

**Earned Income Analyses
Combined Second Report¹
For King, Pierce, Spokane, Thurston, Skagit, and Kitsap Counties
NW HIDTA/DASA Drug Court Evaluation
Alcohol and Drug Abuse Institute
University of Washington**

December 11, 2000

ISSUE

Earned income can be regarded as one index of the degree to which an offender has been reintegrated into a productive, mainstream lifestyle. Without some form of steady legitimate income, it seems reasonable to expect that the likelihood of re-offense would be increased. In addition, earned income is an important (and favorable) component in an analysis of cost effectiveness or cost offset. Other legitimate sources of income would include entitlement or disability income, but these do not imply the return to productivity that earned income does, and they represent costs to society rather than returns. The Employment Security Department (ESD) records nearly all income from salaries and wages in the state, and is an excellent source of the amount of earned income for individuals.

CAVEAT

Because economic conditions vary across counties, and across time within a single county, it is not valid to compare the different counties on the magnitudes their earned income results (the amount of earned income). We are making pre and post drug court referral comparisons of income *within* counties, on the grounds that pre and post drug court quarters vary for different subjects depending on when they entered the court, and that therefore within county variations in economic conditions will average out. We are also comparing *patterns* of income across counties, but we could not make comparisons of *amounts of income* across counties without adjusting for factors that create county variations in economic conditions.

METHODS

Subject Groups. Subjects are grouped by the following rules: Persons referred to the court, but who were never admitted, are classified as either *Ineligible* or *Opted Out*, depending on the reason for not being admitted. Ineligibles were persons who had passed an initial legal screen and were referred to the court, but who on closer examination were found to be not eligible due to either clinical or additional legal criteria. Opt Outs were persons who met all criteria, and were offered entry to the court, but who made personal decisions not to enter the drug court. Individuals who had entered drug court one or more times and had ever graduated from a drug court program are classified as *Graduates*. Any other individuals who had ever been admitted to a program and *Failed* (dropped by the program) or *Dropped Out* (the offender initiates the drop-out), are classified into these two categories, and any other episodes

¹ This report is a merging of two earlier reports, "Earned Income Analyses, Revised Analyses" dated June 1, 2000 (for King, Pierce and Spokane counties), and "Earned Income analyses for Thurston, Skagit, and Kitsap Counties" dated July 7, 2000. No new analyses were performed for this report. Text has been revised throughout to the extent necessary to make the text flow, but remains unchanged in substance. Minor rewordings occur in the Results section for the reason just given, and to clarify points made earlier. An additional Conclusion has been added, the first one, to make explicit a finding reported in the Results material.

ignored (in some analyses and/or for some counties, these two groups are combined into a *Failed* group). Remaining cases that have ever been admitted are classified as *Active*.

In the larger counties (King, Pierce and Spokane), subject groups with fewer than ten subjects are dropped from the graphs, because of the unreliability of results from such small groups. For the smaller, newer courts (Thurston, Skagit and Kitsap), for descriptive purposes and to take advantage of all available data, all groups are graphed.

Data for this analysis are reports of *quarterly* income from ESD records for all drug court participants as of about January, 2000 for whom we had Social Security Numbers (SSNs). Data are for the period from the second quarter of 1993 through the second quarter of 1999. SSNs were obtained from TARGET and from local court data sets. Somewhat over 70% of all subjects had SSNs for this analysis, as opposed to about one third of the subjects in the January analyses. For each subject, quarterly income is analyzed for two years prior to their referral to drug court, and for three years after this referral, if data are available. Note that this is years post *referral*, not post *drug court*. For program graduates and for some long term participants who for some reason do not finish, the first year post referral, and quite possibly beyond that, is spent in the drug court.

Although we received SSNs for participants from all six courts, Thurston, Skagit and Kitsap counties tend toward small sample sizes and/or short follow-up periods. Small samples lead to unreliable results since anomalies in incomes are not evened out. Short follow-ups hinder interpretation because in a short time frame it cannot be determined whether a change in level represents part of a real trend over time, or is a minor variation contrary to the longer term trend. For this reason, results for these three counties are viewed as preliminary and interpretations should be guarded.

Presentation Two graphs of income and one table of group sizes are presented for each county: The top graph plots median incomes (the middle value for the set of incomes) for each quarter, the bottom graph plots arithmetic means of quarterly income for all subjects in the relevant group;. Means give the better sense of total group income, whereas medians better represent "typical" individual income, and have the advantage that they are not effected by infrequent large values. Sample sizes vary across time because subjects contacted the courts at different times, and so had different durations of pre and post income. Sample sizes for each court and each time period are given in a table for each county.

RESULTS

Focussing attention on the three larger counties with older programs (King, Pierce, and Spokane counties), the major finding is that while graduated participants tend to have somewhat higher earned income than other groups before referral to drug court (except in Spokane), their income increases, becoming substantially higher than the other groups, in the post-referral time period.

Looking first at the medians, which again are generally regarded as the more appropriate index of typical individual income, we see for the pre-drug court period for King and Pierce counties that all the groups have medians of zero (except for a few values for the graduated groups and in Pierce a single data point for the drop-outs). This means that at least half of the subjects in each group have incomes of zero. For these same counties, in the post referral period, all the groups continue with medians of zero except the graduated group (and in Pierce, a single quarter for the drop-outs), whose medians climb well above zero. Graduates in both counties show declines in medians in the third year following drug court entry, suggesting that "typical" incomes are declining.

The pattern of medians in Spokane is similar in the post-referral period, but different prior to court referral. In the pre-court period median incomes for the graduates are above zero, with the drop-out group also above zero about half the time, and the failed group slightly above zero for 3 quarters. After court entry the medians for the graduated group increase for about a two year period, and then return, with large fluctuations, to the pre court levels. No other group has any post-entry medians above zero, except for the opt-outs for one quarter. By this measure, both the drop-out and failed groups lost income after drug court referral, graduates gained, and the others remained the same.

In the graphs for means (which, again, give some indication of total group income, but can be unduly influenced by isolated high incomes), for King and Pierce counties the graduate groups do have the highest incomes in the pre-intervention period. In both counties the graduates are the only groups to show substantial, systematic increases in income for the two years after court entry (followed in both cases by slight declines in the third year). In King County, all the other groups maintain a constant, and lower, level of income across the entire pre- and post-referral time period reported. In Pierce County the other groups are steady or show slight declines across the time period, except for the active group which shows modest but erratic improvement.

Spokane County again shows a different pattern overall. The graduate group means are still higher than the other groups during the post referral period, but in the period before drug court the active group has a mean income roughly equivalent to the graduate group. The graduate, active, and drop-out groups all increase immediately after drug court entry, but the subsequent patterns are different. The graduate group increases over a two and a half year period, then declines precipitously the final two quarters to the level of the other groups. The active group peaks the first quarter after entry, and declines for three more quarters to pre-court levels, then the group becomes too small to follow. The drop-out group also increases in the 3 quarters following drug court contact, but then declines to pre-court levels, and becomes too small to continue to follow.

Among the newer, smaller drug courts, Thurston County has the largest number of participants and a respectable five quarters of follow-up income data, although small N's are a problem. Given these constraints, the results are generally similar to those reported earlier for Spokane county: Pre drug court the graduate and active groups have roughly similar incomes. Post drug court referral, mean incomes increase for graduates, but remain the same or decline for the other groups. The median values show a great deal of post-entry variability, which could be partly due to small N's.

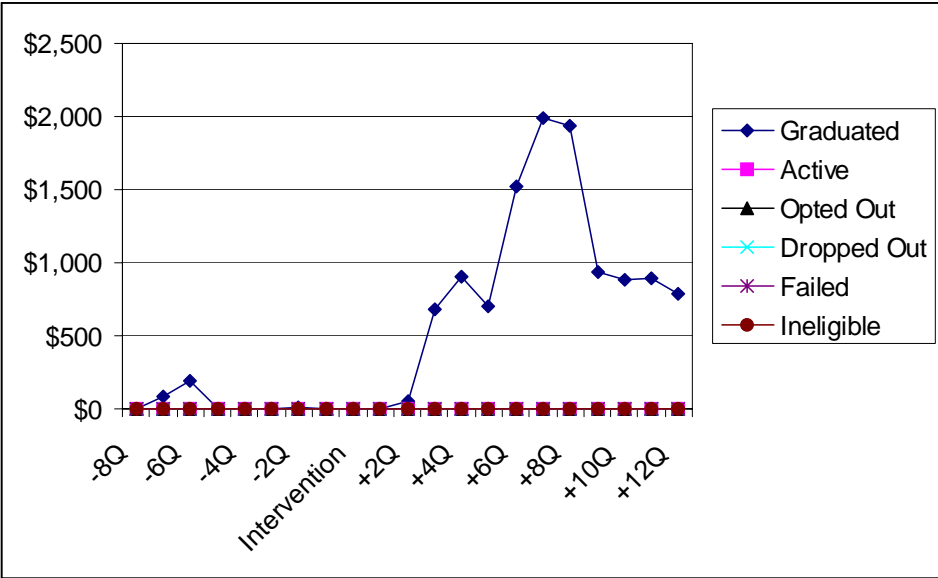
Skagit County has small N's but decent retention through three or four quarters post court referral, and a smattering of subjects through seven quarters. Keeping in mind the small N's (very small by the sixth quarter), the pattern of results is very much like King, Pierce and Spokane: for both medians and means, the graduate group and only the graduate group shows a consistent pattern of increases in income.

Kitsap County simply had not had enough time to accumulate participants and follow-up for the analysis to be useful. In our information on participants there had been no graduates, all sub-groups were small, and, as of about 3rd quarter, 1999, no one had data beyond two quarters post drug court referral. What we do see in their data is that the opt-out group has higher pre-court referral income, and possibly post court as well, than any other group. This is not a pattern observed in any other county, but little should be made of it pending more subjects and longer follow-up.

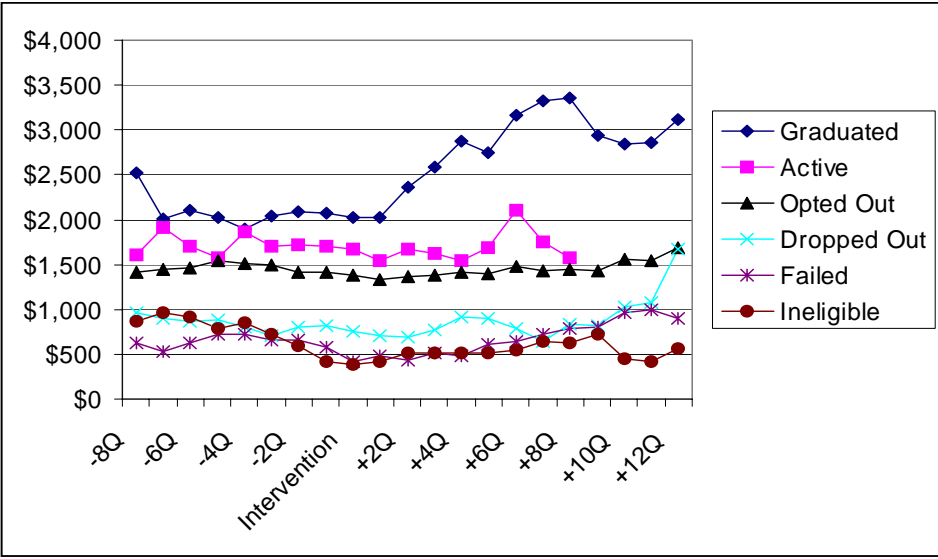
CONCLUSIONS

1. There is a tendency for the graduate group participants to have higher incomes prior to drug court than those in the other groups.
2. In the three larger counties (King, Pierce and Spokane) and in the two newer counties that have data (Thurston and Skagit), the graduate group shows an increase in income beginning with their entry into drug court.
3. In the three larger counties where there is sufficient data, the increase continues or holds for two years, with either a slight or major decline in the third year (depending on the county and whether one looks at means or medians).
4. No other group in the three larger counties shows a pattern of increased income following contact with the drug court except for slight, inconsistent or short-lived changes in the active cases in Pierce and Spokane and the drop-outs in Spokane.

**King County (Seattle) Drug Court Participants
Median Quarterly Reported Earned Income**



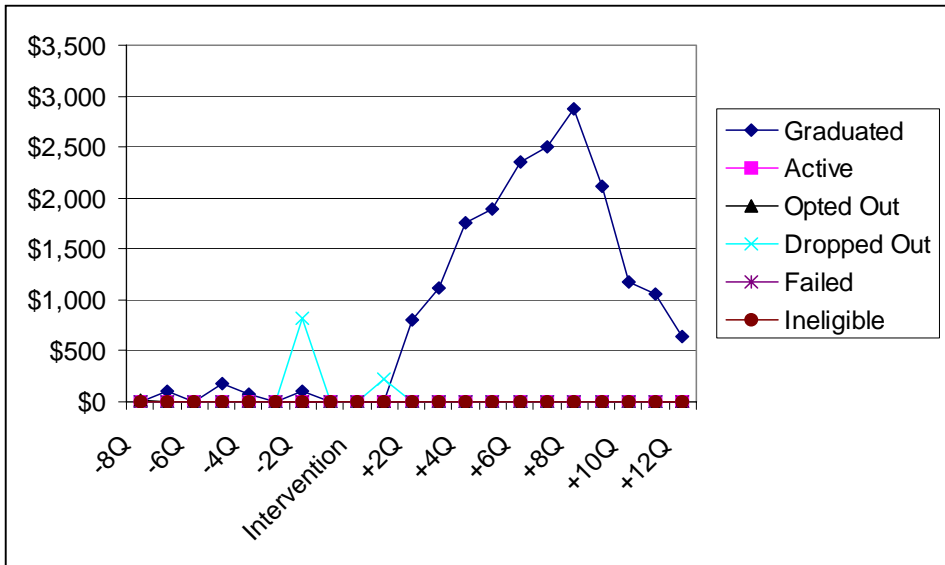
**King County (Seattle) Drug Court Participants
Mean Quarterly Reported Earned Income**



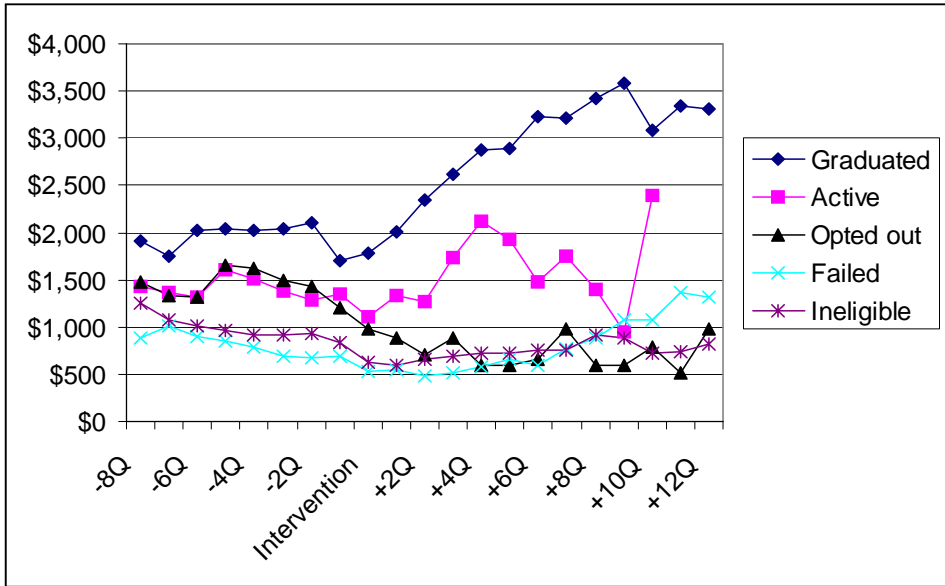
King County - Numbers of Individuals for Each Data Point

	-8Q	-7Q	-6Q	-5Q	-4Q	-3Q	-2Q	-1Q	DC	+1Q	+2Q	+3Q	+4Q	+5Q	+6Q	+7Q	+8Q	+9Q	+10Q	+11Q	+12Q
Graduated	155	171	191	197	197	197	197	197	197	197	197	197	197	193	185	178	170	156	140	125	118
Active	253	257	261	262	262	262	262	262	262	246	201	162	125	81	64	53	46	36	23	18	16
Opted out	1321	1410	1475	1502	1502	1502	1502	1502	1502	1484	1430	1365	1309	1223	1170	1091	1046	996	827	713	641
Dropped out	290	307	319	326	326	326	326	326	326	326	321	313	289	260	243	222	205	181	156	131	118
Failed	161	180	196	216	216	216	216	216	216	215	215	211	205	201	196	190	184	169	158	152	147
Ineligible	211	224	241	246	246	246	246	246	246	243	228	197	183	166	158	142	129	115	103	93	87

**Pierce County (Tacoma) Drug Court Participants
Median Quarterly Reported Earned Income**



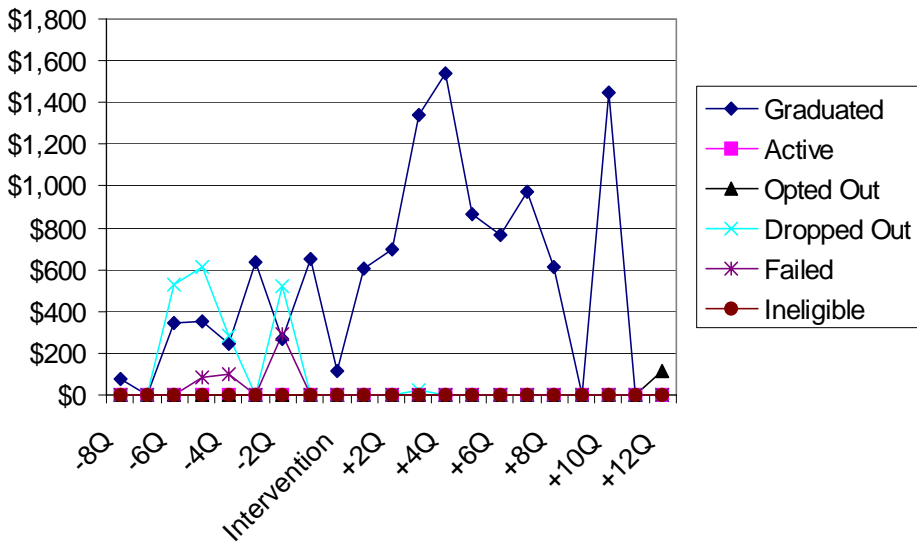
**Pierce County (Tacoma) Drug Court Participants
Mean Quarterly Reported Earned Income**



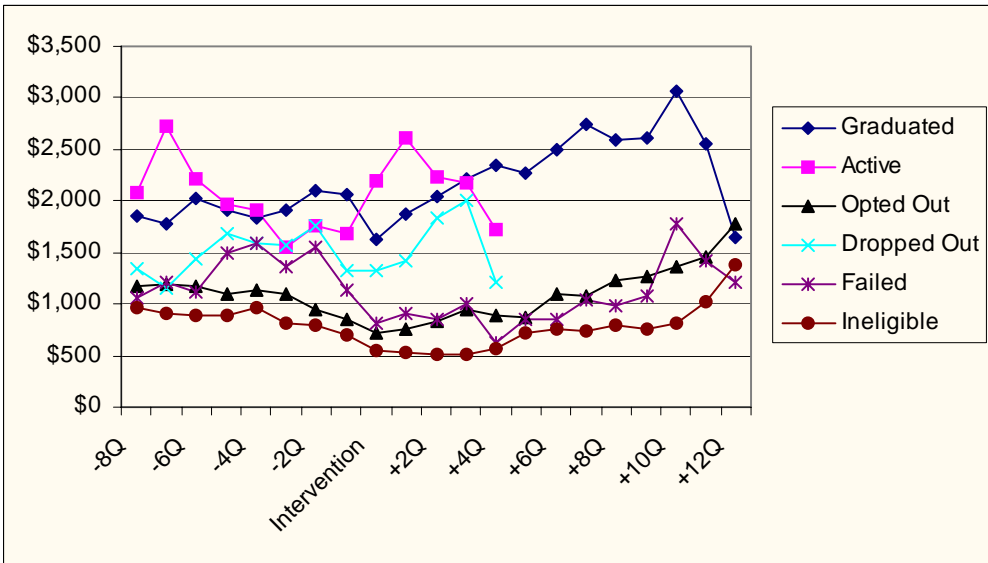
Pierce County - Numbers of Individuals for Each Data Point

	-8Q	-7Q	-6Q	-5Q	-4Q	-3Q	-2Q	-1Q	DC	+1Q	+2Q	+3Q	+4Q	+5Q	+6Q	+7Q	+8Q	+9Q	+10Q	+11Q	+12Q
Graduated	175	185	189	189	189	189	189	189	189	189	189	189	189	180	175	153	139	119	98	78	67
Active	285	286	286	286	286	286	286	286	286	234	191	125	95	60	40	28	22	15	12	4	3
Dropped out	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	4	3	3	1	0
Failed	266	277	284	284	284	284	284	284	284	284	284	276	268	254	242	219	201	173	140	100	75
Opted out	74	75	75	75	75	75	75	75	75	75	72	70	62	50	40	33	27	24	16	8	5
Ineligible	400	511	570	570	570	570	570	570	570	557	545	527	510	497	471	439	423	406	395	387	364

**Spokane County Drug Court Participants
Median Quarterly Reported Earned Income**



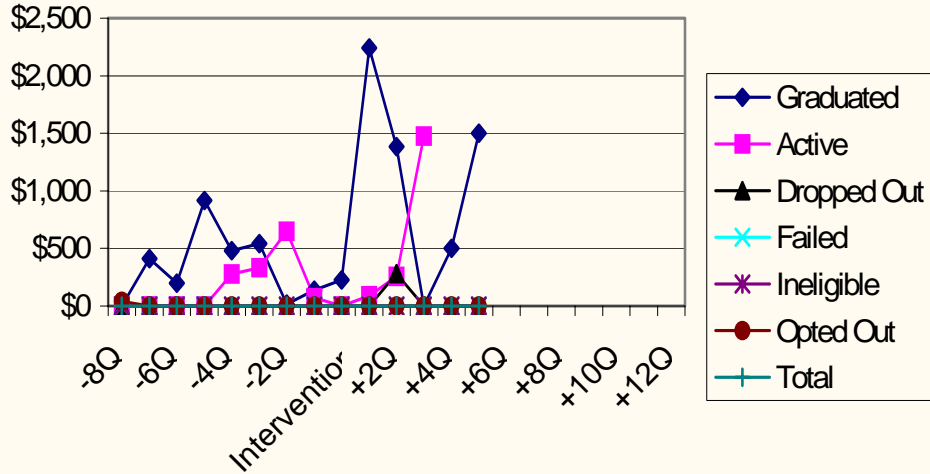
**Spokane County Drug Court Participants
Mean Quarterly Reported Earned Income**



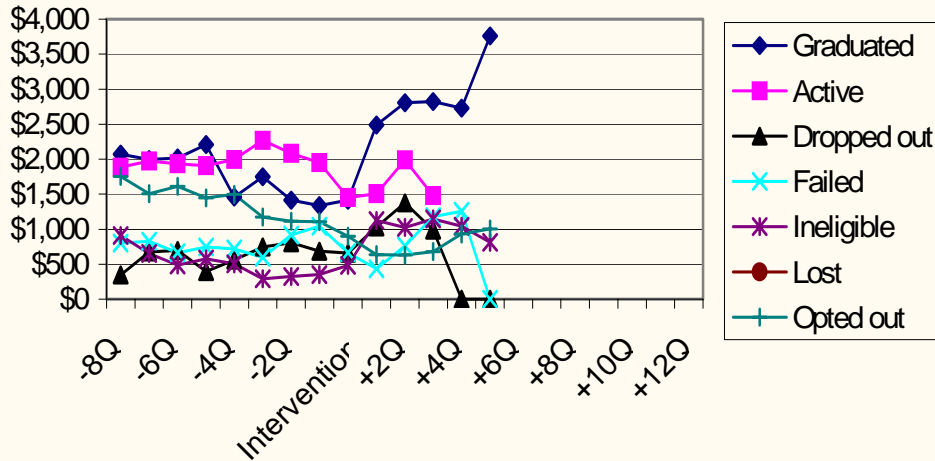
Spokane County - Numbers of Individuals for Each Data Point

Count	-8Q	-7Q	-6Q	-5Q	-4Q	-3Q	-2Q	-1Q	DC	+1Q	+2Q	+3Q	+4Q	+5Q	+6Q	+7Q	+8Q	+9Q	+10Q	+11Q	+12Q
Graduated	58	58	58	58	58	58	58	58	58	58	58	58	58	54	51	45	38	32	29	23	18
Active	46	46	46	46	46	46	46	46	46	40	25	16	11	7	4	3	1	1	1	1	0
Opted out	281	281	281	281	281	281	281	281	281	247	231	209	193	171	145	117	100	81	67	57	33
Dropped out	21	21	21	21	21	21	21	21	21	18	16	12	11	8	6	6	4	2	1	1	1
Failed	64	64	64	64	64	64	64	64	64	64	64	64	62	58	55	49	41	37	34	29	23
Ineligibe	915	915	915	915	915	915	915	915	915	800	704	622	553	488	428	351	297	244	211	166	141

Median Quarterly Incomes of Thurston County Drug Court Participant Subgroups



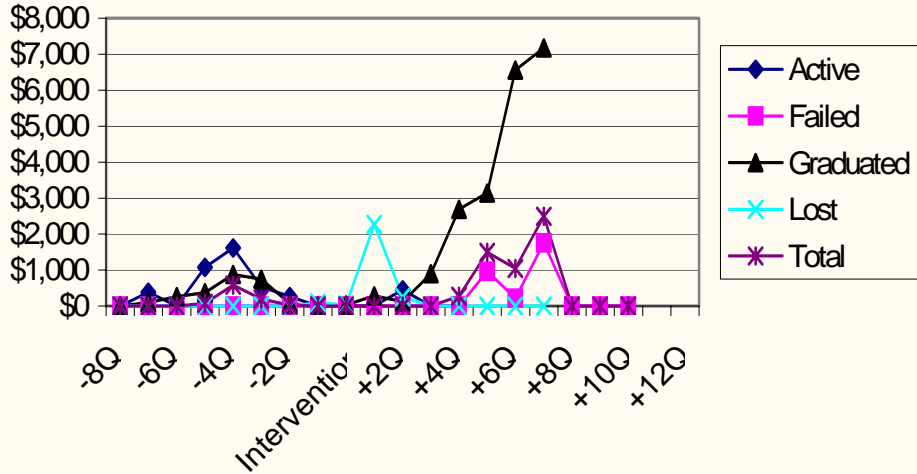
Mean Quarterly Income of Thurston County Drug Court Participant Subgroups



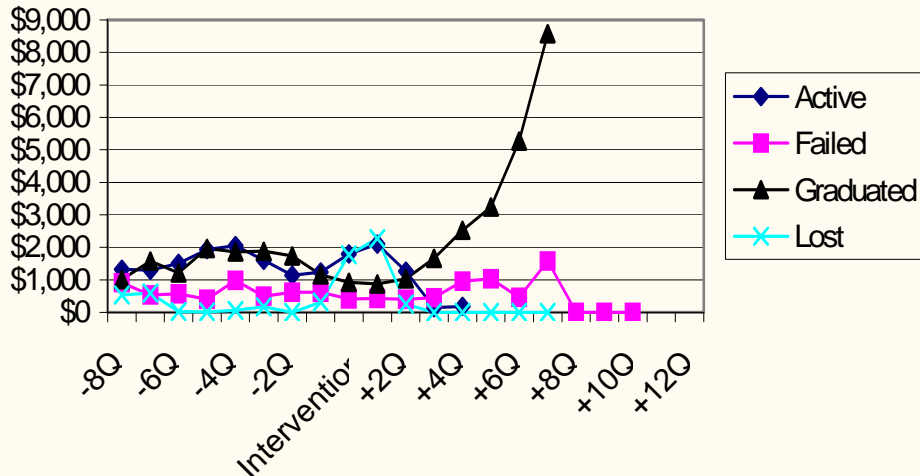
Thurston County Drug Court
Number of Participants in Each Subgroup
By Quarters Pre and Post Drug Court Referral

Group	-8Q	-7Q	-6Q	-5Q	-4Q	-3Q	-2Q	-1Q	Drug Court Referral	+1Q	+2Q	+3Q	+4Q	+5Q	+6Q	+7Q	+8Q	+9Q	+10Q	+11Q	+12Q
Graduated	16	16	16	16	16	16	16	16	16	16	16	15	10	6	0	0	0	0	0	0	0
Active	40	40	40	40	40	40	40	40	40	22	9	2	0	0	0	0	0	0	0	0	0
Dropped out	14	14	14	14	14	14	14	14	14	10	8	6	4	2	0	0	0	0	0	0	0
Failed	61	61	61	61	61	61	61	61	61	56	47	35	18	4	0	0	0	0	0	0	0
Ineligibe	25	25	25	25	25	25	25	25	25	22	19	13	11	8	0	0	0	0	0	0	0
Lost	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Opted out	124	124	124	124	124	124	124	124	124	106	67	48	27	11	0	0	0	0	0	0	0

Median Quarterly Income of Skagit County Drug Court Participant Subgroups



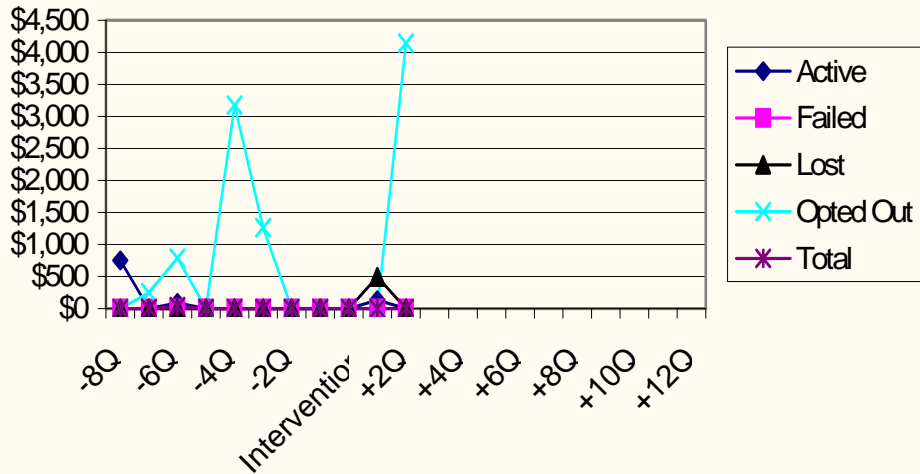
Mean Quarterly Income of Skagit County Drug Court Participant Subgroups



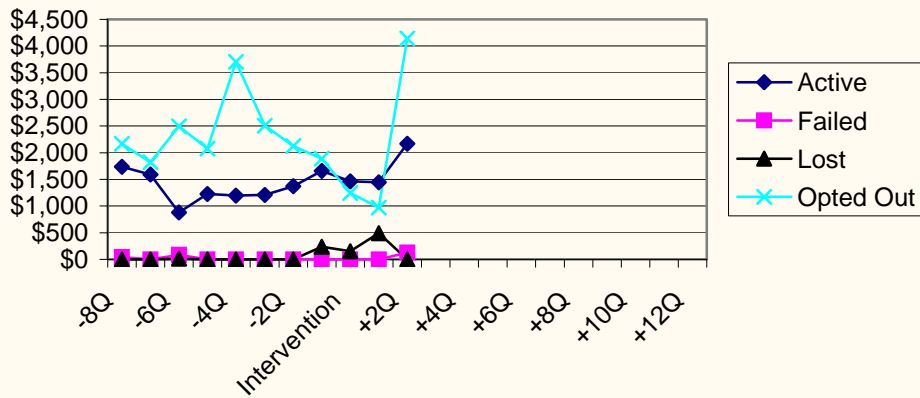
Skagit County Drug Court
 Number of Participants in Each Subgroup
 By Quarters Pre and Post Drug Court Referral

GROUP	-8Q	-7Q	-6Q	-5Q	-4Q	-3Q	-2Q	-1Q	Drug Court Referral	+1Q	+2Q	+3Q	+4Q	+5Q	+6Q	+7Q	+8Q	+9Q	+10Q	+11Q	+12Q
Active	29	29	29	29	29	29	29	29	29	23	13	4	3	0	0	0	0	0	0	0	0
Failed	14	14	14	14	14	14	14	14	14	13	13	11	8	8	5	4	0	0	0	0	0
Graduated	12	12	12	12	12	12	12	12	12	12	12	12	10	9	6	3	0	0	0	0	0
Lost	4	4	4	4	4	4	4	4	4	2	2	1	1	1	1	1	0	0	0	0	0

Median Quarterly Income of Kitsap County Drug Court Participant Subgroups



Mean Quarterly Income of Kitsap County Drug Court Participant Subgroups



Kitsap County Drug Court
Number of Participants in Each Subgroup
By Quarters Pre and Post Drug Court Referral

GROUP	-8Q	-7Q	-6Q	-5Q	-4Q	-3Q	-2Q	-1Q	Drug Court Referral	+1Q	+2Q	+3Q	+4Q	+5Q	+6Q	+7Q	+8Q	+9Q	+10Q	+11Q	+12Q
Active	17	17	17	17	17	17	17	17	17	15	9	0	0	0	0	0	0	0	0	0	0
Failed	4	4	4	4	4	4	4	4	4	4	3	0	0	0	0	0	0	0	0	0	0
Ineligible	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lost	3	3	3	3	3	3	3	3	3	2	1	0	0	0	0	0	0	0	0	0	0
Opted Out	11	11	11	11	11	11	11	11	11	7	2	0	0	0	0	0	0	0	0	0	0