Washington State
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INTEGRATED CRISIS RESPONSE PILOTS: LONG-TERM OUTCOMES OF CLIENTS ADMITTED TO SECURE DETOX

Introduction

In 2005, the Washington State Legislature passed E2SSB 5763, which changed substance abuse and mental health commitment laws and directed the Department of Social and Health Services (DSHS) to establish two sites for the Integrated Crisis Response (ICR) pilot program. Following a bidding process, pilots were established at Pierce County and the North Sound Regional Support Network (RSN). The ICR pilots began operating in spring 2006.

In these pilot regions, Designated Crisis Responders (DCRs) investigated and had authority to detain individuals determined "gravely disabled or presenting a likelihood of serious harm" due to mental illness, substance abuse, or both.[1] In non-pilot counties, this function was conducted separately by mental health professionals and chemical dependency specialists who operated under different statutes. The legislation also established secure detoxification (detox) facilities at each pilot site to involuntarily house individuals with substance abuse problems who might refuse services.

Combined, there were nearly 3,000 admissions to the secure detox facilities from March 2006 through June 2009 when, due to funding considerations, the facilities ceased operations.

The 2005 legislation directed the Washington State Institute for Public Policy (Institute) to determine if the ICR pilots were effective at improving treatment and outcomes of clients detained under the statute. The Institute published two preliminary reports on the ICR pilots, one describing client characteristics[2] and another detailing implementation and preliminary outcomes.[3] This report describes 18-month outcomes associated with detentions to the secure detox facilities. Outcomes examined include psychiatric hospitalizations, emergency department utilization, substance abuse treatment, employment, and arrests.

Summary

In 2006, the Washington State Department of Social and Health Services established two sites—one in Pierce County and another at the North Sound Regional Support Network (RSN)—for the Integrated Crisis Response pilot program. At the pilots, Designated Crisis Responders had authority to detain individuals with serious mental illness or substance abuse problems. Elsewhere, this function was usually conducted separately by mental health and chemical dependency professionals. The pilots also created secure detox facilities to hold individuals detained under the statute.

Clients Served: From April 2006 through June 2009 (when the facilities ceased operations) there were nearly 3,000 admissions to secure detox. The facilities averaged about 40 admissions per month and 9.7 days per admission. The average cost per stay was approximately $2,670.

Outcomes of Clients Admitted to Secure Detox: Individuals admitted to secure detox facilities from May 2006 through October 2007 (N=982) were followed for 18 months after their first admission. Their outcomes were compared to a matched comparison groups of clients at other RSNs for whom secure detox was unavailable. The analysis revealed that admission to secure detox was significantly associated with the following:

- Fewer admissions to state and community psychiatric hospitals;
- Greater participation in inpatient substance abuse treatment;
- More rapid entry into substance abuse treatment; and
- Higher rates of employment.
- Findings regarding emergency department utilization and arrests were mixed—with significant increases in one pilot and not the other—but were not statistically significant overall.

Savings from fewer hospitalizations and avoidance of more expensive detentions to mental health facilities more than offset the cost of secure detox. Some of these cost savings may be partially eroded by increased emergency department utilization or arrests experienced by some program participants. While regional factors resulted in differently structured programs at the pilots, key outcomes were consistent across the sites, suggesting similar results could be attained if the program were implemented statewide.

[1] RCW 71.05 and 70.96B

[2] J. Mayfield & M. Burley. (2007). *Integrated crisis response pilots: Preliminary report on client characteristics.* Olympia: Washington State Institute for Public Policy, Document No. 07-12-3901.

[3] J. Mayfield & M. Burley. (2008). *Integrated crisis response pilots: Preliminary outcomes of clients admitted to secure detox.* Olympia: Washington State Institute for Public Policy, Document No. 08-07-3902.

Establishment of the Integrated Crisis Responder Pilot Programs

The ICR pilot project was a result of recommendations from the Cross-System Crisis Response Project Task Force,[4] which examined crisis response across the mental health and chemical dependency systems in Washington State. In 2005, the Legislature created the pilots based on recommendations of the Task Force.

Task Force Recommendations and Legislative Response

The Task Force examined the needs of persons with co-occurring mental and substance abuse disorders and recommended improvements. The Task Force's final report included recommendations for establishing an integrated crisis response system.[5] In response to the Task Force recommendations, the 2005 Legislature (in E2SSB 5763):

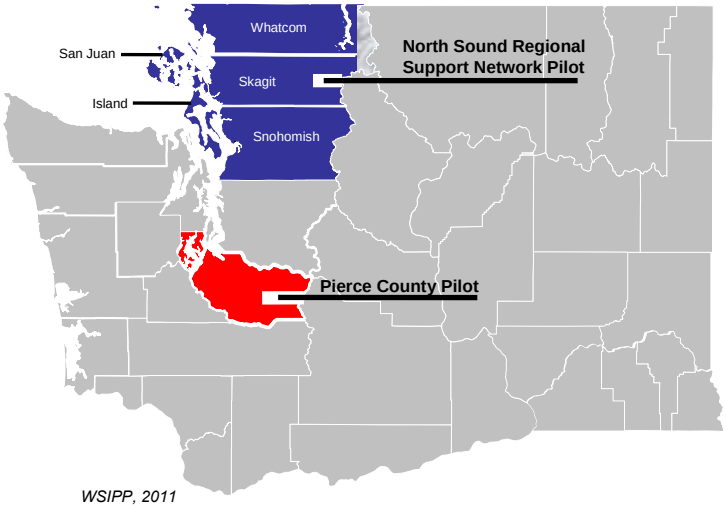
- Directed DSHS to establish two ICR pilot sites;
- Created a new category of mental health professionals, Designated Crisis Responders (DCRs), to investigate and detain individuals determined to be "gravely disabled or presenting a likelihood of serious harm" due to mental illness, substance abuse, or both;
- Created new statutory authority for 14-day commitments for individuals with chemical dependency issues; and
- Directed the pilot agencies to establish secure detoxification facilities for these new detainees.

Selected Pilot Sites

The Legislature directed DSHS to select pilot sites to represent urban and rural areas. Pierce County was selected to represent an urban setting and the North Sound RSN was selected to represent a predominately rural setting (Exhibit 1). Consequently, the sites differ significantly with respect to land area and population, factors which ultimately influenced implementation.

The five-county North Sound RSN comprises 6,476 square miles and, during the study period, served a population of about 1,089,900, or 172 persons per square mile (Exhibit 2). About 51 percent of those living in North Sound RSN reside in incorporated areas. Excluding more populated Snohomish County, the other four counties in the North Sound RSN have a population density of 90 persons per square mile.

Exhibit 1
Integrated Crisis Responder Pilot Sites



WSIPP, 2011

Pierce County covers a smaller 1,679 square miles and, during the study period, served a population of about 796,700, or 474 persons per square mile. More than 54 percent of those living in Pierce County reside in incorporated areas. It is worth noting that neither pilot site is exclusively urban or rural. North Sound RSN serves several heavily populated urban areas, including Everett and Bellingham, while eastern Pierce County is predominantly rural.

Exhibit 2
Land Area and Population of the ICR Pilot Sites

	North Sound	Pierce County
Land Area (Square Miles)	6,476	1,679
Average 2006–2009 Population	1,089,900	796,700
Population per Square Mile	172	474
Percentage in Incorporated Areas	51%	54%

Source: Washington State Office of Financial Management

Differences in implementation are discussed in detail in a previous report.[6] Key differences with respect to administration, available services and resources, involuntary admission practices, location and physical characteristics are summarized in Exhibit 3.

[4] The Task Force met monthly between September 2003 and June 2004.

[5] *The cross-system crisis response project: Recommendations for improvements to crisis response* was prepared by the Cross-System Response Task Force in June 2004 at the request of the Association of County Human Services (ACHS) and Department of Social and Health Services (DSHS).

[6] Mayfield & Burley, 2008

Exhibit 3
Key Differences in the Integrated Crisis Responder Pilot Sites

	North Sound Pilot Site	Pierce County Pilot Site
Administrative Complexity	Multiple counties	Single county
Crisis Services	Dispersed/ hospital emergency departments	Centralized/ on-site crisis triage center
Uniformity of DCR Practices	Some diversity across counties	Uniform practices in one county
Secure Detox Admissions	Involuntary, initiated by DCR	Involuntary or voluntary, certified by DCR
Secure Detox Resources	Not licensed to serve clients with certain medical conditions	Access to staff licensed to perform certain medical procedures
Secure Detox Location	Rural campus with other inpatient facilities	Urban building with inpatient facilities and crisis triage
Physical Characteristics	Larger land area/dispersed population	Smaller land area/more concentrated population

Designated Crisis Responders

Established in the legislation that created the pilots, Designated Crisis Responders (DCRs) were specially trained mental health professionals with 40 hours of chemical dependency training and who had the authority to investigate and detain individuals with serious mental health or substance abuse issues. In non-pilot counties, investigations were performed separately by mental health or chemical dependency specialists. In smaller counties, however, one individual might have carried out both duties. The North Sound and Pierce County pilots were served by 56 and 8 DCRs, respectively, during the study period.

New Statute for Involuntary Treatment

Detentions and commitments for involuntary mental health treatment have long been authorized under Chapter 71.05 RCW. That statute permits a designated mental health professional to petition the court for 72-hour detentions and 14-day commitments to mental health evaluation and treatment facilities, and 90-day commitments to a state mental hospital.[7]

Detentions and commitments for chemical dependency are authorized under RCW 70.96A. Under that statute, law enforcement or other designees are authorized to place individuals in involuntary protective custody in a medical or treatment facility for up to 72 hours. A chemical dependency specialist may also petition for a 60-day commitment to a secure residential facility.

Under the statute created for the pilots, RCW 70.96B, DCRs at the pilot sites had the authority to detain individuals up to 72 hours if there was a likelihood of serious harm or if a person was gravely disabled as a result of a mental disorder, chemical dependency disorder, or both. Individuals detained under this statute could also be committed to an additional 14 days at a secure detox facility at the pilot sites. Longer-term 60-day commitments to involuntary substance abuse treatment have remained possible under existing law.

Secure Detox Facilities

The Pierce County and North Sound secure detox facilities began operations in April 2006 and May 2006 respectively. Both were licensed by the Department of Health and the DSHS Division of Behavioral Health and Recovery (DBHR) to provide acute detoxification and other services. The secure 16-bed facilities at each pilot site were used for initial detention and 14-day commitments of individuals deemed gravely disabled or presenting the likelihood of serious harm as the result of chemical dependency, co-occurring disorder, or acute or chronic intoxication.

From April 2006 through June 2009, there were 2,968 admissions to the secure detox facilities: 1,431 at the Pierce County facility and 1,537 at North Sound.[8] The facilities averaged about 40 admissions per month, with each admission averaging 9.7 days.[9] At a $275 per day, the average cost per stay was approximately $2,670. A similar stay in a mental health evaluation and treatment facility (over $500 per day) would have cost $4,850.[10]

[7] See Appendix A for a schematic of the detention and commitment process by enabling statutes.
[8] Individuals may be detained multiple times. The 2,968 admissions were for 2,060 individuals.
[9] Ted Lamb, DSHS-DBHR (personal communication, May 9, 2011).
[10] Mayfield & Burley, 2008

Outcomes of Clients Admitted to Secure Detox Facilities

We investigated the 18-month outcomes of 982 individuals[11] admitted to secure detox facilities from May 2006 through October 2007.[12] Outcomes were compared to matched comparison groups of similar individuals from other RSNs.

The Target Event: First Admission. For this evaluation, the target event (the date after which the follow-up period began) was the *first* admission to a secure detox facility during the study period, May 2006 through October 2007. October 2007 was the last month for a target event that allowed for a full 18-month follow-up period.

Outcomes Examined. This analysis examines the following outcomes of those admitted to secure detox facilities at the pilot sites: state psychiatric hospitalizations, emergency department utilization, the likelihood of entering substance abuse treatment after admission to secure detox and time to first treatment, employment, and arrests. Multivariate statistical techniques were used to estimate program effects at each pilot site and both sites combined.[13]

Matched Comparison Groups. To measure program impacts, it was necessary to compare the outcomes of clients who received services (secure detox admissions) with a group of similar clients who were not subject to the intervention.[14]

Comparison groups for North Sound and Pierce County were selected from the population of individuals undergoing mental health investigations or crisis services during the same time period in other RSNs where secure detox was unavailable.[15] This process required two steps:

- Statistical analyses identified client characteristics (demographics and experiences prior to the investigation) that were closely associated with admission to a secure detox.
- These characteristics were then used to match secure detox clients in North Sound and Pierce County with clients in other RSNs for whom secure detox was not available. Individuals were also matched according to their histories with respect to the outcomes examined in this report, yielding statistically equivalent comparison groups for North Sound and Pierce County (Exhibit 4).[16]

Once the matched samples were selected, multivariate statistical techniques were used to estimate the differences in outcomes attributable to an admission to secure detox. While the secure detox and comparison group clients were statistically similar in many ways, other factors–such as specific medical diagnoses, acuity, differences in investigations, voluntary versus involuntary admissions, RSN resources and practices, and other local mental health, chemical dependency, or public health initiatives–may have influenced outcomes in addition to admission to secure detox.

Exhibit 4
Background Characteristics:
Individuals Admitted to Secure Detox and Comparison Groups

	North Sound		Pierce County	
	Secure Detox N=514	**Control Group** N=514	**Secure Detox** N=468	**Control Group** N=468
Mean Age (at target event)	40	39	40	39
Percentage Male	65%	66%	60%	61%
In the Prior 18 Months:				
Mean Fee-for-Service Medical Reimbursements	$5,298	$5,117	$6,052	$6,255
Percentage With Substance Abuse Treatment	27%	27%	27%	27%
Arrest Rate	29%	29%	29%	29%
Percentage With Detox Admissions	33%	33%	32%	32%
Percentage With Emergency Department Visits	41%	41%	43%	43%
Hospitalization Rate	14%	14%	15%	15%
Percentage With Any Employment	54%	54%	43%	43%

[11] The DSHS TARGET database was used to identify individuals admitted to secure detox at either facility.
[12] October 2007 is the last month of admission that allows for a full 18-month follow-up period.
[13] Logistic regression and Ordinary Least Squares were used to estimate dichotomous and continuous outcomes, respectively.
[14] The analysis used data from multiple sources. See the note on data sources at the end of this report.
[15] If there were multiple investigations or crisis services in the study period, the target event was randomly selected.
[16] We were unable to match 17 secure detox clients with the other data used for this analysis. Furthermore, we were unable to find one-to-one comparison group matches for eight individuals. All were dropped from the analysis.

What Happens After Admission to Secure Detox? Exhibit 5 describes outcomes of clients admitted to North Sound and Pierce County secure detox facilities. Results of analyses are shown for each pilot site and for both sites combined over an 18-month period following admission. It also describes outcomes of a matched comparison group of clients with similar characteristics from other RSNs. Numbers shown are statistically adjusted based on analyses controlling for individual characteristics and histories.[17]

Over the 18-month follow-up period, there were no statistically significant differences between secure detox and comparison group clients regarding mortality. There were, however, statistically significant differences with respect to hospitalization rates, emergency department utilization, substance abuse treatment, arrests, and employment over the 18-month follow-up.

Exhibit 5

Statistically Adjusted Outcomes of Individuals Admitted to Secure Detox and Similar Individuals Without Secure Detox Over an 18-month Follow-up

	North Sound	Pierce County	Combined Sites
Percentage Deceased			
Admitted to Secure Detox	5%	8%	7%
Comparison Group	6%	7%	6%
Percentage Hospitalized			
Admitted to Secure Detox	10% *	11% *	10% *
Comparison Group	19%	18%	19%
Number of Public-Paid Emergency Department Visits			
Admitted to Secure Detox	2.8	6.0 *	4.6
Comparison Group	3.1	4.5	3.8
Percentage Receiving Any Substance Abuse Treatment			
Admitted to Secure Detox	58%	62%	61% *
Comparison Group	51%	58%	53%
Percentage Receiving Inpatient Substance Abuse Treatment			
Admitted to Secure Detox	42% *	52% *	47% *
Comparison Group	24%	27%	25%
Percentage Entering Substance Abuse Treatment Within 90 Days			
Admitted to Secure Detox	51% *	58% *	55% *
Comparison Group	30%	29%	29%
Percentage With Any Employment			
Admitted to Secure Detox	50% *	40% *	45% *
Comparison Group	39%	33%	36%
Percentage With Any Arrests			
Admitted to Secure Detox	35% *	31%	33%
Comparison Group	25%	25%	25%

Asterisks denote statistically significant differences (at ≤.05) between secure detox and comparison groups.

[17] Dichotomous outcomes were estimated using logistic regression and continuous outcomes were estimated using ordinary least squares.

Hospitalizations. Secure detox admissions were associated with significant reductions in hospitalization over the 18-month follow-up period. Nineteen percent of comparison group clients with similar histories of hospitalization were admitted to community or state hospitals during the follow-up compared to 10 percent of those admitted to secure detox. Those hospitalized, regardless of which group, averaged about 1.5 hospitalizations over the follow-up period.

Emergency Department Utilization. In the combined analysis and at North Sound, there were no statistically significant differences between secure detox and comparison group clients regarding the number of emergency department visits over the follow-up period. Secure detox clients in Pierce County, however, had significantly more emergency department visits (6.0) during the follow-up period than did individuals in their comparison group (4.5).

Substance Abuse Treatment. In the combined analysis, individuals admitted to secure detox were significantly more likely (61 percent) to receive substance abuse treatment during the follow-up period than the comparison group (53 percent). Those admitted to secure detox were also significantly more likely to receive inpatient substance abuse treatment (47 percent) than the comparison group (25 percent)

In addition to their higher rate of treatment participation, individuals admitted to secure detox were significantly more likely to enter treatment sooner than those in the comparison group. Overall, 55 percent of secure detox clients began substance abuse treatment within 90 days of admission to secure detox. Only 29 percent of individuals in the comparison group entered treatment within 90 days.

Employment. The combined and individual pilot-site analyses demonstrated that those admitted to secure detox were significantly more likely to be employed (45 percent) at any time during the follow-up period than individuals with similar employment histories in the comparison group (36 percent).

Arrests. In the combined analysis and at Pierce County, there were no statistically significant differences between secure detox and comparison group clients regarding arrest rates over the follow-up period. Secure detox clients in North Sound, however, were significantly more likely to be arrested during the follow-up period than individuals in their comparison group. There were no differences in the types of arrests (felony or misdemeanor).

Benefits and Costs. The cost per admission to secure detox was approximately $2,670. Accounting for multiple admissions (1.4 on average), the average cost per participant was $3,844. Benefits associated with those costs include avoidance of higher-cost admissions to mental health evaluation and treatment

facilities ($2,180) and reduced hospitalizations ($2,950),[18] resulting in a net gain of $1,286. An estimate of the benefits associated with increased employment rates will be available in the near future.[19]

Admission to secure detox improves participation in substance abuse treatment. While we cannot place a dollar value on these outcomes at this time, they were an explicit goal of the program. Findings regarding emergency department utilization and arrests were mixed and not consistent across pilot sites. The higher arrest rates in North Sound and the higher emergency department utilization in Pierce County are adverse outcomes that mitigate some of the program's cost savings.

Conclusion

There were nearly 3,000 admissions to secure detox facilities at the pilot sites between April 2006 and June 2009. We examined the outcomes of 982 individuals who were admitted to secure detox facilities at the pilot sites from May 2006 through October 2007.

Compared to a group of similar clients across the state (for whom secure detox was not available), those admitted to secure detox had significantly lower rates of psychiatric hospitalization, experienced improved participation in substance abuse treatment, and were more likely to work over the 18-month follow-up period. Findings regarding subsequent arrests and emergency department utilization were mixed, and there were no significant differences in mortality. These outcomes suggest the program provides a net benefit to society and tax payers.

A number of statewide and regional factors influenced program implementation at the pilot sites. As a result, the pilot sites are structured differently. North Sound coordinates across multiple systems and administrations to serve a geographically dispersed population. Pierce County's smaller service area is served by a relatively uniform crisis response system with highly centralized services and resources. Regardless of the differences in implementation, key outcomes—psychiatric hospitalization, participation in substance abuse treatment, and employment—were consistent across sites. The consistent outcomes associated with both pilots suggests similar outcomes would be attained in a statewide implementation of the program.

Data Sources

With approval of the Human Research Review Section/Washington State Institutional Review Board, the Institute combined data from multiple administrative data systems to identify study subjects and examine their characteristics, history, and outcomes.[20] The following information systems maintained by DSHS, the Employment Security Department, the Department of Health, and the Institute were accessed for this report.

Consumer Information System: DSHS-DBHR data tracking investigations, detentions, psychiatric hospitalizations, diagnoses, treatment, and demographics of individuals receiving mental health services;

TARGET: DSHS-DBHR data tracking secure detox and other admissions, chemical dependency assessments and treatment, and demographics;

Medicaid Management Information System/ProviderOne: DSHS data tracking eligibility, diagnoses, and payments for medical procedures, services, and providers;

Wages and Hours File: Employment Security Department data on hours worked and wages earned for covered employees in Washington State;

Death Names File: Department of Health data providing identities and dates of death of individuals deceased in Washington State; and

Criminal Justice System: The Institute's Criminal Justice System tracks Washington State convictions and arrests.

The authors gratefully acknowledge contributions and assistance of staff at the North Sound RSN and Pierce County pilot sites; numerous staff at the DSHS Division of Behavior Health and Recovery and Research and Data Analysis; and the Washington State University Social and Economic Sciences Research Center—Puget Sound Division.

[18] The estimate is based on the difference in admission rates (19 percent and 10 percent), an average of 1.5 admissions, and an average cost per psychiatric-related hospital admission of $21,825 (see: M. Burley. [2009]. *The costs and frequency of mental health-related hospitalizations in Washington state are increasing*. Olympia: Washington State Institute for Public Policy, Document No. 09-04-3401).

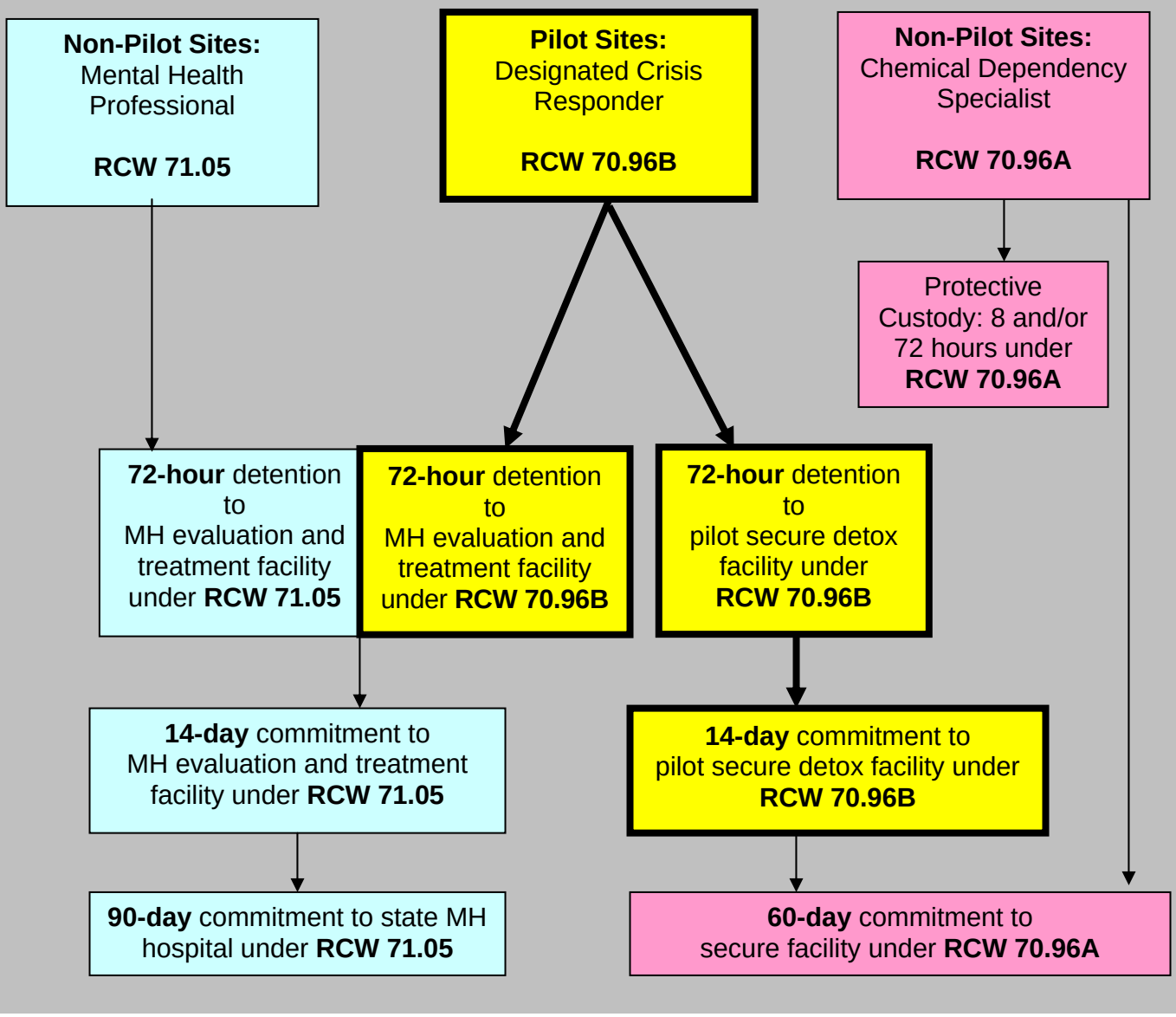
[19] The Institute is currently developing a model that predicts lifetime benefits associated with increasing employment rates.

[20] DSHS Research and Data Analysis assisted with linking client records across administrative data systems.

Appendix A: Investigation, Detention, and Commitment Flowchart

This chart describes the investigation, detention, and commitment processes under pilot (yellow), Mental Health (blue), and Chemical Dependency (pink) statutes. Pilots are distinguished from the existing system by:

- Combining mental health (MH) and chemical dependency (CD) crisis responders;
- Creating 72-hour detention and 14-day commitment processes for CD, MH, and co-occurring disorders;
- Operating secure detoxification facilities; and
- Retaining current statutes for long-term commitment.



* Bold lines and yellow boxes represent authority and facilities unique to the pilot sites. The chart does not show cross-program or less-restrictive referrals, and cases do not necessarily result in the longer commitments indicated by arrows.

WSIPP, 2011

Suggested citation: Jim Mayfield. (2011). *Integrated crisis response pilots: Long-term outcomes of clients admitted to secure detox.* Olympia: Washington State Institute for Public Policy, Document No. 11-05-3902.

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