.0</b>	<b>107</b>	<b>6.5</b>	<b>34</b>	<b>2.1</b>	<b>12</b>	<b>0.7</b>	<b>2</b>	<b>0.1</b>	<b>43</b>	<b>2.6</b>	<b>208</b>	<b>12.6</b>	<b>6</b>	<b>0.4</b>
	<b>Age at baseline</b>	<18	503	17	3.4	.	.	17	3.4	108	21.5	.	.	91	18.1	63	12.5	22	4.4	7	1.4	2	0.4	27	5.4	113	22.5	4	0.8
		18-19	142	3	2.1	.	.	1	0.7	21	14.9	.	.	15	10.6	11	7.8	1	0.7	2	1.4	.	.	4	2.8	16	11.3	.	.
		20-24	381	8	2.1	.	.	5	1.3	67	17.6	.	.	33	8.7	18	4.7	7	1.8	3	0.8	.	.	7	1.8	45	11.8	2	0.5
		25-29	339	5	1.5	.	.	.	.	49	14.6	.	.	10	3.0	10	3.0	4	1.2	.	.	.	.	4	1.2	28	8.3	.	.
		30-34	209	3	1.4	.	.	.	.	17	8.1	.	.	.	.	5	2.4	.	.	.	.	.	.	1	0.5	6	2.9	.	.
		35+	89	.	.	.	.	.	.	1	1.1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<b>Years since diagnosis</b>	5-9	298	16	5.4	.	.	12	4.0	92	30.9	.	.	77	25.8	50	16.8	15	5.0	8	2.7	1	0.3	12	4.0	78	26.2	6	2.0
		10-14	663	12	1.8	.	.	11	1.7	88	13.3	.	.	67	10.1	42	6.4	17	2.6	4	0.6	1	0.2	21	3.2	91	13.8	.	.
		15-19	408	6	1.5	.	.	.	.	63	15.6	.	.	5	1.2	7	1.7	2	0.5	.	.	.	.	9	2.2	30	7.4	.	.
		20+	294	2	0.7	.	.	.	.	20	6.8	.	.	.	.	8	2.7	.	.	.	.	.	.	1	0.3	9	3.1	.	.
	<b>Age at diagnosis</b>	<1	87	3	3.4	.	.	2	2.3	17	19.5	.	.	14	16.1	13	14.9	5	5.7	.	.	.	.	5	5.7	19	21.8	.	.
		1-4	485	9	1.9	.	.	9	1.9	67	13.8	.	.	42	8.7	38	7.8	6	1.2	3	0.6	1	0.2	20	4.1	64	13.2	1	0.2
		5-9	496	14	2.8	.	.	6	1.2	98	19.9	.	.	51	10.3	33	6.7	13	2.6	5	1.0	1	0.2	12	2.4	75	15.2	2	0.4
		10-14	412	5	1.2	.	.	4	1.0	59	14.4	.	.	33	8.0	17	4.1	8	2.0	3	0.7	.	.	5	1.2	36	8.8	2	0.5
		15-20	183	5	2.8	.	.	2	1.1	22	12.2	.	.	9	5.0	6	3.3	2	1.1	1	0.6	.	.	1	0.6	14	7.7	1	0.6
	<b>Treatment</b>	Chemotherapy, no radiation	29	.	.	.	.	1	3.4	10	34.5	.	.	7	24.1	4	13.8	1	3.4	.	.	.	.	4	13.8	9	31.0	.	.
		Chemotherapy and radiation	472	36	7.6	.	.	22	4.7	253	53.6	.	.	142	30.1	103	21.8	33	7.0	12	2.5	2	0.4	39	8.3	199	42.2	6	1.3
<b>Males</b>	<b>All cases</b>		<b>912</b>	<b>23</b>	<b>2.5</b>	.	.	<b>12</b>	<b>1.3</b>	<b>165</b>	<b>18.2</b>	.	.	<b>93</b>	<b>10.3</b>	<b>66</b>	<b>7.3</b>	<b>28</b>	<b>3.1</b>	<b>7</b>	<b>0.8</b>	.	.	<b>27</b>	<b>3.0</b>	<b>136</b>	<b>15.0</b>	<b>2</b>	<b>0.2</b>
	<b>Age at baseline</b>	<18	275	12	4.4	.	.	10	3.6	71	25.8	.	.	60	21.8	43	15.6	18	6.5	4	1.5	.	.	16	5.8	77	28.0	2	0.7
		18-19	79	1	1.3	.	.	.	.	11	13.9	.	.	7	8.9	4	5.1	1	1.3	1	1.3	.	.	2	2.5	8	10.1	.	.
		20-24	203	4	2.0	.	.	2	1.0	43	21.3	.	.	18	8.9	9	4.5	5	2.5	2	1.0	.	.	5	2.5	28	13.9	.	.
		25-29	192	4	2.1	.	.	.	.	31	16.3	.	.	8	4.2	7	3.7	4	2.1	.	.	.	.	3	1.6	20	10.5	.	.
		30-34	115	2	1.7	.	.	.	.	8	7.0	.	.	.	.	3	2.6	.	.	.	.	.	.	1	0.9	3	2.6	.	.
		35+	48	.	.	.	.	.	.	1	2.2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<b>Years since diagnosis</b>	5-9	169	9	5.3	.	.	4	2.4	56	33.1	.	.	48	28.4	32	18.9	11	6.5	3	1.8	.	.	8	4.7	50	29.6	2	1.2
		10-14	361	7	1.9	.	.	8	2.2	63	17.5	.	.	43	11.9	27	7.5	15	4.2	4	1.1	.	.	14	3.9	62	17.2	.	.
		15-19	226	5	2.2	.	.	.	.	36	16.1	.	.	2	0.9	3	1.3	2	0.9	.	.	.	.	4	1.8	19	8.5	.	.
		20+	156	2	1.3	.	.	.	.	10	6.5	.	.	.	.	4	2.6	.	.	.	.	.	.	1	0.6	5	3.2	.	.

	<b>Age at diagnosis</b>	<1	51	3	5.9	.	.	2	3.9	12	23.5	.	.	9	17.6	10	19.6	5	9.8	.	.	.	.	2	3.9	13	25.5	.	.
		1-4	255	5	2.0	.	.	4	1.6	42	16.5	.	.	25	9.8	22	8.6	5	2.0	2	0.8	.	.	11	4.3	40	15.7	1	0.4
		5-9	275	10	3.7	.	.	4	1.5	60	22.0	.	.	32	11.7	19	7.0	10	3.7	3	1.1	.	.	9	3.3	51	18.7	.	.
		10-14	228	4	1.8	.	.	2	0.9	38	16.7	.	.	21	9.3	11	4.8	6	2.6	2	0.9	.	.	4	1.8	23	10.1	1	0.4
		15-20	103	1	1.0	.	.	.	.	13	12.9	.	.	6	5.9	4	4.0	2	2.0	.	.	.	.	1	1.0	9	8.9	.	.
	<b>Treatment</b>	Chemotherapy, no radiation	16	.	.	.	.	.	.	5	31.3	.	.	2	12.5	2	12.5	.	.	.	.	.	.	2	12.5	5	31.3	.	.
		Chemotherapy and radiation	284	23	8.1	.	.	12	4.2	160	56.3	.	.	91	32.0	64	22.5	28	9.9	7	2.5	.	.	25	8.8	131	46.1	2	0.7
<b>Females</b>	<b>All cases</b>		<b>751</b>	<b>13</b>	<b>1.7</b>	.	.	<b>11</b>	<b>1.5</b>	<b>98</b>	<b>13.1</b>	.	.	<b>56</b>	<b>7.5</b>	<b>41</b>	<b>5.5</b>	<b>6</b>	<b>0.8</b>	<b>5</b>	<b>0.7</b>	<b>2</b>	<b>0.3</b>	<b>16</b>	<b>2.1</b>	<b>72</b>	<b>9.6</b>	<b>4</b>	<b>0.5</b>
	<b>Age at baseline</b>	<18	228	5	2.2	.	.	7	3.1	37	16.2	.	.	31	13.6	20	8.8	4	1.8	3	1.3	2	0.9	11	4.8	36	15.8	2	0.9
		18-19	63	2	3.2	.	.	1	1.6	10	16.1	.	.	8	12.9	7	11.3	.	.	1	1.6	.	.	2	3.2	8	12.9	.	.
		20-24	178	4	2.2	.	.	3	1.7	24	13.5	.	.	15	8.4	9	5.1	2	1.1	1	0.6	.	.	2	1.1	17	9.6	2	1.1
		25-29	147	1	0.7	.	.	.	.	18	12.3	.	.	2	1.4	3	2.1	.	.	.	.	.	.	1	0.7	8	5.5	.	.
		30-34	94	1	1.1	.	.	.	.	9	9.6	.	.	.	.	2	2.1	.	.	.	.	.	.	.	.	3	3.2	.	.
		35+	41	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<b>Years since diagnosis</b>	5-9	129	7	5.4	.	.	8	6.2	36	27.9	.	.	29	22.5	18	14.0	4	3.1	5	3.9	1	0.8	4	3.1	28	21.7	4	3.1
		10-14	302	5	1.7	.	.	3	1.0	25	8.3	.	.	24	8.0	15	5.0	2	0.7	.	.	1	0.3	7	2.3	29	9.6	.	.
		15-19	182	1	0.6	.	.	.	.	27	14.9	.	.	3	1.7	4	2.2	.	.	.	.	.	.	5	2.8	11	6.1	.	.
		20+	138	.	.	.	.	.	.	10	7.2	.	.	.	.	4	2.9	.	.	.	.	.	.	.	.	4	2.9	.	.
	<b>Age at diagnosis</b>	<1	36	.	.	.	.	.	.	5	13.9	.	.	5	13.9	3	8.3	.	.	.	.	.	.	3	8.3	6	16.7	.	.
		1-4	230	4	1.7	.	.	5	2.2	25	10.9	.	.	17	7.4	16	7.0	1	0.4	1	0.4	1	0.4	9	3.9	24	10.4	.	.
		5-9	221	4	1.8	.	.	2	0.9	38	17.3	.	.	19	8.6	14	6.4	3	1.4	2	0.9	1	0.5	3	1.4	24	10.9	2	0.9
		10-14	184	1	0.5	.	.	2	1.1	21	11.5	.	.	12	6.6	6	3.3	2	1.1	1	0.5	.	.	1	0.5	13	7.1	1	0.5
		15-20	80	4	5.0	.	.	2	2.5	9	11.3	.	.	3	3.8	2	2.5	.	.	1	1.3	.	.	.	.	5	6.3	1	1.3
	<b>Treatment</b>	Chemotherapy, no radiation	13	.	.	.	.	1	7.7	5	38.5	.	.	5	38.5	2	15.4	1	7.7	.	.	.	.	2	15.4	4	30.8	.	.
		Chemotherapy and radiation	188	13	6.9	.	.	10	5.3	93	49.5	.	.	51	27.1	39	20.7	5	2.7	5	2.7	2	1.1	14	7.4	68	36.2	4	2.1

CCSS data from February 2006 data freeze-all % based on denominator with non-missing values

Data for patients with medical records abstraction

Chemotherapy initiated more than 5 years post-diagnosis is not included.

### Chemotherapy agents - Alkylating agents (including Platinum drugs): Astrocytomas

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			BCNU (Carmustine)		Busulfan		Carboplatin		CCNU (Lomustine)		Chlorambucil		Cis-Platinum		Cyclophosphamide		DTIC		Ifosfamide		Melfhalan		Nitrogen Mustard		Procarbazine		ThioTepa		
			All cases	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
<b>Both sexes</b>	<b>All cases</b>		1055	17	1.6	.	.	7	0.7	110	10.5	.	.	40	3.8	13	1.2	29	2.8	2	0.2	1	0.1	12	1.1	77	7.3	.	.
	<b>Age at baseline</b>	<18	305	6	2.0	.	.	7	2.3	41	13.4	.	.	26	8.5	10	3.3	19	6.2	.	.	1	0.3	8	2.6	41	13.4	.	.
		18-19	89	1	1.1	.	.	.	.	7	7.9	.	.	2	2.2	.	.	1	1.1	1	1.1	.	.	2	2.2	5	5.6	.	.
		20-24	247	4	1.6	.	.	.	.	29	11.8	.	.	9	3.7	2	0.8	6	2.4	1	0.4	.	.	2	0.8	14	5.7	.	.
		25-29	217	3	1.4	.	.	.	.	20	9.3	.	.	3	1.4	1	0.5	3	1.4	.	.	.	.	.	.	14	6.5	.	.
		30-34	135	3	2.2	.	.	.	.	12	8.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	2.2	.	.
		35+	62	.	.	.	.	.	.	1	1.6	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<b>Years since diagnosis</b>	5-9	164	6	3.7	.	.	1	0.6	33	20.1	.	.	18	11.0	4	2.4	13	7.9	2	1.2	1	0.6	2	1.2	22	13.4	.	.
		10-14	427	6	1.4	.	.	6	1.4	44	10.3	.	.	21	4.9	6	1.4	14	3.3	.	.	.	.	6	1.4	38	8.9	.	.
		15-19	247	3	1.2	.	.	.	.	20	8.1	.	.	1	0.4	2	0.8	2	0.8	.	.	.	.	4	1.6	12	4.9	.	.
		20+	217	2	0.9	.	.	.	.	13	6.0	.	.	.	.	1	0.5	.	.	.	.	.	.	.	.	5	2.3	.	.
	<b>Age at diagnosis</b>	<1	62	2	3.2	.	.	2	3.2	11	17.7	.	.	8	12.9	5	8.1	5	8.1	.	.	.	.	4	6.5	13	21.0	.	.
		1-4	325	3	0.9	.	.	4	1.2	22	6.8	.	.	7	2.2	5	1.5	4	1.2	.	.	.	.	7	2.2	19	5.8	.	.
		5-9	295	6	2.0	.	.	1	0.3	38	13.0	.	.	13	4.4	2	0.7	12	4.1	.	.	1	0.3	.	.	26	8.9	.	.
		10-14	262	1	0.4	.	.	.	.	29	11.1	.	.	10	3.8	1	0.4	7	2.7	2	0.8	.	.	1	0.4	14	5.4	.	.
		15-20	111	5	4.5	.	.	.	.	10	9.1	.	.	2	1.8	.	.	1	0.9	.	.	.	.	.	.	5	4.5	.	.
	<b>Treatment</b>	Chemotherapy, no radiation	17	.	.	.	.	1	5.9	5	29.4	.	.	2	11.8	.	.	1	5.9	.	.	.	.	2	11.8	4	23.5	.	.
		Chemotherapy and radiation	200	17	8.5	.	.	6	3.0	105	52.5	.	.	38	19.0	13	6.5	28	14.0	2	1.0	1	0.5	10	5.0	73	36.5	.	.
<b>Males</b>	<b>All cases</b>		561	9	1.6	.	.	5	0.9	75	13.5	.	.	30	5.4	12	2.2	24	4.3	1	0.2	.	.	5	0.9	55	9.9	.	.
	<b>Age at baseline</b>	<18	161	4	2.5	.	.	5	3.1	31	19.3	.	.	21	13.0	10	6.2	16	9.9	.	.	.	.	4	2.5	32	19.9	.	.
		18-19	51	.	.	.	.	.	.	5	9.8	.	.	1	2.0	.	.	1	2.0	.	.	.	.	.	.	3	5.9	.	.
		20-24	121	1	0.8	.	.	.	.	19	15.8	.	.	5	4.2	1	0.8	4	3.3	1	0.8	.	.	1	0.8	8	6.7	.	.
		25-29	128	2	1.6	.	.	.	.	15	11.9	.	.	3	2.4	1	0.8	3	2.4	.	.	.	.	.	.	11	8.7	.	.
		30-34	68	2	2.9	.	.	.	.	4	5.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	1.5	.	.
		35+	32	.	.	.	.	.	.	1	3.2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<b>Years since diagnosis</b>	5-9	90	2	2.2	.	.	.	.	20	22.2	.	.	13	14.4	4	4.4	10	11.1	1	1.1	.	.	1	1.1	15	16.7	.	.
		10-14	230	3	1.3	.	.	5	2.2	37	16.2	.	.	16	7.0	6	2.6	12	5.2	.	.	.	.	4	1.7	30	13.1	.	.
		15-19	127	2	1.6	.	.	.	.	11	8.7	.	.	1	0.8	2	1.6	2	1.6	.	.	.	.	.	.	8	6.3	.	.
		20+	114	2	1.8	.	.	.	.	7	6.3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	1.8	.	.

	<b>Age at diagnosis</b>	<1	33	2	6.1	.	.	2	6.1	8	24.2	.	.	6	18.2	5	15.2	5	15.2	.	.	.	.	1	3.0	9	27.3	.	.
		1-4	169	2	1.2	.	.	2	1.2	18	10.7	.	.	7	4.1	4	2.4	4	2.4	.	.	.	.	3	1.8	14	8.3	.	.
		5-9	158	3	1.9	.	.	1	0.6	26	16.7	.	.	9	5.8	2	1.3	9	5.8	.	.	.	.	.	.	20	12.8	.	.
		10-14	140	1	0.7	.	.	.	.	18	12.9	.	.	7	5.0	1	0.7	5	3.6	1	0.7	.	.	1	0.7	9	6.5	.	.
		15-20	61	1	1.7	.	.	.	.	5	8.3	.	.	1	1.7	.	.	1	1.7	.	.	.	.	.	.	3	5.0	.	.
	<b>Treatment</b>	Chemotherapy, no radiation	8	.	.	.	.	.	.	2	25.0	.	.	.	.	.	.	.	.	.	.	.	.	1	12.5	2	25.0	.	.
		Chemotherapy and radiation	122	9	7.4	.	.	5	4.1	73	59.8	.	.	30	24.6	12	9.8	24	19.7	1	0.8	.	.	4	3.3	53	43.4	.	.
<b>Females</b>	<b>All cases</b>		<b>494</b>	<b>8</b>	<b>1.6</b>	.	.	<b>2</b>	<b>0.4</b>	<b>35</b>	<b>7.1</b>	.	.	<b>10</b>	<b>2.0</b>	<b>1</b>	<b>0.2</b>	<b>5</b>	<b>1.0</b>	<b>1</b>	<b>0.2</b>	<b>1</b>	<b>0.2</b>	<b>7</b>	<b>1.4</b>	<b>22</b>	<b>4.5</b>	.	.
	<b>Age at baseline</b>	<18	144	2	1.4	.	.	2	1.4	10	6.9	.	.	5	3.5	.	.	3	2.1	.	.	1	0.7	4	2.8	9	6.3	.	.
		18-19	38	1	2.6	.	.	.	.	2	5.3	.	.	1	2.6	.	.	.	.	1	2.6	.	.	2	5.3	2	5.3	.	.
		20-24	126	3	2.4	.	.	.	.	10	7.9	.	.	4	3.2	1	0.8	2	1.6	.	.	.	.	1	0.8	6	4.8	.	.
		25-29	89	1	1.1	.	.	.	.	5	5.6	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	3.4	.	.
		30-34	67	1	1.5	.	.	.	.	8	11.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	3.0	.	.
		35+	30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<b>Years since diagnosis</b>	5-9	74	4	5.4	.	.	1	1.4	13	17.6	.	.	5	6.8	.	.	3	4.1	1	1.4	1	1.4	1	1.4	7	9.5	.	.
		10-14	197	3	1.5	.	.	1	0.5	7	3.6	.	.	5	2.5	.	.	2	1.0	.	.	.	.	2	1.0	8	4.1	.	.
		15-19	120	1	0.8	.	.	.	.	9	7.5	.	.	.	.	.	.	.	.	.	.	.	.	4	3.3	4	3.3	.	.
		20+	103	.	.	.	.	.	.	6	5.8	.	.	.	.	1	1.0	.	.	.	.	.	.	.	.	3	2.9	.	.
	<b>Age at diagnosis</b>	<1	29	.	.	.	.	.	.	3	10.3	.	.	2	6.9	.	.	.	.	.	.	.	.	3	10.3	4	13.8	.	.
		1-4	156	1	0.6	.	.	2	1.3	4	2.6	.	.	.	.	1	0.6	.	.	.	.	.	.	4	2.6	5	3.2	.	.
		5-9	137	3	2.2	.	.	.	.	12	8.8	.	.	4	2.9	.	.	3	2.2	.	.	1	0.7	.	.	6	4.4	.	.
		10-14	122	.	.	.	.	.	.	11	9.0	.	.	3	2.5	.	.	2	1.6	1	0.8	.	.	.	.	5	4.1	.	.
		15-20	50	4	8.0	.	.	.	.	5	10.0	.	.	1	2.0	.	.	.	.	.	.	.	.	.	.	2	4.0	.	.
	<b>Treatment</b>	Chemotherapy, no radiation	9	.	.	.	.	1	11.1	3	33.3	.	.	2	22.2	.	.	1	11.1	.	.	.	.	1	11.1	2	22.2	.	.
		Chemotherapy and radiation	78	8	10.3	.	.	1	1.3	32	41.0	.	.	8	10.3	1	1.3	4	5.1	1	1.3	1	1.3	6	7.7	20	25.6	.	.

CCSS data from February 2006 data freeze-all % based on denominator with non-missing values

Data for patients with medical records abstraction

Chemotherapy initiated more than 5 years post-diagnosis is not included.

## Chemotherapy agents - Alkylating agents (including Platinum drugs): Medulloblastoma/PNET

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			BCNU (Carmustine)		Busulfan		Carboplatin		CCNU (Lomustine)		Chlorambucil		Cis-Platinum		Cyclophosphamide		DTIC		Ifosfamide		Melphalan		Nitrogen Mustard		Procarbazine		ThioTepa		
			All cases	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
<b>Both sexes</b>	<b>All cases</b>		<b>344</b>	<b>16</b>	<b>4.7</b>	.	.	<b>9</b>	<b>2.6</b>	<b>114</b>	<b>33.3</b>	.	.	<b>75</b>	<b>21.9</b>	<b>66</b>	<b>19.3</b>	<b>3</b>	<b>0.9</b>	<b>7</b>	<b>2.0</b>	<b>1</b>	<b>0.3</b>	<b>25</b>	<b>7.3</b>	<b>101</b>	<b>29.5</b>	<b>2</b>	<b>0.6</b>
	<b>Age at baseline</b>	<18	123	9	7.3	.	.	6	4.9	48	39.0	.	.	48	39.0	37	30.1	2	1.6	5	4.1	1	0.8	13	10.6	54	43.9	1	0.8
		18-19	27	1	3.8	.	.	.	.	8	30.8	.	.	7	26.9	7	26.9	.	.	1	3.8	.	.	2	7.7	7	26.9	.	.
		20-24	85	4	4.7	.	.	3	3.5	31	36.5	.	.	16	18.8	12	14.1	.	.	1	1.2	.	.	5	5.9	25	29.4	1	1.2
		25-29	69	2	2.9	.	.	.	.	24	35.3	.	.	4	5.9	6	8.8	1	1.5	.	.	.	.	4	5.9	14	20.6	.	.
		30-34	33	.	.	.	.	.	.	3	9.1	.	.	.	.	4	12.1	.	.	.	.	.	.	1	3.0	1	3.0	.	.
		35+	7	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<b>Years since diagnosis</b>	5-9	74	7	9.5	.	.	6	8.1	42	56.8	.	.	38	51.4	30	40.5	.	.	4	5.4	.	.	8	10.8	40	54.1	2	2.7
		10-14	127	6	4.8	.	.	3	2.4	32	25.4	.	.	34	27.0	28	22.2	3	2.4	3	2.4	1	0.8	11	8.7	41	32.5	.	.
		15-19	107	3	2.8	.	.	.	.	36	34.0	.	.	3	2.8	3	2.8	.	.	.	.	.	.	5	4.7	17	16.0	.	.
		20+	36	.	.	.	.	.	.	4	11.1	.	.	.	.	5	13.9	.	.	.	.	.	.	1	2.8	3	8.3	.	.
	<b>Age at diagnosis</b>	<1	10	1	10.0	.	.	.	.	3	30.0	.	.	4	40.0	4	40.0	.	.	.	.	.	.	1	10.0	3	30.0	.	.
		1-4	103	5	4.9	.	.	2	1.9	31	30.1	.	.	24	23.3	23	22.3	1	1.0	2	1.9	1	1.0	8	7.8	33	32.0	.	.
		5-9	137	7	5.1	.	.	4	2.9	47	34.6	.	.	30	22.1	24	17.6	1	0.7	4	2.9	.	.	11	8.1	43	31.6	.	.
		10-14	70	3	4.3	.	.	1	1.4	25	36.2	.	.	14	20.3	11	15.9	1	1.4	.	.	.	.	4	5.8	17	24.6	1	1.4
		15-20	24	.	.	.	.	2	8.3	8	33.3	.	.	3	12.5	4	16.7	.	.	1	4.2	.	.	1	4.2	5	20.8	1	4.2
	<b>Treatment</b>	Chemotherapy, no radiation	6	.	.	.	.	.	.	3	50.0	.	.	3	50.0	2	33.3	.	.	.	.	.	.	2	33.3	3	50.0	.	.
		Chemotherapy and radiation	196	16	8.2	.	.	9	4.6	111	56.6	.	.	72	36.7	64	32.7	3	1.5	7	3.6	1	0.5	23	11.7	98	50.0	2	1.0
<b>Males</b>	<b>All cases</b>		<b>203</b>	<b>12</b>	<b>5.9</b>	.	.	<b>5</b>	<b>2.5</b>	<b>71</b>	<b>35.0</b>	.	.	<b>49</b>	<b>24.1</b>	<b>40</b>	<b>19.7</b>	<b>3</b>	<b>1.5</b>	<b>5</b>	<b>2.5</b>	.	.	<b>18</b>	<b>8.9</b>	<b>67</b>	<b>33.0</b>	<b>1</b>	<b>0.5</b>
	<b>Age at baseline</b>	<18	76	7	9.2	.	.	4	5.3	33	43.4	.	.	34	44.7	25	32.9	2	2.6	4	5.3	.	.	8	10.5	37	48.7	1	1.3
		18-19	15	.	.	.	.	.	.	3	20.0	.	.	3	20.0	2	13.3	.	.	1	6.7	.	.	2	13.3	3	20.0	.	.
		20-24	50	3	6.0	.	.	1	2.0	19	38.0	.	.	10	20.0	7	14.0	.	.	.	.	.	.	4	8.0	17	34.0	.	.
		25-29	38	2	5.3	.	.	.	.	13	34.2	.	.	2	5.3	4	10.5	1	2.6	.	.	.	.	3	7.9	9	23.7	.	.
		30-34	20	.	.	.	.	.	.	3	15.0	.	.	.	.	2	10.0	.	.	.	.	.	.	1	5.0	1	5.0	.	.
		35+	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<b>Years since diagnosis</b>	5-9	48	5	10.4	.	.	3	6.3	27	56.3	.	.	26	54.2	20	41.7	.	.	2	4.2	.	.	5	10.4	27	56.3	1	2.1
		10-14	68	4	5.9	.	.	2	2.9	21	30.9	.	.	23	33.8	16	23.5	3	4.4	3	4.4	.	.	8	11.8	27	39.7	.	.
		15-19	67	3	4.5	.	.	.	.	22	32.8	.	.	.	.	1	1.5	.	.	.	.	.	.	4	6.0	11	16.4	.	.
		20+	20	.	.	.	.	.	.	1	5.0	.	.	.	.	3	15.0	.	.	.	.	.	.	1	5.0	2	10.0	.	.

	<b>Age at diagnosis</b>	<1	9	1	11.1	.	.	.	.	3	33.3	.	.	3	33.3	3	33.3	.	.	.	.	.	1	11.1	3	33.3	.	.	
		1-4	59	3	5.1	.	.	2	3.4	20	33.9	.	.	14	23.7	14	23.7	1	1.7	2	3.4	.	.	5	8.5	21	35.6	.	.
		5-9	83	6	7.2	.	.	2	2.4	27	32.5	.	.	20	24.1	13	15.7	1	1.2	3	3.6	.	.	8	9.6	28	33.7	.	.
		10-14	38	2	5.3	.	.	1	2.6	15	39.5	.	.	10	26.3	8	21.1	1	2.6	.	.	.	.	3	7.9	11	28.9	1	2.6
		15-20	14	.	.	.	.	.	.	6	42.9	.	.	2	14.3	2	14.3	.	.	.	.	.	.	1	7.1	4	28.6	.	.
	<b>Treatment</b>	Chemotherapy, no radiation	3	.	.	.	.	.	.	2	66.7	.	.	1	33.3	1	33.3	.	.	.	.	.	.	1	33.3	2	66.7	.	.
		Chemotherapy and radiation	124	12	9.7	.	.	5	4.0	69	55.6	.	.	48	38.7	39	31.5	3	2.4	5	4.0	.	.	17	13.7	65	52.4	1	0.8
<b>Females</b>	<b>All cases</b>		<b>141</b>	<b>4</b>	<b>2.9</b>	.	.	<b>4</b>	<b>2.9</b>	<b>43</b>	<b>30.9</b>	.	.	<b>26</b>	<b>18.7</b>	<b>26</b>	<b>18.7</b>	.	.	<b>2</b>	<b>1.4</b>	<b>1</b>	<b>0.7</b>	<b>7</b>	<b>5.0</b>	<b>34</b>	<b>24.5</b>	<b>1</b>	<b>0.7</b>
	<b>Age at baseline</b>	<18	47	2	4.3	.	.	2	4.3	15	31.9	.	.	14	29.8	12	25.5	.	.	1	2.1	1	2.1	5	10.6	17	36.2	.	.
		18-19	12	1	9.1	.	.	.	.	5	45.5	.	.	4	36.4	5	45.5	.	.	.	.	.	.	.	.	4	36.4	.	.
		20-24	35	1	2.9	.	.	2	5.7	12	34.3	.	.	6	17.1	5	14.3	.	.	1	2.9	.	.	1	2.9	8	22.9	1	2.9
		25-29	31	.	.	.	.	.	.	11	36.7	.	.	2	6.7	2	6.7	.	.	.	.	.	.	1	3.3	5	16.7	.	.
		30-34	13	.	.	.	.	.	.	.	.	.	.	.	.	2	15.4	.	.	.	.	.	.	.	.	.	.	.	.
		35+	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<b>Years since diagnosis</b>	5-9	26	2	7.7	.	.	3	11.5	15	57.7	.	.	12	46.2	10	38.5	.	.	2	7.7	.	.	3	11.5	13	50.0	1	3.8
		10-14	59	2	3.4	.	.	1	1.7	11	19.0	.	.	11	19.0	12	20.7	.	.	.	.	1	1.7	3	5.2	14	24.1	.	.
		15-19	40	.	.	.	.	.	.	14	35.9	.	.	3	7.7	2	5.1	.	.	.	.	.	.	1	2.6	6	15.4	.	.
		20+	16	.	.	.	.	.	.	3	18.8	.	.	.	.	2	12.5	.	.	.	.	.	.	.	.	1	6.3	.	.
	<b>Age at diagnosis</b>	<1	1	.	.	.	.	.	.	.	.	.	.	1	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.
		1-4	44	2	4.5	.	.	.	.	11	25.0	.	.	10	22.7	9	20.5	.	.	.	.	1	2.3	3	6.8	12	27.3	.	.
		5-9	54	1	1.9	.	.	2	3.8	20	37.7	.	.	10	18.9	11	20.8	.	.	1	1.9	.	.	3	5.7	15	28.3	.	.
		10-14	32	1	3.2	.	.	.	.	10	32.3	.	.	4	12.9	3	9.7	.	.	.	.	.	.	1	3.2	6	19.4	.	.
		15-20	10	.	.	.	.	2	20.0	2	20.0	.	.	1	10.0	2	20.0	.	.	1	10.0	.	.	.	.	1	10.0	1	10.0
	<b>Treatment</b>	Chemotherapy, no radiation	3	.	.	.	.	.	.	1	33.3	.	.	2	66.7	1	33.3	.	.	.	.	.	.	1	33.3	1	33.3	.	.
		Chemotherapy and radiation	72	4	5.6	.	.	4	5.6	42	58.3	.	.	24	33.3	25	34.7	.	.	2	2.8	1	1.4	6	8.3	33	45.8	1	1.4

CCSS data from February 2006 data freeze-all % based on denominator with non-missing values

Data for patients with medical records abstraction

Chemotherapy initiated more than 5 years post-diagnosis is not included.

## Chemotherapy agents - Alkylating agents (including Platinum drugs): Hodgkin

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			BCNU (Carmustine)		Busulfan		Carboplatin		CCNU (Lomustine)		Chlorambucil		Cis- Platinum		Cyclophos phamide		DTIC		Ifosfamide		Melphalan		Nitrogen Mustard		Procarbazine		ThioTepa		
			All cases	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
<b>Both sexes</b>	<b>All cases</b>		<b>1675</b>	<b>49</b>	<b>2.9</b>	<b>4</b>	<b>0.2</b>	<b>2</b>	<b>0.1</b>	<b>160</b>	<b>9.6</b>	<b>49</b>	<b>2.9</b>	<b>19</b>	<b>1.1</b>	<b>373</b>	<b>22.3</b>	<b>265</b>	<b>15.9</b>	<b>6</b>	<b>0.4</b>	<b>38</b>	<b>2.3</b>	<b>640</b>	<b>38.3</b>	<b>1012</b>	<b>60.6</b>	<b>33</b>	<b>2.0</b>
	<b>Age at baseline</b>	<18	44	2	4.5	1	2.3	.	.	5	11.4	1	2.3	.	.	9	20.5	20	45.5	.	.	.	.	23	52.3	27	61.4	.	.
		18-19	38	.	.	1	2.6	.	.	2	5.3	1	2.6	3	7.9	9	23.7	14	36.8	1	2.6	.	.	17	44.7	25	65.8	1	2.6
		20-24	226	7	3.1	1	0.4	.	.	28	12.4	10	4.4	4	1.8	50	22.2	80	35.6	.	.	2	0.9	109	48.4	154	68.4	1	0.4
		25-29	422	16	3.8	.	.	1	0.2	52	12.3	7	1.7	5	1.2	99	23.5	88	20.9	1	0.2	11	2.6	162	38.4	264	62.6	5	1.2
		30-34	474	14	3.0	1	0.2	1	0.2	48	10.1	14	3.0	7	1.5	126	26.6	51	10.8	3	0.6	13	2.7	172	36.4	299	63.2	12	2.5
		35+	471	10	2.1	.	.	.	.	25	5.3	16	3.4	.	.	80	17.1	12	2.6	1	0.2	12	2.6	157	33.5	243	51.9	14	3.0
	<b>Years since diagnosis</b>	5-9	193	17	8.8	2	1.0	.	.	37	19.2	11	5.7	11	5.7	55	28.5	84	43.5	1	0.5	8	4.1	95	49.2	127	65.8	7	3.6
		10-14	523	15	2.9	2	0.4	1	0.2	54	10.4	9	1.7	5	1.0	104	20.0	143	27.4	2	0.4	15	2.9	202	38.8	320	61.4	7	1.3
		15-19	492	7	1.4	.	.	1	0.2	47	9.6	9	1.8	3	0.6	107	21.8	33	6.7	2	0.4	9	1.8	203	41.3	321	65.4	9	1.8
		20+	467	10	2.2	.	.	.	.	22	4.7	20	4.3	.	.	107	23.0	5	1.1	1	0.2	6	1.3	140	30.1	244	52.5	10	2.2
	<b>Age at diagnosis</b>	1-4	47	.	.	.	.	.	.	.	.	1	2.1	.	.	10	21.3	5	10.6	.	.	.	.	18	38.3	26	55.3	.	.
		5-9	211	5	2.4	1	0.5	1	0.5	20	9.5	7	3.3	1	0.5	54	25.6	37	17.5	2	0.9	.	.	84	39.8	131	62.1	.	.
		10-14	577	6	1.0	2	0.3	.	.	51	8.9	16	2.8	6	1.0	152	26.4	104	18.1	.	.	3	0.5	230	39.9	384	66.7	4	0.7
		15-20	840	38	4.5	1	0.1	1	0.1	89	10.6	25	3.0	12	1.4	157	18.8	119	14.2	4	0.5	35	4.2	308	36.8	471	56.3	29	3.5
	<b>Treatment</b>	Chemotherapy, no radiation	98	4	4.1	.	.	.	.	14	14.3	2	2.0	.	.	29	29.6	42	42.9	.	.	.	.	61	62.2	88	89.8	3	3.1
		Chemotherapy and radiation	1024	45	4.4	4	0.4	2	0.2	146	14.3	47	4.6	19	1.9	344	33.6	223	21.8	6	0.6	38	3.7	579	56.5	924	90.2	30	2.9
<b>Males</b>	<b>All cases</b>		<b>891</b>	<b>30</b>	<b>3.4</b>	<b>3</b>	<b>0.3</b>	<b>1</b>	<b>0.1</b>	<b>97</b>	<b>10.9</b>	<b>21</b>	<b>2.4</b>	<b>11</b>	<b>1.2</b>	<b>194</b>	<b>21.8</b>	<b>160</b>	<b>18.0</b>	<b>4</b>	<b>0.4</b>	<b>22</b>	<b>2.5</b>	<b>366</b>	<b>41.2</b>	<b>548</b>	<b>61.6</b>	<b>19</b>	<b>2.1</b>
	<b>Age at baseline</b>	<18	34	1	2.9	1	2.9	.	.	5	14.7	1	2.9	.	.	8	23.5	17	50.0	.	.	.	.	16	47.1	20	58.8	.	.
		18-19	31	.	.	.	.	.	.	2	6.5	.	.	2	6.5	7	22.6	12	38.7	1	3.2	.	.	13	41.9	20	64.5	.	.
		20-24	144	4	2.8	1	0.7	.	.	19	13.3	5	3.5	2	1.4	29	20.3	51	35.7	.	.	1	0.7	69	48.3	95	66.4	.	.
		25-29	244	11	4.5	.	.	1	0.4	32	13.1	3	1.2	2	0.8	59	24.2	42	17.2	1	0.4	6	2.5	97	39.8	156	63.9	5	2.0
		30-34	237	11	4.6	1	0.4	.	.	27	11.4	5	2.1	5	2.1	62	26.2	33	13.9	2	0.8	9	3.8	88	37.1	144	60.8	9	3.8
		35+	201	3	1.5	.	.	.	.	12	6.0	7	3.5	.	.	29	14.5	5	2.5	.	.	6	3.0	83	41.5	113	56.5	5	2.5
	<b>Years since diagnosis</b>	5-9	115	10	8.7	1	0.9	.	.	26	22.6	6	5.2	5	4.3	34	29.6	52	45.2	1	0.9	4	3.5	62	53.9	77	67.0	4	3.5
		10-14	281	10	3.6	2	0.7	.	.	31	11.1	2	0.7	3	1.1	56	20.0	84	30.0	1	0.4	10	3.6	108	38.6	172	61.4	5	1.8
		15-19	270	5	1.9	.	.	1	0.4	30	11.1	4	1.5	3	1.1	61	22.6	22	8.1	1	0.4	4	1.5	115	42.6	178	65.9	4	1.5
		20+	225	5	2.2	.	.	.	.	10	4.5	9	4.0	.	.	43	19.2	2	0.9	1	0.4	4	1.8	81	36.2	121	54.0	6	2.7
	<b>Age at diagnosis</b>	1-4	36	.	.	.	.	.	.	.	.	1	2.8	.	.	8	22.2	5	13.9	.	.	.	.	13	36.1	20	55.6	.	.

		5-9	156	4	2.6	1	0.6	1	0.6	18	11.5	3	1.9	1	0.6	39	25.0	30	19.2	2	1.3	.	.	62	39.7	97	62.2	.	.
		10-14	297	5	1.7	1	0.3	.	.	25	8.4	7	2.4	3	1.0	65	22.0	62	20.9	.	.	1	0.3	130	43.9	194	65.5	2	0.7
		15-20	402	21	5.2	1	0.2	.	.	54	13.5	10	2.5	7	1.7	82	20.4	63	15.7	2	0.5	21	5.2	161	40.1	237	59.1	17	4.2
	<b>Treatment</b>	Chemotherapy, no radiation	52	2	3.8	.	.	.	.	8	15.4	.	.	.	.	16	30.8	23	44.2	.	.	.	.	32	61.5	47	90.4	1	1.9
		Chemotherapy and radiation	552	28	5.1	3	0.5	1	0.2	89	16.1	21	3.8	11	2.0	178	32.2	137	24.8	4	0.7	22	4.0	334	60.5	501	90.8	18	3.3
<b>Females</b>	<b>All cases</b>		<b>784</b>	<b>19</b>	<b>2.4</b>	<b>1</b>	<b>0.1</b>	<b>1</b>	<b>0.1</b>	<b>63</b>	<b>8.1</b>	<b>28</b>	<b>3.6</b>	<b>8</b>	<b>1.0</b>	<b>179</b>	<b>22.9</b>	<b>105</b>	<b>13.4</b>	<b>2</b>	<b>0.3</b>	<b>16</b>	<b>2.0</b>	<b>274</b>	<b>35.1</b>	<b>464</b>	<b>59.4</b>	<b>14</b>	<b>1.8</b>
	<b>Age at baseline</b>	<18	10	1	10.0	.	.	.	.	.	.	.	.	.	.	1	10.0	3	30.0	.	.	.	.	7	70.0	7	70.0	.	.
		18-19	7	.	.	1	14.3	.	.	.	.	1	14.3	1	14.3	2	28.6	2	28.6	.	.	.	.	4	57.1	5	71.4	1	14.3
		20-24	82	3	3.7	.	.	.	.	9	11.0	5	6.1	2	2.4	21	25.6	29	35.4	.	.	1	1.2	40	48.8	59	72.0	1	1.2
		25-29	178	5	2.8	.	.	.	.	20	11.2	4	2.2	3	1.7	40	22.5	46	25.8	.	.	5	2.8	65	36.5	108	60.7	.	.
		30-34	237	3	1.3	.	.	1	0.4	21	8.9	9	3.8	2	0.8	64	27.1	18	7.6	1	0.4	4	1.7	84	35.6	155	65.7	3	1.3
		35+	270	7	2.6	.	.	.	.	13	4.9	9	3.4	.	.	51	19.0	7	2.6	1	0.4	6	2.2	74	27.6	130	48.5	9	3.4
	<b>Years since diagnosis</b>	5-9	78	7	9.0	1	1.3	.	.	11	14.1	5	6.4	6	7.7	21	26.9	32	41.0	.	.	4	5.1	33	42.3	50	64.1	3	3.8
		10-14	242	5	2.1	.	.	1	0.4	23	9.5	7	2.9	2	0.8	48	19.9	59	24.5	1	0.4	5	2.1	94	39.0	148	61.4	2	0.8
		15-19	222	2	0.9	.	.	.	.	17	7.7	5	2.3	.	.	46	20.8	11	5.0	1	0.5	5	2.3	88	39.8	143	64.7	5	2.3
		20+	242	5	2.1	.	.	.	.	12	5.0	11	4.6	.	.	64	26.6	3	1.2	.	.	2	0.8	59	24.5	123	51.0	4	1.7
	<b>Age at diagnosis</b>	1-4	11	.	.	.	.	.	.	.	.	.	.	.	.	2	18.2	.	.	.	.	.	.	5	45.5	6	54.5	.	.
		5-9	55	1	1.8	.	.	.	.	2	3.6	4	7.3	.	.	15	27.3	7	12.7	.	.	.	.	22	40.0	34	61.8	.	.
		10-14	280	1	0.4	1	0.4	.	.	26	9.3	9	3.2	3	1.1	87	31.1	42	15.0	.	.	2	0.7	100	35.7	190	67.9	2	0.7
		15-20	438	17	3.9	.	.	1	0.2	35	8.0	15	3.4	5	1.1	75	17.2	56	12.9	2	0.5	14	3.2	147	33.8	234	53.8	12	2.8
	<b>Treatment</b>	Chemotherapy, no radiation	46	2	4.3	.	.	.	.	6	13.0	2	4.3	.	.	13	28.3	19	41.3	.	.	.	.	29	63.0	41	89.1	2	4.3
		Chemotherapy and radiation	472	17	3.6	1	0.2	1	0.2	57	12.1	26	5.5	8	1.7	166	35.2	86	18.2	2	0.4	16	3.4	245	51.9	423	89.6	12	2.5

CCSS data from February 2006 data freeze-all % based on denominator with non-missing values

Data for patients with medical records abstraction

Chemotherapy initiated more than 5 years post-diagnosis is not included.



**Chemotherapy agents - Alkylating agents (including Platinum drugs): NHL**  
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			BCNU (Carmustine)		Busulfan		Carboplatin		CCNU (Lomustine)		Chlorambucil		Cis-Platinum		Cyclophosphamide		DTIC		Ifosfamide		Melphalan		Nitrogen Mustard		Procarbazine		ThioTepa			
			All cases	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	
<b>Both sexes</b>	<b>All cases</b>		925	188	20.3	1	0.1	.	.	32	3.5	6	0.6	14	1.5	801	86.7	3	0.3	5	0.5	1	0.1	21	2.3	16	1.7	2	0.2	
	<b>Age at baseline</b>	<18	144	22	15.3	1	0.7	.	.	7	4.9	.	.	3	2.1	134	93.1	.	.	1	0.7	.	.	3	2.1	1	0.7	.	.	
		18-19	76	23	30.3	.	.	.	.	3	3.9	.	.	3	3.9	74	97.4	.	.	.	.	.	.	2	2.6	1	1.3	.	.	
		20-24	198	36	18.2	.	.	.	.	9	4.5	.	.	4	2.0	180	90.9	1	0.5	.	.	.	.	4	2.0	2	1.0	1	0.5	
		25-29	227	48	21.1	.	.	.	.	5	2.2	3	1.3	2	0.9	200	88.1	1	0.4	.	.	.	.	6	2.6	2	0.9	.	.	
		30-34	182	41	22.5	.	.	.	.	7	3.8	2	1.1	2	1.1	146	80.2	1	0.5	3	1.6	.	.	5	2.7	5	2.7	.	.	
		35+	98	18	18.6	.	.	.	.	1	1.0	1	1.0	.	.	67	69.1	.	.	1	1.0	1	1.0	1	1.0	5	5.2	1	1.0	
	<b>Years since diagnosis</b>	5-9	110	22	20.0	.	.	.	.	5	4.5	.	.	10	9.1	105	95.5	.	.	.	.	.	.	2	1.8	3	2.7	1	0.9	
		10-14	358	64	17.9	1	0.3	.	.	8	2.2	.	.	4	1.1	326	91.1	2	0.6	4	1.1	.	.	5	1.4	4	1.1	.	.	
		15-19	278	72	25.9	.	.	.	.	12	4.3	3	1.1	.	.	243	87.4	1	0.4	1	0.4	1	0.4	8	2.9	5	1.8	1	0.4	
		20+	179	30	16.9	.	.	.	.	7	3.9	3	1.7	.	.	127	71.3	.	.	.	.	.	.	6	3.4	4	2.2	.	.	
	<b>Age at diagnosis</b>	<1	8	2	25.0	.	.	.	.	.	.	.	.	.	.	5	62.5	.	.	.	.	.	.	.	.	.	.	.	.	.
		1-4	150	29	19.3	1	0.7	.	.	8	5.3	1	0.7	1	0.7	132	88.0	.	.	1	0.7	.	.	5	3.3	1	0.7	.	.	
		5-9	280	52	18.6	.	.	.	.	12	4.3	3	1.1	3	1.1	254	90.7	.	.	.	.	.	.	5	1.8	1	0.4	.	.	
		10-14	282	66	23.4	.	.	.	.	8	2.8	1	0.4	6	2.1	252	89.4	2	0.7	.	.	.	.	8	2.8	6	2.1	1	0.4	
		15-20	205	39	19.1	.	.	.	.	4	2.0	1	0.5	4	2.0	158	77.5	1	0.5	4	2.0	1	0.5	3	1.5	8	3.9	1	0.5	
	<b>Treatment</b>	Chemotherapy, no radiation	276	50	18.1	.	.	.	.	12	4.3	2	0.7	1	0.4	263	95.3	1	0.4	3	1.1	1	0.4	4	1.4	5	1.8	1	0.4	
		Chemotherapy and radiation	598	137	22.9	1	0.2	.	.	20	3.3	4	0.7	13	2.2	537	89.8	2	0.3	2	0.3	.	.	17	2.8	11	1.8	1	0.2	
<b>Males</b>	<b>All cases</b>		645	122	18.9	1	0.2	.	.	23	3.6	3	0.5	10	1.6	557	86.5	.	.	4	0.6	1	0.2	12	1.9	8	1.2	2	0.3	
	<b>Age at baseline</b>	<18	101	13	12.9	1	1.0	.	.	6	5.9	.	.	3	3.0	95	94.1	.	.	1	1.0	.	.	2	2.0	1	1.0	.	.	
		18-19	61	17	27.9	.	.	.	.	3	4.9	.	.	3	4.9	60	98.4	.	.	.	.	.	.	2	3.3	1	1.6	.	.	
		20-24	136	23	16.9	.	.	.	.	5	3.7	.	.	2	1.5	122	89.7	.	.	.	.	.	.	2	1.5	.	.	1	0.7	
		25-29	162	34	21.0	.	.	.	.	4	2.5	.	.	2	1.2	145	89.5	.	.	.	.	.	.	3	1.9	1	0.6	.	.	
		30-34	122	26	21.3	.	.	.	.	4	3.3	2	1.6	.	.	95	77.9	.	.	3	2.5	.	.	2	1.6	2	1.6	.	.	
		35+	63	9	14.5	.	.	.	.	1	1.6	1	1.6	.	.	40	64.5	.	.	.	.	1	1.6	1	1.6	3	4.8	1	1.6	
	<b>Years since diagnosis</b>	5-9	84	15	17.9	.	.	.	.	4	4.8	.	.	8	9.5	81	96.4	.	.	.	.	.	.	1	1.2	2	2.4	1	1.2	
		10-14	254	43	16.9	1	0.4	.	.	6	2.4	.	.	2	0.8	232	91.3	.	.	4	1.6	.	.	3	1.2	2	0.8	.	.	
		15-19	177	45	25.4	.	.	.	.	8	4.5	1	0.6	.	.	151	85.3	.	.	.	.	1	0.6	6	3.4	2	1.1	1	0.6	
		20+	130	19	14.7	.	.	.	.	5	3.9	2	1.6	.	.	93	72.1	.	.	.	.	.	.	2	1.6	2	1.6	.	.	



## Chemotherapy agents - Alkylating agents (including Platinum drugs): Wilms

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			BCNU (Carmustine)		Busulfan		Carboplatin		CCNU (Lomustine)		Chlorambucil		Cis-Platinum		Cyclophosphamide		DTIC		Ifosfamide		Melphalan		Nitrogen Mustard		Procarbazine		ThioTepa		
			All cases	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
<b>Both sexes</b>	<b>All cases</b>		<b>1088</b>	.	.	.	.	<b>4</b>	<b>0.4</b>	.	.	.	.	<b>21</b>	<b>1.9</b>	<b>96</b>	<b>8.8</b>	<b>5</b>	<b>0.5</b>	<b>20</b>	<b>1.8</b>	.	.	<b>1</b>	<b>0.1</b>	.	.	<b>2</b>	<b>0.2</b>
	<b>Age at baseline</b>	<18	523	.	.	.	.	2	0.4	.	.	.	.	16	3.1	53	10.1	3	0.6	13	2.5	.	.	.	.	.	.	1	0.2
		18-19	131	.	.	.	.	1	0.8	.	.	.	.	.	.	12	9.2	.	.	3	2.3	.	.	.	.	.	.	1	0.8
		20-24	249	.	.	.	.	1	0.4	.	.	.	.	5	2.0	20	8.0	2	0.8	3	1.2	.	.	1	0.4	.	.	.	.
		25-29	149	.	.	.	.	.	.	.	.	.	.	.	.	8	5.4	.	.	1	0.7	.	.	.	.	.	.	.	.
		30-34	28	.	.	.	.	.	.	.	.	.	.	.	.	2	7.1	.	.	.	.	.	.	.	.	.	.	.	.
		35+	8	.	.	.	.	.	.	.	.	.	.	.	.	1	12.5	.	.	.	.	.	.	.	.	.	.	.	.
	<b>Years since diagnosis</b>	5-9	145	.	.	.	.	3	2.1	.	.	.	.	11	7.6	18	12.4	3	2.1	13	9.0	.	.	.	.	.	.	2	1.4
		10-14	436	.	.	.	.	1	0.2	.	.	.	.	9	2.1	52	11.9	1	0.2	7	1.6	.	.	.	.	.	.	.	.
		15-19	279	.	.	.	.	.	.	.	.	.	.	1	0.4	20	7.2	1	0.4	.	.	.	.	1	0.4	.	.	.	.
		20+	228	.	.	.	.	.	.	.	.	.	.	.	.	6	2.6	.	.	.	.	.	.	.	.	.	.	.	.
	<b>Age at diagnosis</b>	<1	162	.	.	.	.	1	0.6	.	.	.	.	2	1.2	9	5.6	1	0.6	2	1.2	.	.	.	.	.	.	.	.
		1-4	659	.	.	.	.	1	0.2	.	.	.	.	10	1.5	45	6.8	1	0.2	7	1.1	.	.	1	0.2	.	.	.	.
		5-9	225	.	.	.	.	.	.	.	.	.	.	5	2.2	28	12.4	1	0.4	6	2.7	.	.	.	.	.	1	0.4	
		10-14	30	.	.	.	.	2	6.7	.	.	.	.	3	10.0	11	36.7	1	3.3	3	10.0	.	.	.	.	.	1	3.3	
		15-20	12	.	.	.	.	.	.	.	.	.	.	1	8.3	3	25.0	1	8.3	2	16.7	.	.	.	.	.	.	.	.
	<b>Treatment</b>	Chemotherapy, no radiation	369	.	.	.	.	.	.	.	.	.	.	2	0.5	7	1.9	.	.	3	0.8	.	.	.	.	.	.	.	.
		Chemotherapy and radiation	701	.	.	.	.	4	0.6	.	.	.	.	19	2.7	89	12.7	5	0.7	17	2.4	.	.	1	0.1	.	.	2	0.3
<b>Males</b>	<b>All cases</b>		<b>502</b>	.	.	.	.	<b>1</b>	<b>0.2</b>	.	.	.	.	<b>10</b>	<b>2.0</b>	<b>45</b>	<b>9.0</b>	<b>3</b>	<b>0.6</b>	<b>8</b>	<b>1.6</b>	.	.	.	.	.	.	.	.
	<b>Age at baseline</b>	<18	253	.	.	.	.	.	.	.	.	.	.	8	3.2	31	12.3	2	0.8	4	1.6	.	.	.	.	.	.	.	.
		18-19	58	.	.	.	.	.	.	.	.	.	.	.	.	4	6.9	.	.	1	1.7	.	.	.	.	.	.	.	.
		20-24	105	.	.	.	.	1	1.0	.	.	.	.	2	1.9	7	6.7	1	1.0	2	1.9	.	.	.	.	.	.	.	.
		25-29	75	.	.	.	.	.	.	.	.	.	.	.	.	2	2.7	.	.	1	1.3	.	.	.	.	.	.	.	.
		30-34	9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
		35+	2	.	.	.	.	.	.	.	.	.	.	.	.	1	50.0	.	.	.	.	.	.	.	.	.	.	.	.
	<b>Years since diagnosis</b>	5-9	62	.	.	.	.	.	.	.	.	.	.	4	6.5	11	17.7	1	1.6	4	6.5	.	.	.	.	.	.	.	.
		10-14	207	.	.	.	.	1	0.5	.	.	.	.	6	2.9	25	12.1	1	0.5	4	1.9	.	.	.	.	.	.	.	.
		15-19	122	.	.	.	.	.	.	.	.	.	.	.	.	8	6.6	1	0.8	.	.	.	.	.	.	.	.	.	.
		20+	111	.	.	.	.	.	.	.	.	.	.	.	.	1	0.9	.	.	.	.	.	.	.	.	.	.	.	.



### Chemotherapy agents - Alkylating agents (including Platinum drugs): Neuroblastoma

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			BCNU (Carmustine)		Busulfan		Carboplatin		CCNU (Lomustine)		Chlorambucil		Cis-Platinum		Cyclophosphamide		DTIC		Ifosfamide		Melphalan		Nitrogen Mustard		Procarbazine		ThioTepa		
			All cases	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
<b>Both sexes</b>	<b>All cases</b>		833	2	0.2	2	0.2	9	1.1	1	0.1	1	0.1	111	13.4	478	57.5	163	19.6	7	0.8	33	4.0	36	4.3	6	0.7	1	0.1
	<b>Age at baseline</b>	<18	480	2	0.4	2	0.4	9	1.9	1	0.2	1	0.2	93	19.4	264	55.1	106	22.1	6	1.3	30	6.3	18	3.8	3	0.6	1	0.2
		18-19	96	.	.	.	.	.	.	.	.	.	.	11	11.5	52	54.2	20	20.8	1	1.0	1	1.0	5	5.2	.	.	.	.
		20-24	177	.	.	.	.	.	.	.	.	.	.	4	2.3	111	62.7	29	16.4	.	.	2	1.1	8	4.5	1	0.6	.	.
		25-29	59	.	.	.	.	.	.	.	.	.	.	2	3.4	37	62.7	6	10.2	.	.	.	.	5	8.5	1	1.7	.	.
		30-34	19	.	.	.	.	.	.	.	.	.	.	1	5.6	13	72.2	2	11.1	.	.	.	.	.	1	5.6	.	.	
		35+	2	.	.	.	.	.	.	.	.	.	.	.	.	1	50.0	.	.	.	.	.	.	.	.	.	.	.	
	<b>Years since diagnosis</b>	5-9	98	1	1.0	1	1.0	6	6.1	.	.	1	1.0	38	38.8	61	62.2	29	29.6	6	6.1	11	11.2	7	7.1	.	.	1	1.0
		10-14	296	.	.	1	0.3	3	1.0	1	0.3	.	.	52	17.6	158	53.4	60	20.3	1	0.3	18	6.1	9	3.0	3	1.0	.	.
		15-19	249	1	0.4	.	.	.	.	.	.	.	.	20	8.1	133	53.6	58	23.4	.	.	3	1.2	11	4.4	.	.	.	.
		20+	190	.	.	.	.	.	.	.	.	.	.	1	0.5	126	66.7	16	8.5	.	.	1	0.5	9	4.8	3	1.6	.	.
	<b>Age at diagnosis</b>	<1	457	.	.	1	0.2	2	0.4	1	0.2	.	.	36	7.9	254	55.7	70	15.4	1	0.2	10	2.2	15	3.3	2	0.4	.	.
		1-4	301	1	0.3	1	0.3	5	1.7	.	.	1	0.3	60	19.9	181	60.1	72	23.9	4	1.3	19	6.3	16	5.3	3	1.0	.	.
		5-9	57	1	1.8	.	.	1	1.8	.	.	.	.	10	17.9	32	57.1	16	28.6	2	3.6	4	7.1	3	5.4	1	1.8	1	1.8
		10-14	12	.	.	.	.	1	8.3	.	.	.	.	3	25.0	8	66.7	3	25.0	.	.	.	.	2	16.7	.	.	.	.
		15-20	6	.	.	.	.	.	.	.	.	.	.	2	33.3	3	50.0	2	33.3	.	.	.	.	.	.	.	.	.	
	<b>Treatment</b>	Chemotherapy, no radiation	220	.	.	.	.	1	0.5	1	0.5	.	.	48	21.8	213	96.8	51	23.2	.	.	7	3.2	10	4.5	2	0.9	.	.
		Chemotherapy and radiation	273	2	0.7	2	0.7	8	2.9	.	.	1	0.4	63	23.1	264	96.7	112	41.0	7	2.6	26	9.5	26	9.5	4	1.5	1	0.4
<b>Males</b>	<b>All cases</b>		388	.	.	.	.	5	1.3	.	.	.	.	47	12.1	222	57.4	76	19.6	3	0.8	10	2.6	17	4.4	1	0.3	.	.
	<b>Age at baseline</b>	<18	223	.	.	.	.	5	2.3	.	.	.	.	37	16.7	119	53.6	44	19.8	2	0.9	9	4.1	7	3.2	.	.	.	.
		18-19	43	.	.	.	.	.	.	.	.	.	.	7	16.3	27	62.8	13	30.2	1	2.3	1	2.3	3	7.0	.	.	.	.
		20-24	84	.	.	.	.	.	.	.	.	.	.	2	2.4	49	58.3	14	16.7	.	.	.	.	5	6.0	.	.	.	.
		25-29	26	.	.	.	.	.	.	.	.	.	.	.	.	18	69.2	3	11.5	.	.	.	.	2	7.7	.	.	.	.
		30-34	11	.	.	.	.	.	.	.	.	.	.	1	9.1	9	81.8	2	18.2	.	.	.	.	.	1	9.1	.	.	
		35+	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.		
	<b>Years since diagnosis</b>	5-9	45	.	.	.	.	3	6.7	.	.	.	.	16	35.6	26	57.8	9	20.0	2	4.4	2	4.4	1	2.2	.	.	.	.
		10-14	140	.	.	.	.	2	1.4	.	.	.	.	20	14.3	73	52.1	27	19.3	1	0.7	7	5.0	4	2.9	.	.	.	.
		15-19	111	.	.	.	.	.	.	.	.	.	.	11	10.0	62	56.4	31	28.2	.	.	1	0.9	8	7.3	.	.	.	.
		20+	92	.	.	.	.	.	.	.	.	.	.	.	.	61	66.3	9	9.8	.	.	.	.	4	4.3	1	1.1	.	.

	<b>Age at diagnosis</b>	<1	232	.	.	.	.	1	0.4	.	.	.	.	13	5.6	125	54.1	33	14.3	1	0.4	2	0.9	6	2.6	.	.	.	.
		1-4	123	.	.	.	.	3	2.4	.	.	.	.	28	22.8	75	61.0	33	26.8	2	1.6	8	6.5	9	7.3	.	.	.	.
		5-9	24	.	.	.	.	.	.	.	.	.	.	3	12.5	17	70.8	8	33.3	.	.	.	.	2	8.3	1	4.2	.	.
		10-14	6	.	.	.	.	1	16.7	.	.	.	.	1	16.7	3	50.0	.	.	.	.	.	.	.	.	.	.	.	.
		15-20	3	.	.	.	.	.	.	.	.	.	.	2	66.7	2	66.7	2	66.7	.	.	.	.	.	.	.	.	.	.
	<b>Treatment</b>	Chemotherapy, no radiation	101	.	.	.	.	.	.	.	.	.	.	16	15.8	98	97.0	24	23.8	.	.	1	1.0	3	3.0	.	.	.	.
		Chemotherapy and radiation	126	.	.	.	.	5	4.0	.	.	.	.	31	24.6	124	98.4	52	41.3	3	2.4	9	7.1	14	11.1	1	0.8	.	.
<b>Females</b>	<b>All cases</b>		<b>445</b>	<b>2</b>	<b>0.5</b>	<b>2</b>	<b>0.5</b>	<b>4</b>	<b>0.9</b>	<b>1</b>	<b>0.2</b>	<b>1</b>	<b>0.2</b>	<b>64</b>	<b>14.4</b>	<b>256</b>	<b>57.7</b>	<b>87</b>	<b>19.6</b>	<b>4</b>	<b>0.9</b>	<b>23</b>	<b>5.2</b>	<b>19</b>	<b>4.3</b>	<b>5</b>	<b>1.1</b>	<b>1</b>	<b>0.2</b>
	<b>Age at baseline</b>	<18	257	2	0.8	2	0.8	4	1.6	1	0.4	1	0.4	56	21.8	145	56.4	62	24.1	4	1.6	21	8.2	11	4.3	3	1.2	1	0.4
		18-19	53	.	.	.	.	.	.	.	.	.	.	4	7.5	25	47.2	7	13.2	.	.	.	.	2	3.8	.	.	.	.
		20-24	93	.	.	.	.	.	.	.	.	.	.	2	2.2	62	66.7	15	16.1	.	.	2	2.2	3	3.2	1	1.1	.	.
		25-29	33	.	.	.	.	.	.	.	.	.	.	2	6.1	19	57.6	3	9.1	.	.	.	.	3	9.1	1	3.0	.	.
		30-34	8	.	.	.	.	.	.	.	.	.	.	.	.	4	57.1	.	.	.	.	.	.	.	.	.	.	.	.
		35+	1	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.
	<b>Years since diagnosis</b>	5-9	53	1	1.9	1	1.9	3	5.7	.	.	1	1.9	22	41.5	35	66.0	20	37.7	4	7.5	9	17.0	6	11.3	.	.	1	1.9
		10-14	156	.	.	1	0.6	1	0.6	1	0.6	.	.	32	20.5	85	54.5	33	21.2	.	.	11	7.1	5	3.2	3	1.9	.	.
		15-19	138	1	0.7	.	.	.	.	.	.	.	.	9	6.5	71	51.4	27	19.6	.	.	2	1.4	3	2.2	.	.	.	.
		20+	98	.	.	.	.	.	.	.	.	.	.	1	1.0	65	67.0	7	7.2	.	.	1	1.0	5	5.2	2	2.1	.	.
	<b>Age at diagnosis</b>	<1	225	.	.	1	0.4	1	0.4	1	0.4	.	.	23	10.2	129	57.3	37	16.4	.	.	8	3.6	9	4.0	2	0.9	.	.
		1-4	178	1	0.6	1	0.6	2	1.1	.	.	1	0.6	32	18.0	106	59.6	39	21.9	2	1.1	11	6.2	7	3.9	3	1.7	.	.
		5-9	33	1	3.1	.	.	1	3.1	.	.	.	.	7	21.9	15	46.9	8	25.0	2	6.3	4	12.5	1	3.1	.	.	1	3.1
		10-14	6	.	.	.	.	.	.	.	.	.	.	2	33.3	5	83.3	3	50.0	.	.	.	.	2	33.3	.	.	.	.
		15-20	3	.	.	.	.	.	.	.	.	.	.	.	.	1	33.3	.	.	.	.	.	.	.	.	.	.	.	.
	<b>Treatment</b>	Chemotherapy, no radiation	119	.	.	.	.	1	0.8	1	0.8	.	.	32	26.9	115	96.6	27	22.7	.	.	6	5.0	7	5.9	2	1.7	.	.
		Chemotherapy and radiation	147	2	1.4	2	1.4	3	2.0	.	.	1	0.7	32	21.8	140	95.2	60	40.8	4	2.7	17	11.6	12	8.2	3	2.0	1	0.7

CCSS data from February 2006 data freeze-all % based on denominator with non-missing values

Data for patients with medical records abstraction

Chemotherapy initiated more than 5 years post-diagnosis is not included.

### Chemotherapy agents - Alkylating agents (including Platinum drugs): STS

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			BCNU (Carmustine)		Busulfan		Carboplatin		CCNU (Lomustine)		Chlorambucil		Cis-Platinum		Cyclophosphamide		DTIC		Ifosfamide		Melphalan		Nitrogen Mustard		Procarbazine		ThioTepa		
			All cases	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
<b>Both sexes</b>	<b>All cases</b>		1092	3	18.8	.	.	3	37.5	3	75.0	3	21.4	3	2.7	3	0.4	3	3.4	3	6.8	3	27.3	3	16.7	3	75.0	.	.
	<b>Age at baseline</b>	<18	229	1	.	.	.	1	33.3	1	50.0	1	25.0	1	1.7	1	0.6	1	3.4	1	4.5	1	33.3	1	14.3	1	50.0	.	.
		18-19	83	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
		20-24	224	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
		25-29	230	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
		30-34	191	1	25.0	.	.	1	.	1	.	1	50.0	1	20.0	1	0.9	1	8.3	1	25.0	1	50.0	1	25.0	1	.	.	.
		35+	135	1	25.0	.	.	1	.	1	.	1	33.3	1	33.3	1	1.7	1	6.3	1	.	1	50.0	1	50.0	1	.	.	.
	<b>Years since diagnosis</b>	5-9	152	1	.	.	.	1	20.0	1	.	1	33.3	1	1.8	1	0.9	1	3.4	1	3.7	1	16.7	1	33.3	1	.	.	.
		10-14	337	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
		15-19	323	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
		20+	280	2	28.6	.	.	2	.	2	.	2	33.3	2	.	2	1.2	2	14.3	2	.	2	66.7	2	40.0	2	.	.	.
	<b>Age at diagnosis</b>	<1	80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
		1-4	305	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
		5-9	223	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
		10-14	231	2	40.0	.	.	2	.	2	.	2	66.7	2	10.5	2	1.4	2	9.5	2	25.0	2	50.0	2	50.0	2	.	.	.
		15-20	253	1	20.0	.	.	1	33.3	1	.	1	33.3	1	4.8	1	0.8	1	3.3	1	9.1	1	25.0	1	25.0	1	.	.	.
	<b>Treatment</b>	Chemotherapy, no radiation	230	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
		Chemotherapy and radiation	631	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<b>Males</b>	<b>All cases</b>		563	1	9.1	.	.	1	33.3	1	.	1	11.1	1	1.4	1	0.3	1	2.0	1	3.1	1	14.3	1	9.1	1	.	.	.
	<b>Age at baseline</b>	<18	127	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
		18-19	42	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
		20-24	124	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
		25-29	112	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
		30-34	96	1	33.3	.	.	1	.	1	.	1	20.0	1	1.7	1	11.1	1	33.3	1	50.0	1	25.0	1	25.0	1	.	.	.
		35+	62	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<b>Years since diagnosis</b>	5-9	80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
		10-14	176	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
		15-19	157	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
		20+	150	1	20.0	.	.	1	.	1	.	1	33.3	1	.	1	1.1	1	11.1	1	.	1	50.0	1	33.3	1	.	.	.





**Chemotherapy agents - Alkylating agents (including Platinum drugs): All bone**  
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			BCNU (Carmustine)		Busulfan		Carboplatin		CCNU (Lomustine)		Chlorambucil		Cis-Platinum		Cyclophosphamide		DTIC		Ifosfamide		Melphalan		Nitrogen Mustard		Procarbazine		ThioTepa			
			All cases	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	
<b>Both sexes</b>	<b>All cases</b>		<b>1044</b>	<b>22</b>	<b>2.1</b>	<b>1</b>	<b>0.1</b>	<b>15</b>	<b>1.4</b>	<b>4</b>	<b>0.4</b>	<b>7</b>	<b>0.7</b>	<b>285</b>	<b>27.3</b>	<b>718</b>	<b>68.8</b>	<b>37</b>	<b>3.5</b>	<b>63</b>	<b>6.0</b>	<b>47</b>	<b>4.5</b>	<b>10</b>	<b>1.0</b>	<b>1</b>	<b>0.1</b>	<b>3</b>	<b>0.3</b>	
	<b>Age at baseline</b>	<18	47	1	2.1	.	.	2	4.3	.	.	.	.	20	42.6	44	93.6	1	2.1	9	19.1	3	6.4	3	6.4	.	.	.	.	
		18-19	43	2	4.7	.	.	1	2.3	1	2.3	.	.	15	34.9	35	81.4	3	7.0	4	9.3	.	.	.	.	1	2.3	.	.	
		20-24	211	4	1.9	.	.	9	4.3	2	0.9	2	0.9	86	40.8	182	86.3	8	3.8	37	17.5	3	1.4	1	0.5	.	.	2	0.9	
		25-29	266	4	1.5	1	0.4	3	1.1	.	.	1	0.4	94	35.3	178	66.9	11	4.1	10	3.8	2	0.8	2	0.8	.	.	1	0.4	
		30-34	285	7	2.5	.	.	.	.	1	0.4	1	0.4	60	21.1	173	60.7	13	4.6	2	0.7	17	6.0	1	0.4	.	.	.	.	
		35+	192	4	2.1	.	.	.	.	.	.	3	1.6	10	5.2	106	55.2	1	0.5	1	0.5	22	11.5	3	1.6	.	.	.	.	
	<b>Years since diagnosis</b>	5-9	152	4	2.6	.	.	12	7.9	2	1.3	2	1.3	86	56.6	136	89.5	14	9.2	40	26.3	4	2.6	4	2.6	1	0.7	3	2.0	
		10-14	357	3	0.8	1	0.3	3	0.8	.	.	.	.	142	39.8	257	72.0	17	4.8	20	5.6	1	0.3	1	0.3	.	.	.	.	
		15-19	331	11	3.3	.	.	.	.	2	0.6	2	0.6	51	15.4	209	63.1	6	1.8	3	0.9	18	5.4	2	0.6	.	.	.	.	
		20+	204	4	2.0	.	.	.	.	.	.	3	1.5	6	2.9	116	56.9	.	.	.	.	24	11.8	3	1.5	.	.	.	.	
	<b>Age at diagnosis</b>	<1	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
		1-4	35	1	2.9	.	.	.	.	.	.	.	.	8	22.9	29	82.9	1	2.9	3	8.6	.	.	1	2.9	.	.	.	.	
		5-9	176	5	2.8	.	.	3	1.7	1	0.6	1	0.6	30	17.0	134	76.1	1	0.6	14	8.0	10	5.7	2	1.1	.	.	.	.	
		10-14	395	10	2.5	.	.	5	1.3	2	0.5	3	0.8	117	29.6	281	71.1	5	1.3	24	6.1	17	4.3	5	1.3	1	0.3	1	0.3	
		15-20	437	6	1.4	1	0.2	7	1.6	1	0.2	3	0.7	130	29.7	274	62.7	30	6.9	22	5.0	20	4.6	2	0.5	.	.	2	0.5	
	<b>Treatment</b>	Chemotherapy, no radiation	567	5	0.9	.	.	7	1.2	.	.	.	.	224	39.5	389	68.6	25	4.4	25	4.4	34	6.0	.	.	.	.	1	0.2	
		Chemotherapy and radiation	370	17	4.6	1	0.3	8	2.2	4	1.1	7	1.9	59	15.9	327	88.4	12	3.2	37	10.0	13	3.5	10	2.7	1	0.3	2	0.5	
<b>Males</b>	<b>All cases</b>		<b>528</b>	<b>14</b>	<b>2.7</b>	<b>1</b>	<b>0.2</b>	<b>8</b>	<b>1.5</b>	<b>2</b>	<b>0.4</b>	<b>3</b>	<b>0.6</b>	<b>150</b>	<b>28.4</b>	<b>372</b>	<b>70.5</b>	<b>20</b>	<b>3.8</b>	<b>35</b>	<b>6.6</b>	<b>22</b>	<b>4.2</b>	<b>3</b>	<b>0.6</b>	<b>1</b>	<b>0.2</b>	<b>2</b>	<b>0.4</b>	
	<b>Age at baseline</b>	<18	24	1	4.2	.	.	1	4.2	.	.	.	.	12	50.0	23	95.8	.	.	5	20.8	2	8.3	.	.	.	.	.	.	
		18-19	24	2	8.3	.	.	.	.	1	4.2	.	.	7	29.2	19	79.2	2	8.3	2	8.3	.	.	.	.	1	4.2	.	.	
		20-24	99	2	2.0	.	.	4	4.0	.	.	2	2.0	37	37.4	85	85.9	4	4.0	20	20.2	2	2.0	.	.	.	.	1	1.0	
		25-29	137	2	1.5	1	0.7	3	2.2	.	.	.	.	53	38.7	89	65.0	7	5.1	6	4.4	1	0.7	1	0.7	.	.	1	0.7	
		30-34	143	4	2.8	.	.	.	.	1	0.7	.	.	35	24.5	95	66.4	6	4.2	2	1.4	7	4.9	1	0.7	.	.	.	.	
		35+	101	3	3.0	.	.	.	.	.	.	1	1.0	6	5.9	61	60.4	1	1.0	.	.	10	9.9	1	1.0	.	.	.	.	
	<b>Years since diagnosis</b>	5-9	77	3	3.9	.	.	6	7.8	1	1.3	2	2.6	46	59.7	70	90.9	9	11.7	24	31.2	3	3.9	.	.	1	1.3	2	2.6	
		10-14	188	.	.	1	0.5	2	1.1	.	.	.	.	78	41.5	134	71.3	8	4.3	11	5.9	1	0.5	.	.	.	.	.	.	
		15-19	167	8	4.8	.	.	.	.	1	0.6	.	.	23	13.8	109	65.3	3	1.8	.	.	9	5.4	1	0.6	.	.	.	.	
		20+	96	3	3.1	.	.	.	.	.	.	1	1.0	3	3.1	59	61.5	.	.	.	.	9	9.4	2	2.1	.	.	.	.	



## Chemotherapy agents - Alkylating agents (including Platinum drugs): Ewings

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			BCNU (Carmustine)		Busulfan		Carboplatin		CCNU (Lomustine)		Chlorambucil		Cis-Platinum		Cyclophosphamide		DTIC		Ifosfamide		Melfhalan		Nitrogen Mustard		Procarbazine		ThioTepa		
			All cases	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
<b>Both sexes</b>	<b>All cases</b>		360	21	5.8	1	0.3	5	1.4	4	1.1	7	1.9	30	8.3	346	96.1	13	3.6	35	9.7	1	0.3	9	2.5	1	0.3	2	0.6
	<b>Age at baseline</b>	<18	31	1	3.2	.	.	2	6.5	.	.	.	.	6	19.4	30	96.8	.	.	8	25.8	1	3.2	2	6.5	.	.	.	.
		18-19	23	2	8.7	.	.	.	.	1	4.3	.	.	3	13.0	23	.	3	13.0	2	8.7	.	.	.	.	1	4.3	.	.
		20-24	94	4	4.3	.	.	3	3.2	2	2.1	2	2.1	13	13.8	91	96.8	4	4.3	18	19.1	.	.	1	1.1	.	.	1	1.1
		25-29	91	4	4.4	1	1.1	.	.	.	.	1	1.1	6	6.6	87	95.6	1	1.1	5	5.5	.	.	2	2.2	.	.	1	1.1
		30-34	81	7	8.6	.	.	.	.	1	1.2	1	1.2	2	2.5	78	96.3	4	4.9	1	1.2	.	.	1	1.2	.	.	.	.
		35+	40	3	7.5	.	.	.	.	.	.	3	7.5	.	.	37	92.5	1	2.5	1	2.5	.	.	3	7.5	.	.	.	.
	<b>Years since diagnosis</b>	5-9	67	4	6.0	.	.	4	6.0	2	3.0	2	3.0	20	29.9	65	97.0	6	9.0	20	29.9	1	1.5	3	4.5	1	1.5	2	3.0
		10-14	126	3	2.4	1	0.8	1	0.8	.	.	.	.	9	7.1	123	97.6	5	4.0	12	9.5	.	.	1	0.8	.	.	.	.
		15-19	107	11	10.3	.	.	.	.	2	1.9	2	1.9	1	0.9	104	97.2	2	1.9	3	2.8	.	.	2	1.9	.	.	.	.
		20+	60	3	5.0	.	.	.	.	.	.	3	5.0	.	.	54	90.0	.	.	.	.	.	.	3	5.0	.	.	.	.
	<b>Age at diagnosis</b>	<1	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
		1-4	23	1	4.3	.	.	.	.	.	.	.	.	1	4.3	23	.	.	.	2	8.7	.	.	.	.	.	.	.	.
		5-9	95	5	5.3	.	.	3	3.2	1	1.1	1	1.1	6	6.3	91	95.8	1	1.1	12	12.6	1	1.1	2	2.1	.	.	.	.
		10-14	132	9	6.8	.	.	.	.	2	1.5	3	2.3	9	6.8	123	93.2	3	2.3	10	7.6	.	.	5	3.8	1	0.8	.	.
		15-20	109	6	5.5	1	0.9	2	1.8	1	0.9	3	2.8	14	12.8	109	.	9	8.3	11	10.1	.	.	2	1.8	.	.	2	1.8
	<b>Treatment</b>	Chemotherapy, no radiation	70	5	7.1	.	.	.	.	.	.	.	.	4	5.7	66	94.3	6	8.6	6	8.6	.	.	.	.	.	.	.	.
		Chemotherapy and radiation	288	16	5.6	1	0.3	5	1.7	4	1.4	7	2.4	26	9.0	280	97.2	7	2.4	29	10.1	1	0.3	9	3.1	1	0.3	2	0.7
<b>Males</b>	<b>All cases</b>		186	13	7.0	1	0.5	2	1.1	2	1.1	3	1.6	19	10.2	178	95.7	6	3.2	20	10.8	.	.	3	1.6	1	0.5	2	1.1
	<b>Age at baseline</b>	<18	15	1	6.7	.	.	1	6.7	.	.	.	.	3	20.0	14	93.3	.	.	5	33.3	.	.	.	.	.	.	.	.
		18-19	14	2	14.3	.	.	.	.	1	7.1	.	.	2	14.3	14	.	2	14.3	1	7.1	.	.	.	.	1	7.1	.	.
		20-24	50	2	4.0	.	.	1	2.0	.	.	2	4.0	9	18.0	49	98.0	1	2.0	11	22.0	.	.	.	.	.	1	2.0	
		25-29	44	2	4.5	1	2.3	.	.	.	.	.	.	4	9.1	41	93.2	1	2.3	2	4.5	.	.	1	2.3	.	.	1	2.3
		30-34	42	4	9.5	.	.	.	.	1	2.4	.	.	1	2.4	40	95.2	1	2.4	1	2.4	.	.	1	2.4	.	.	.	.
		35+	21	2	9.5	.	.	.	.	.	.	1	4.8	.	.	20	95.2	1	4.8	.	.	.	.	1	4.8	.	.	.	.
	<b>Years since diagnosis</b>	5-9	38	3	7.9	.	.	2	5.3	1	2.6	2	5.3	15	39.5	37	97.4	4	10.5	15	39.5	.	.	.	.	1	2.6	2	5.3
		10-14	62	.	.	1	1.6	.	.	.	.	.	.	3	4.8	61	98.4	1	1.6	5	8.1	.	.	.	.	.	.	.	.
		15-19	56	8	14.3	.	.	.	.	1	1.8	.	.	1	1.8	53	94.6	1	1.8	.	.	.	.	1	1.8	.	.	.	.
		20+	30	2	6.7	.	.	.	.	.	.	1	3.3	.	.	27	90.0	.	.	.	.	.	.	2	6.7	.	.	.	.



## Chemotherapy agents - Alkylating agents (including Platinum drugs): Osteosarcoma

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			BCNU (Carmustine)		Busulfan		Carboplatin		CCNU (Lomustine)		Chlorambucil		Cis-Platinum		Cyclophosphamide		DTIC		Ifosfamide		Melphalan		Nitrogen Mustard		Procarbazine		ThioTepa		
			All cases	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
<b>Both sexes</b>	<b>All cases</b>		<b>638</b>	<b>637</b>	<b>50.0</b>	.	.	<b>629</b>	<b>49.6</b>	.	.	.	.	<b>386</b>	<b>51.6</b>	<b>276</b>	<b>92.9</b>	<b>617</b>	<b>95.8</b>	<b>611</b>	<b>93.0</b>	<b>592</b>	<b>48.1</b>	.	.	.	.	<b>637</b>	<b>50.0</b>
	<b>Age at baseline</b>	<18	14	14	50.0	.	.	14	50.0	.	.	.	.	1	7.1	1	.	14	93.3	13	86.7	12	46.2	.	.	.	.	14	50.0
		18-19	18	18	50.0	.	.	17	48.6	.	.	.	.	6	33.3	6	.	18	90.0	16	.	18	50.0	.	.	.	.	18	50.0
		20-24	110	110	50.0	.	.	104	48.6	.	.	.	.	38	30.4	23	88.5	107	84.9	91	96.8	107	49.3	.	.	.	.	109	49.8
		25-29	166	166	50.0	.	.	164	49.7	.	.	.	.	78	47.3	79	89.8	157	97.5	162	98.8	164	49.7	.	.	.	.	166	50.0
		30-34	192	192	50.0	.	.	192	50.0	.	.	.	.	135	59.0	98	91.6	183	99.5	191	91.8	175	47.7	.	.	.	.	192	50.0
		35+	138	137	49.8	.	.	138	50.0	.	.	.	.	128	65.0	69	.	138	.	138	86.3	116	45.7	.	.	.	.	138	50.2
	<b>Years since diagnosis</b>	5-9	79	79	50.0	.	.	72	47.7	.	.	.	.	15	18.3	12	66.7	73	79.3	60	95.2	76	49.0	.	.	.	.	78	49.7
		10-14	215	215	50.0	.	.	213	49.8	.	.	.	.	82	38.7	85	88.5	204	96.2	207	99.5	214	49.9	.	.	.	.	215	50.0
		15-19	213	213	50.0	.	.	213	50.0	.	.	.	.	164	61.2	109	96.5	209	.	213	92.2	195	47.8	.	.	.	.	213	50.0
		20+	131	130	49.8	.	.	131	50.0	.	.	.	.	125	67.2	70	.	131	.	131	84.5	107	45.0	.	.	.	.	131	50.2
	<b>Age at diagnosis</b>	1-4	10	10	50.0	.	.	10	50.0	.	.	.	.	4	44.4	5	.	10	90.9	9	.	10	50.0	.	.	.	.	10	50.0
		5-9	72	72	50.0	.	.	72	50.0	.	.	.	.	48	53.9	31	.	72	97.3	70	88.6	63	46.7	.	.	.	.	72	50.0
		10-14	254	253	49.9	.	.	249	49.5	.	.	.	.	147	48.7	99	99.0	253	94.8	240	93.4	237	48.3	.	.	.	.	253	50.0
		15-20	302	302	50.0	.	.	298	49.7	.	.	.	.	187	53.7	141	87.6	282	96.6	292	93.6	282	48.3	.	.	.	.	302	50.0
	<b>Treatment</b>	Chemotherapy, no radiation	492	492	50.0	.	.	485	49.6	.	.	.	.	272	46.0	173	90.6	474	96.1	473	93.3	458	48.2	.	.	.	.	491	49.9
		Chemotherapy and radiation	74	73	49.7	.	.	72	49.3	.	.	.	.	44	51.8	33	91.7	71	91.0	67	84.8	62	45.6	.	.	.	.	74	50.3
<b>Males</b>	<b>All cases</b>		<b>320</b>	<b>319</b>	<b>49.9</b>	.	.	<b>315</b>	<b>49.6</b>	.	.	.	.	<b>190</b>	<b>50.0</b>	<b>130</b>	<b>90.3</b>	<b>306</b>	<b>95.6</b>	<b>306</b>	<b>93.3</b>	<b>298</b>	<b>48.2</b>	.	.	.	.	<b>320</b>	<b>50.1</b>
	<b>Age at baseline</b>	<18	9	9	50.0	.	.	9	50.0	.	.	.	.	.	.	.	.	9	.	9	81.8	7	43.8	.	.	.	.	9	50.0
		18-19	8	8	50.0	.	.	8	50.0	.	.	.	.	3	37.5	3	.	8	88.9	7	.	8	50.0	.	.	.	.	8	50.0
		20-24	46	46	50.0	.	.	43	48.3	.	.	.	.	18	34.0	11	78.6	43	82.7	37	94.9	44	48.9	.	.	.	.	46	50.0
		25-29	88	88	50.0	.	.	86	49.4	.	.	.	.	39	45.9	42	87.5	82	96.5	85	98.8	87	49.7	.	.	.	.	88	50.0
		30-34	94	94	50.0	.	.	94	50.0	.	.	.	.	61	53.0	40	88.9	89	98.9	93	93.0	87	48.1	.	.	.	.	94	50.0
		35+	75	74	49.7	.	.	75	50.0	.	.	.	.	69	62.7	34	.	75	.	75	88.2	65	46.4	.	.	.	.	75	50.3
	<b>Years since diagnosis</b>	5-9	37	37	50.0	.	.	34	47.9	.	.	.	.	6	15.8	5	50.0	32	80.0	29	90.6	34	47.9	.	.	.	.	37	50.0
		10-14	119	119	50.0	.	.	117	49.6	.	.	.	.	44	37.9	47	87.0	112	94.9	113	99.1	118	49.8	.	.	.	.	119	50.0
		15-19	104	104	50.0	.	.	104	50.0	.	.	.	.	83	60.1	49	96.1	102	.	104	92.0	95	47.7	.	.	.	.	104	50.0
		20+	60	59	49.6	.	.	60	50.0	.	.	.	.	57	64.8	29	.	60	.	60	87.0	51	45.9	.	.	.	.	60	50.4
	<b>Age at diagnosis</b>	1-4	3	3	50.0	.	.	3	50.0	.	.	.	.	2	50.0	1	.	3	.	3	.	3	50.0	.	.	.	.	3	50.0

		5-9	39	39	50.0	.	.	39	50.0	.	.	.	.	24	50.0	15	.	39	97.5	38	88.4	34	46.6	.	.	.	.	39	50.0
		10-14	108	107	49.8	.	.	105	49.3	.	.	.	.	66	50.4	43	97.7	107	93.9	101	94.4	102	48.6	.	.	.	.	108	50.2
		15-20	170	170	50.0	.	.	168	49.7	.	.	.	.	98	49.7	71	84.5	157	96.3	164	93.7	159	48.3	.	.	.	.	170	50.0
	<b>Treatment</b>	Chemotherapy, no radiation	251	251	50.0	.	.	247	49.6	.	.	.	.	144	46.9	88	88.9	240	96.0	241	94.1	236	48.5	.	.	.	.	251	50.0
		Chemotherapy and radiation	41	40	49.4	.	.	40	49.4	.	.	.	.	20	44.4	16	84.2	38	92.7	38	84.4	34	45.3	.	.	.	.	41	50.6
<b>Females</b>	<b>All cases</b>		<b>318</b>	<b>318</b>	<b>50.0</b>	.	.	<b>314</b>	<b>49.7</b>	.	.	.	.	<b>196</b>	<b>53.3</b>	<b>146</b>	<b>95.4</b>	<b>311</b>	<b>96.0</b>	<b>305</b>	<b>92.7</b>	<b>294</b>	<b>48.0</b>	.	.	.	.	<b>317</b>	<b>49.9</b>
	<b>Age at baseline</b>	<18	5	5	50.0	.	.	5	50.0	.	.	.	.	1	20.0	1	.	5	83.3	4	.	5	50.0	.	.	.	.	5	50.0
		18-19	10	10	50.0	.	.	9	47.4	.	.	.	.	3	30.0	3	.	10	90.9	9	.	10	50.0	.	.	.	.	10	50.0
		20-24	64	64	50.0	.	.	61	48.8	.	.	.	.	20	27.8	12	.	64	86.5	54	98.2	63	49.6	.	.	.	.	63	49.6
		25-29	78	78	50.0	.	.	78	50.0	.	.	.	.	39	48.8	37	92.5	75	98.7	77	98.7	77	49.7	.	.	.	.	78	50.0
		30-34	98	98	50.0	.	.	98	50.0	.	.	.	.	74	64.9	58	93.5	94	.	98	90.7	88	47.3	.	.	.	.	98	50.0
		35+	63	63	50.0	.	.	63	50.0	.	.	.	.	59	67.8	35	.	63	.	63	84.0	51	44.7	.	.	.	.	63	50.0
	<b>Years since diagnosis</b>	5-9	42	42	50.0	.	.	38	47.5	.	.	.	.	9	20.5	7	87.5	41	78.8	31	.	42	50.0	.	.	.	.	41	49.4
		10-14	96	96	50.0	.	.	96	50.0	.	.	.	.	38	39.6	38	90.5	92	97.9	94	.	96	50.0	.	.	.	.	96	50.0
		15-19	109	109	50.0	.	.	109	50.0	.	.	.	.	81	62.3	60	96.8	107	.	109	92.4	100	47.8	.	.	.	.	109	50.0
		20+	71	71	50.0	.	.	71	50.0	.	.	.	.	68	69.4	41	.	71	.	71	82.6	56	44.1	.	.	.	.	71	50.0
	<b>Age at diagnosis</b>	1-4	7	7	50.0	.	.	7	50.0	.	.	.	.	2	40.0	4	.	7	87.5	6	.	7	50.0	.	.	.	.	7	50.0
		5-9	33	33	50.0	.	.	33	50.0	.	.	.	.	24	58.5	16	.	33	97.1	32	88.9	29	46.8	.	.	.	.	33	50.0
		10-14	146	146	50.0	.	.	144	49.7	.	.	.	.	81	47.4	56	.	146	95.4	139	92.7	135	48.0	.	.	.	.	145	49.8
		15-20	132	132	50.0	.	.	130	49.6	.	.	.	.	89	58.9	70	90.9	125	96.9	128	93.4	123	48.2	.	.	.	.	132	50.0
	<b>Treatment</b>	Chemotherapy, no radiation	241	241	50.0	.	.	238	49.7	.	.	.	.	128	45.1	85	92.4	234	96.3	232	92.4	222	47.9	.	.	.	.	240	49.9
		Chemotherapy and radiation	33	33	50.0	.	.	32	49.2	.	.	.	.	24	60.0	17	.	33	89.2	29	85.3	28	45.9	.	.	.	.	33	50.0

CCSS data from February 2006 data freeze-all % based on denominator with non-missing values

Data for patients with medical records abstraction

Chemotherapy initiated more than 5 years post-diagnosis is not included.