

## OUTMIGRATION STUDY – PART 2

In the previous study it was determined that about 10% of Whatcom County patients received all of their care outside of this community. This percentage had not changed for several years and is low enough to not be a cause of concern.

The question raised from this first study was how many of those patients, in addition to those who are receiving all their care outside the community, are receiving “all or part” of their care in Whatcom County are receiving care outside this community.

Since 2003, the Tumor Registry has kept a record of patient activities, which is coded for location of care. Hence it was possible to evaluate where patients are receiving their care. An “activity” can be a diagnostic procedure, a surgery, a course of Radiation therapy, a course of chemotherapy, or a miscellaneous category, which includes hormonal or biologic therapies.

2830 Whatcom County Patients underwent a total of 6606 activities related to their cancer for a ratio of 2.33 activities per patient. TABLE 1 and GRAPH 1 demonstrate that there has been a fairly constant level of activity per patient over the three-year period. Over three quarters of patients receive a diagnostic procedure and a surgical procedure, and about a third of patients receive a course of radiation. A quarter of patients received a course of chemotherapy until 2005 when the percentage moved up to 30%, which is in keeping with an increase in combined modality care.

### 3-Year Summary Treatment Choice

	Summary of Cases		
	2003	2004	2005
<b>DIAGNOSTIC activities</b>	<b>703</b>	<b>705</b>	<b>717</b>
<b>SURGERY activities</b>	<b>702</b>	<b>778</b>	<b>815</b>
<b>RADIATION activities</b>	<b>302</b>	<b>286</b>	<b>310</b>
<b>CHEMO activities</b>	<b>211</b>	<b>230</b>	<b>286</b>
<b>MISC other activities</b>	<b>170</b>	<b>179</b>	<b>212</b>
<b># Unique Pts from Whatcom Zips</b>	<b>921</b>	<b>942</b>	<b>967</b>
<b>Total Medical "Activities"</b>	<b>2,088</b>	<b>2,178</b>	<b>2,340</b>
<b>Avg Medical Activities/Pt</b>	<b>2.3</b>	<b>2.3</b>	<b>2.4</b>

*Graph 1*

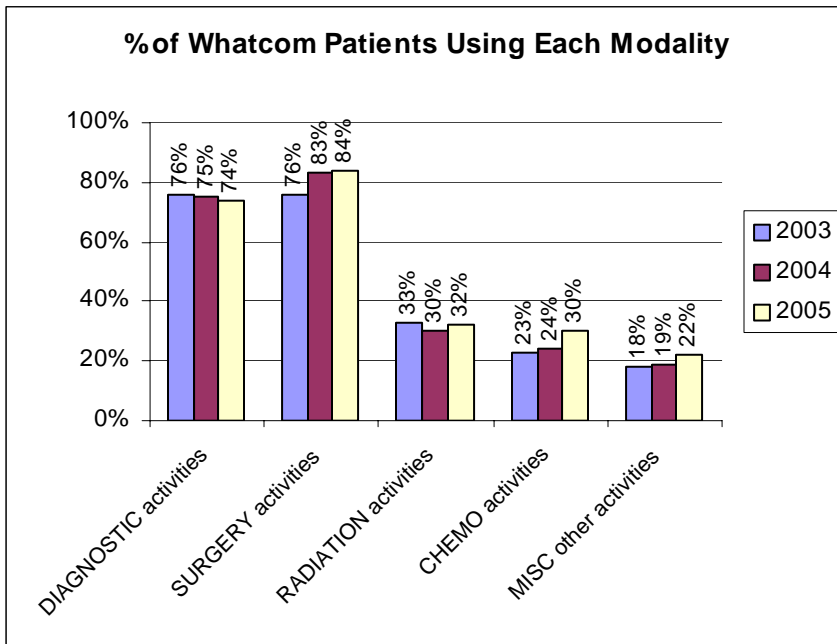


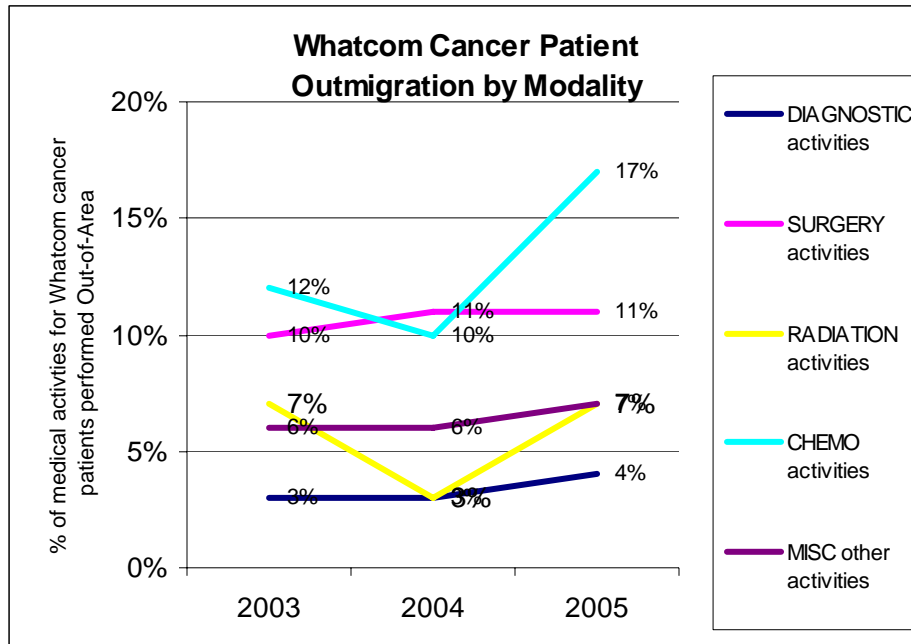
Table 1

TABLE 2 and GRAPH 2 reports the percentage of activities for each category of activity over the three-year period that is occurring “out of area”. The percentage for miscellaneous, surgery and diagnosis “out of area” has been stable over the three-year period. Radiation treatment activity dropped and then rose to its previous level in that block of time, while chemotherapy had a big leap in out of area activity in 2005. These two categories merit close evaluation next year. Overall, however only 8% of patient activities for all Whatcom County patients are occurring out of area.

### 3-Year Summary Treatment Choice

% of Activities Done Outside Whatcom			% Pts with Modality Use Data		
2003	2004	2005	2003	2004	2005
3%	3%	4%	76%	75%	74%
10%	11%	11%	76%	83%	84%
7%	3%	7%	33%	30%	32%
12%	10%	17%	23%	24%	30%
6%	6%	7%	18%	19%	22%
7%	7%	9%			

Table 2



Graph 2

TABLE 3 reports that of the 368 patients who received all or part of their care out of area (12% of all patients received at least one activity out of area), there were 494 total activities. In that group of patients, 2/3rds had a surgical procedure, a quarter had a course of chemotherapy, and less than fifth had a course of radiation or a diagnostic procedure.

Out of area 2003-2005 Treatment Choice

<b>Total Out-of-Area Activities</b>	<b>494</b>	<b>1.3 avg</b>	<b>2003-2005</b>
<b># Unique Pts</b>	<b>368</b>	<b>% of pts who used</b>	<b>13%</b>
<b>Diagnostic</b>	<b>67</b>	<b>18%</b>	
<b>Surgery</b>	<b>243</b>	<b>66%</b>	
<b>Radiation</b>	<b>51</b>	<b>14%</b>	
<b>Chemo</b>	<b>97</b>	<b>26%</b>	
<b>Misc</b>	<b>36</b>	<b>10%</b>	

Table 3

TABLE 4 identifies the cancer type and its effect on out of area activity. The table is a ratio of activity occurring out of area for the total number of patients with that diagnosis in our registry over a three-year period. The ratio ranges from a low of .074 for colorectal cancers, to a high of .650 for GYN malignancies. The average ratio for this group of cancer diagnoses is .158, and upper GI, pancreas, lymphoma/leukemia, GYN and brain cancers have higher than the average ratio. Many of these diagnoses require special

care not currently available, but this review does point to types of cancers than may need additional evaluation.

Out of Area 2003-2005 Treatment Choice			
Site	Activities	Total pts	Ratio
H&N	20	138	0.145
Upper GI	19	84	0.226
Colorectal	20	269	0.074
Pancreas	12	50	0.24
Lung	30	336	0.089
Lymph/leukemia	45	247	0.182
Melanoma	31	313	0.099
Breast	82	521	0.157
GYN	92	141	0.652
Prostate	52	548	0.095
Kidney	11	71	0.155
Brain	17	34	0.5
<b>TOTAL</b>	<b>431</b>	<b>2752</b>	<b>0.157</b>

Table 4

As an aside, TABLE 5 looks at in-migration of patients to Whatcom County. A total of 211 patients came to our County for a total of 350 activities. This represents a ratio of 1.7 activities per patient. 2/3 came to the County for surgery, half for a diagnostic procedure, and a quarter for a course of radiation.

In-migration Treatment Choice		
<b>Total Use of Modalities</b>	<b>350</b>	<b>1.7 avg</b>
<b>2002-2005 # Unique Pts</b>	<b>211</b>	<b>% of pts who used</b>
<b>Diagnostic</b>	<b>108</b>	<b>51%</b>
<b>Surgery</b>	<b>139</b>	<b>66%</b>
<b>Radiation</b>	<b>52</b>	<b>25%</b>
<b>Chemo</b>	<b>27</b>	<b>13%</b>
<b>Misc</b>	<b>24</b>	<b>11%</b>

Table 5

**In Summary**, according to our Cancer Registry, in the past three years 368 Whatcom County patients received all or some of their care out of area. (11.6%) However there were an additional 167 patients from Whatcom County who were not in our Registry and had their diagnosis and all of their care out of area (5.2%). Hence a total of 535 patients from Whatcom County (16.9%) received all or part of their care “out of area”.

Addendum: A preliminary review of the 2006 patients showed that out migration has increased in all categories. See table below.