

WHAT IS THE IMPACT OF BRIEF INTERVENTIONS FOR ALCOHOL/DRUG PROBLEMS ON EMERGENCY DEPARTMENT PATIENTS AT HARBORVIEW MEDICAL CENTER?ⁱ

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ABSTRACT

Since April 2004, chemical dependency professionals have been screening Harborview Medical Center (HMC) Emergency Department (ED) patients for alcohol/drug problems and providing brief interventions (BIs) and referrals to brief therapy or chemical dependency treatment when indicated as part of the Washington State Screening, Brief Intervention, Referral and Treatment (WASBIRT) Program. Outcomes for patients who received a BI were tracked using existing administrative records and were compared to a group of HMC ED patients who were similar but who did not receive a BI. To maximize comparability between these groups and provide some indication that chemical dependency treatment would be an appropriate outcome, analyses were based on patients with prior indicators of alcohol/drug use problems in their records.

Key Findings

- **HMC ED patients who received a BI for alcohol or other drug problems were 53% more likely to be admitted to chemical dependency treatment in the following year than similar patients who did not receive a BI.**
- **If a patient participated in brief therapy in addition to receiving a BI, they were 64% more likely to be admitted to chemical dependency treatment in the following year compared to patients who were referred but did not engage in brief therapy.**

Conclusion

Taken together, these preliminary findings suggest that providing BIs for alcohol and other drug problems in the HMC ED is associated with significant and positive outcomes for patients.

FACT SHEET

Harborview Medical Center (HMC)

Harborview Medical Center (HMC) is a comprehensive healthcare facility, providing high quality, state-of-the-art exemplary health care for people from all walks of life. Located in Seattle, Washington, HMC is owned by King County, governed by a county-appointed board of trustees, and managed by the University of Washington (UW). It is a primary teaching site for the UW School of Medicine and other UW Health Sciences programs. Its primary mission is to provide and teach exemplary patient care and to provide health care for those patients King County is committed to serve. HMC has received many honors including the prestigious 2007 Foster G. McGaw Prize from the American Hospital Association in recognition of its outstanding leadership, unwavering spirit of excellence, and remarkable achievements in the community.

The WASBIRT Program at HMC

For over four years, HMC has been one of nine sites statewide commissioned to carry out the Washington State Screening, Brief Intervention, Referral and Treatment Program (WASBIRT). WASBIRT was funded by the federal Substance Abuse and Mental Health Services Administration (SAMHSA) in an award to the Washington State Division of Alcohol and Substance Abuse (DASA) in 2003.¹ It involved placing chemical dependency professionals in nine large hospital Emergency Departments (EDs) throughout the state (including HMC), to screen for substance abuse problems and to provide brief interventions (BIs) and referrals to brief therapy (BT) or chemical dependency treatment when indicated.

The Center for Healthcare Improvement for Addictions, Mental Illness and Medically Vulnerable Populations (CHAMMP) at HMC was commissioned by DASA to carry out an evaluation of patient outcomes at the HMC WASBIRT site as a complement to the statewide evaluation being carried out by the Department of Social and Health Services (DSHS), Division of Research and Data Analysis (RDA). One portion of the RDA statewide analysis is focused exclusively on medical cost outcomes for a specific sub-population of patients screened, Medicaid fee-for-service clients. The HMC analysis provides the opportunity to expand the focus to a broader group of patients including the uninsured as well as both Medicaid fee-for-service and managed care patients. The purpose of this fact sheet is to present findings of the HMC-focused analyses.

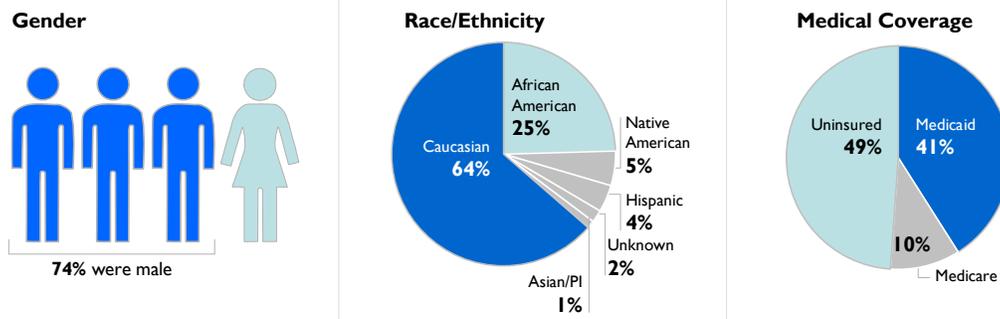
Since April, 2004, over 104,000 patients have been screened statewide, including almost 18,000 at HMC. Of those screened at HMC, over 11,000 received a BI for alcohol or other drug problems. In the analyses reported here, we followed 2,493 of these patients for one year following their BIs and compared their outcomes to a group of HMC ED patients who were similar but who did not receive a BI. Only a portion of patients who received a BI were included in the analyses reported here for a number of reasons. For example, to allow for a one-year follow-up period, only patients seen in the first 32 months of the project could be included. Also, patients with commercial insurance were excluded because we only had access to chemical dependency treatment records for patients whose treatment was publicly-funded. There were a number of other exclusion criteria that were imposed to improve the match between patients who received a BI and similar patients who did not (see technical notes page 7).

In this fact sheet we report on outcomes related to admissions to chemical dependency treatment. We obtained this information from existing administrative records maintained by DASA (publicly-funded chemical dependency treatment) and HMC billing records (medical costs, utilization, and other patient characteristics). The analyses reported here are focused on outcomes of patients who were uninsured or insured by Medicaid and/or Medicare; commercially insured

patients were not included. The HMC analyses do not capture subsequent alcohol/drug use but the interested reader is referred to a recent fact sheet prepared by the state that does (Estee et al, 2007).

Patient Characteristics

Characteristics of the patients represented in the analyses reported in this fact sheet are summarized in the graphics below. In our analyses, patients who received a BI were matched with similar patients with no BI so that these characteristics are descriptive of patients in both groups. The average patient was 40 years old.



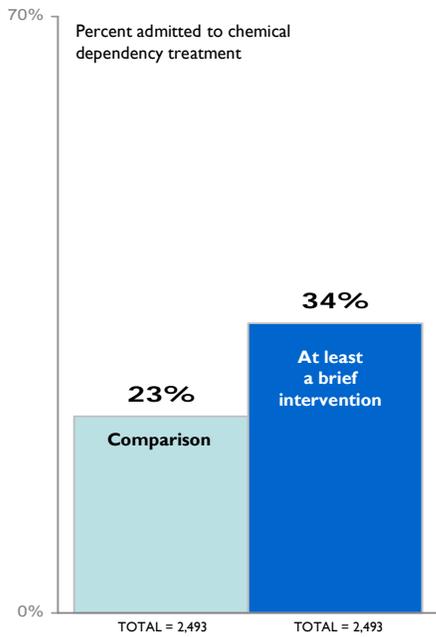
Nature of WASBIRT Brief Interventions and Brief Therapy

Chemical dependency counselors screened Harborview patients primarily being treated in the Emergency Department using standard substance abuse screening instruments. The Alcohol Use Disorders Identification Test (AUDIT) was used to screen for alcohol abuse, and the ten-item version of the Drug Abuse Screening Test (DAST-10) was used to screen for drug abuse. Immediately upon completion of the screening, the counselors provided a brief intervention lasting roughly five to ten minutes to patients with probable substance abuse problems based on their screening scores. The intervention was based on motivational interviewing principles that include the use of immediate feedback on substance abuse scores, risks associated with the patient’s pattern of use, advice about self-directed options for change, and reinforcement of personal motivation to change one’s behavior.

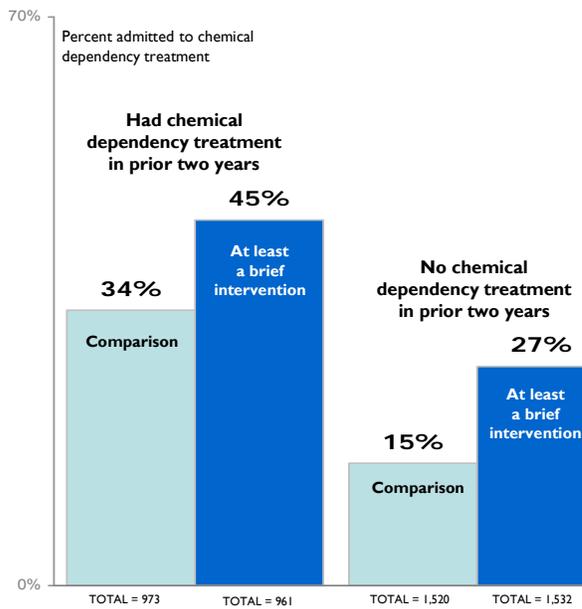
Patients whose AUDIT or DAST scores signified higher risk levels were also given a referral to another counselor for follow-up sessions, referred to as “brief therapy.” About one in five patients who were referred actually entered brief therapy. The therapist used motivational interviewing methods for engaging the person in a series of about four to twelve sessions designed to enhance the individual’s efforts to cut down or stop their use of alcohol or other drugs. For individuals with evidence of chemical dependency, the counselor would often assist the individual in entering more traditional forms of chemical dependency treatment.

Findings

Admission to Chemical Dependency Treatment

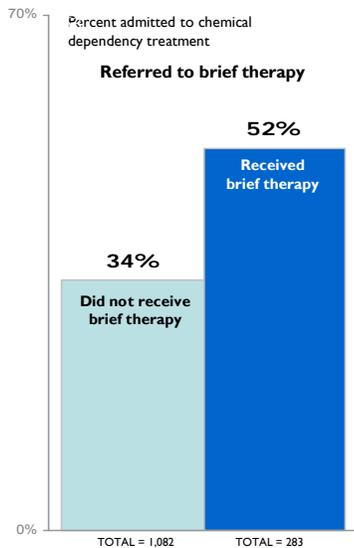


HMC ED patients who received a BI for alcohol or other drug problems were 53% more likely to be admitted to chemical dependency treatment in the following year than similar patients who did not receive a BI. (The 53% higher likelihood of admission to treatment is based on changes in relative risks derived from regression models with controls for differences in group composition.)



This effect was particularly pronounced for those patients who had not been admitted to chemical dependency treatment in the prior two years—these patients were 75% more likely to be admitted to treatment. In contrast, patients who had been admitted in the prior two years were 32% more likely to be admitted to treatment following a BI. (These percentages are based on changes in relative risks derived from regression models with controls for differences in group composition.)

Effects of Receiving Brief Therapy on Admission to Chemical Dependency Treatment



If a patient participated in brief therapy in addition to receiving a BI, they were 64% more likely to be admitted to chemical dependency treatment in the following year compared to similar patients who received a BI and were referred but did not engage in brief therapy. (The 64% higher likelihood of admission to treatment is based on changes in relative risks derived from regression models with controls for differences in group composition.)

In general, brief therapy is shorter than traditional versions of therapy, ranging from one to twelve sessions, and is often client-driven. That is, the client identifies the problems and the counselor uses the client's strengths to build solutions. Brief therapy was introduced as part of the WASBIRT Project and has traditionally not been a recognized modality of chemical dependency treatment in the state.

Unlike other analyses reported in this fact sheet, it was not feasible to construct a matched comparison group for this analysis. Thus, it is possible that the observed differences between groups in this particular analysis are due to factors other than brief therapy (such as differing motivation or need between the two groups). For this reason, the reader is asked to exercise caution in interpreting this particular result.

Conclusions

The findings suggest that **screening ED patients and providing BIs to those with alcohol/drug problems at HMC was an important vehicle for successfully connecting chemically dependent patients with subsequent treatment. This success is likely due, at least in part, to the fact that chemical dependency professionals were the individuals responsible for carrying out the screening, BIs, and referrals for this project.** These professionals were selected for this role because of their expertise with the chemical dependency treatment system and, in retrospect, appear to have been ideally suited for making referrals that successfully resulted in an admission.

Providing brief therapy in addition to a BI was associated with substantially higher likelihood of subsequent chemical dependency treatment admissions. Brief therapy was introduced as part of the WASBIRT Project and was not a recognized modality of chemical dependency treatment in the state. However, **given its demonstrated relationship with subsequent chemical dependency treatment admissions uncovered in the present analysis, it may be useful for HMC and the state to consider the benefits of including brief therapy as part of its configuration of services surrounding screening and BI programs in the future.** Further, future studies may be helpful in identifying which elements of brief therapy contribute to this effect.

Admission to chemical dependency treatment is important because there is a large body of scientific evidence demonstrating that participation in such treatment is associated with many positive outcomes such as reduced medical costs, reduced arrests, and higher likelihood of employment in individuals who are similar to those screened at HMC. The sooner such admissions can take place in the life course of individuals' alcohol/drug dependence, the greater the reduction in subsequent negative consequences to the individuals involved and to the public. Thus, **the increased admissions to treatment noted among those individuals interacting with WASBIRT chemical dependency professionals, especially among individuals without a history of such treatment, is an important finding that has far-reaching implications.**

Taken together, these findings suggest that providing BIs for alcohol and other drug problems in the HMC ED is associated with significant and positive outcomes for patients. As such, the WASBIRT Program fits well with HMC's overall objective of controlling illness and restoring health, especially among its priority populations—such as substance abusing individuals. Thus, this preliminary look suggests that HMC has contributed in a meaningful way to the healthcare improvement of its mission population through the WASBIRT Program.

TECHNICAL NOTES

Analysis Group

WASBIRT Study Participation Criteria at Harborview Medical Center

- English speaking
- Not in custody at index ED visit

Additional Criteria used to Select the Analysis Group

- Age 18-64 at index ED visit
- Screening scores on the AUDIT and/or DAST must have indicated a need for at least a BI
- Index ED visit was the first screening at which a BI was done
- Received a brief intervention (BI)
- May have also received brief therapy or chemical dependency treatment
- Resident of Washington State at index ED visit
- Alive 13 months after index ED visit (survived for entire follow-up period)
- Medicaid, Medicare, or unsponsored payer status at the index visit (commercial insurance excluded)
- Index ED visit did not involve a hospitalization lasting 30 days or longer
- Discharged home from the index ED visit (not to an institution)
- Index admission did not involve a transfer from another institution
- No diagnosis related to sexual assault at index ED visit
- Index ED visit between 4/12/04 and 11/30/06
- Presence of alcohol/drug treatment need indicator within the 2 years prior to index ED visit as noted in administrative records (i.e., medical diagnoses, felony or gross misdemeanor arrests for alcohol/drug offenses, or receipt of alcohol/drug-related transitional housing, detoxification, or treatment services).

Comparison Group

- All relevant criteria listed above
- Never had a WASBIRT screen (at any time since WASBIRT started)
- Index ED visit was randomly selected from all eligible ED visits for each potential comparator
- Injury severity scores (ISS and TRISS) were no more extreme than for the most severely injured WASBIRT client at index ED visit
- A staged propensity score approach was used to construct a comparison group similar to the WASBIRT group. First, logistic regression was used to estimate the propensity for WASBIRT screening (resulting in a screening propensity score), and all potential comparators with a screening propensity score below the lowest propensity score for the screened group were excluded. Logistic regression was then used for this subgroup to estimate the propensity for having a BI (resulting in a BI propensity score), and those both above and below the common support region were excluded (specified using the sample for the particular outcome). Finally, comparators were matched 1:1 (without replacement) to the WASBIRT group using the BI propensity score. These logistic regressions controlled for the covariates listed below. This resulted in comparison groups of the same size as the WASBIRT groups, with good covariate balance across groups for each analysis.

Control Variables

- Socio-demographics (at index visit): age, sex, race/ethnicity, marital status, veteran status, homelessness, occupational status, geographic location
- Insurance/payer at index visit
- Medical risk variables: index visit type/length of stay, ED site of service, injury vs. medical condition at index visit, trauma registry flag, illness and mental health diagnoses in prior 24 months, number of visits with injury diagnosis in prior 24 months
- Arrest history: any felony and/or gross misdemeanor arrests in prior 24 months from the Washington State Patrol

- Alcohol/drug-related risk variables: whether in chemical dependency (CD) treatment at index visit, source of administrative indicator of alcohol/drug need (HMC-medical diagnoses, Washington State Patrol database—alcohol/drug-related arrests, DASA treatment records—CD treatment and other related services)
- Cost variables: total direct facility costs for index visit, average monthly direct facility costs for 12 months prior to index visit (broken out by inpatient, outpatient, and ED costs), total direct facility costs for each of the 2 months prior to the index visit (to control for increasing illness/utilization)
- Utilization variables: total inpatient length of stay in prior 24 months, number of visits/admissions in prior 24 months (broken out by inpatient, outpatient, and ED)
- Propensity to come to HMC for care over time: number of quarters with any non-inpatient visit in the 24 months prior to the index ED visit
- Calendar program trends: variable for difference between April 2004 and calendar month of index visit
- CD treatment in prior 24 months

Chemical Dependency Treatment Outcome Analysis

2,493 WASBIRT and 2,493 comparators were included in this analysis (n=4,986). An outcome event was defined as admission to CD treatment (not stand-alone detox) within the 12 months following the index ED visit. Logistic regression with robust variance estimates was used to estimate the main effect of the BI and the interaction of prior CD treatment with having a BI (controlling for the BI propensity score). Those without prior CD treatment and receiving a BI had twice the odds of having a CD treatment outcome, relative to the comparison group (p-value <.0005; 95% CI: 1.68, 2.42). Those with prior CD treatment and receiving a BI had 57% higher odds of having a CD treatment outcome, relative to the comparison group (p-value = <.0005; 95% CI: 1.30, 1.89). Those two categories differed from each other at a 94.5% confidence level. For the subanalysis of brief therapy, only those who received a BI and who were referred for BT were included (n=1365). Those engaging with BT had 2.34 times the odds of having a CD treatment outcome, relative to those who were referred but did not engage in BT (p-value <.0005; 95% CI: 1.71, 3.20). This result did not significantly differ based on whether patients had had prior CD treatment or not. Because CD treatment outcomes were not rare, the odds ratio overstates the relative risk. Therefore, the findings in this fact sheet were based on the relative risk calculated at the mean of all covariates, with separate estimates where appropriate for those who had CD treatment prior to the index visit and those who did not.

ENDNOTES

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