Outcomes of a Monitoring Program for Physicians with Mental and Behavioral Health Problems

JOHN R. KNIGHT, MD
LUIS T. SANCHEZ, MD
LON SHERRITT, MPH
LINDA R. BRESNAHAN, MS
JOHN A. FROMSON, MD

***Objective.* Most states have programs that provide structured monitoring for physicians with substance use disorders (SUDs). In recent years, the Massachusetts Medical Society's Physician Health Services (PHS) program has used a similarly structured approach to monitor physicians with other mental and behavioral health (MBH) problems. The objective of this study was to determine the outcomes of the PHS monitoring programs for SUDs and MBH problems, compare their overall success rates, and identify correlates of success. *Method.* Data were extracted from the PHS administrative database for physicians presenting between January 1, 1993 and May 31, 2003. Variables included gender, age, specialty, type of monitoring contract (SUD vs MBH), and state licensing board involvement. Dates of contract openings and closings were used to categorize cases as successful completion, relapse, or other. *Results.* Of 58 physicians with MBH contracts, 43 (74%) completed successfully, 7 (12%) relapsed, and 8 (14%) did not complete for other reasons. Of 120 total physicians with SUD contracts, 90 (75%) completed successfully, 10 (8%) relapsed, and 20 (17%) did not complete for other reasons. Successful completion of SUD contracts was significantly associated with licensing board involvement (84% vs 66%, $p = 0.04$). Survival analysis indicated that time to relapse was significantly shorter for women compared to men on both MBH and SUD contracts (log rank test for equality of survival distribution $p < 0.001$ for MBH and $p = 0.001$ for SUD). *Conclusion.* This study suggests that physicians with MBH problems can be monitored in a similar fashion as physicians with SUDs, and with similarly positive outcomes. However, greater attention should be given to services for women in physician health monitoring programs.** *(Journal of Psychiatric Practice* **2007;13:25–32**)

KEY WORDS: impaired physician, mental disorders, substance use disorders, alcoholism, women physicians

KNIGHT: Harvard Medical School, Children's Hospital Boston, and Physician Health Services (PHS), Massachusetts Medical Society; SANCHEZ and BRESNAHAN: PHS, Massachusetts Medical Society; SHERRITT: Harvard Medical School and Children's Hospital Boston; FROMSON: PHS, Massachusetts Medical Society and Harvard Medical School.

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Please send correspondence and reprint requests to: John R. Knight MD, Children's Hospital Boston, 300 Longwood Avenue, Boston, MA 02115. john.knight@childrens.harvard.edu

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Rates of substance use disorders (SUDs) among physicians are similar to those in the general population, with a lifetime prevalence of substance dependence of between 8% and 15%.[1,2] State medical boards and professional societies have responded to this problem by developing physician health monitoring programs, aimed at ensuring that physicians with SUDs comply with proper treatment, remain abstinent, and receive close monitoring so that they can safely return to medical practice. Most states in the United States now have confidential monitoring programs for physicians with alcohol and drug problems.[3]

During recent years, greater attention has been given to physicians with other mental and behavioral health (MBH) problems, including depression, bipolar illness, and disruptive behaviors.[4, 5] Some state licensing agencies, medical societies, and other groups have adopted a monitoring approach for MBH problems that is similar to that used for SUDs. The Massachusetts Medical Society's Physician Health Services (PHS) program was

one of the first in the United States to offer monitoring contracts for MBH in addition to SUDs.

The SUD contracts offered by PHS require participation in an individualized treatment plan and structured monitoring for a minimum of 3 years. Treatment includes individual psychotherapy and attendance at support group meetings, such as Caduceus or Alcoholics Anonymous. Monitoring includes monthly meetings with an associate director, quarterly self-reports, frequent collateral reports from at least two professional colleagues (including an agreement to call PHS if they observe any concerning or unusual behaviors), and random weekly laboratory testing for alcohol and drugs.

The MBH contracts offered by PHS similarly require that physicians comply with a specified treatment plan for at least 2 years, which includes individual psychotherapy, attendance at a support group for physicians with MBH problems, and psychopharmacologic treatment when indicated. Monitoring is similar to that of SUD contracts, but does not usually include laboratory testing for alcohol and drugs.

Physicians who become involved with the Massachusetts Board of Registration in Medicine, the state licensing and disciplinary agency, are usually required to continue monitoring for 5 years regardless of the type of contract.

Little is known about the outcomes of physician monitoring programs for MBH. Prior studies have reported varying but generally high rates of success for physician monitoring programs for SUDs.[6–15] However, study samples, follow-up intervals, and definitions of and methods of assessing success have also varied widely.[16]

The objective of the current study was to determine the outcomes of MBH monitoring contracts in the Massachusetts PHS program, to determine the outcomes of SUD monitoring contracts as defined by a rigorous standard (i.e., continuous and complete abstinence from any use of alcohol or drugs), to compare the success rates of the two programs, and to identify correlates of successful outcome. The results of this study will provide preliminary evidence for the development of MBH programs in other states and for the acceptance of MBH monitoring by more state licensing agencies.

METHOD

This was a retrospective, observational study. Electronic data were extracted from the PHS administrative database over an observation period from January 1,1993 through May 31, 2003. Extracted variables included physicians' gender, age, and specialty; whether or not they had involvement with the Massachusetts Board of Registration in Medicine; the type of monitoring contract (i.e., SUD or MBH); the dates of all contract initiations and terminations, and the disposition of the contract at termination (e.g., successful completion, termination due to relapse, retirement, death, non-compliance, medical leave, or transfer to another state). Those physicians who have co-occurring SUD and MBH problems sign agreements with PHS for both types of monitoring. However, they are categorized by PHS as SUD and are analyzed as such in this study. No identifying information was included in the extracted dataset. The Harvard Medical School Committee on Human Studies approved the study protocol.

Contracts terminated during the observation period were categorized as "successful completion," "relapse," "other," or "open." Physicians who had active contracts and were in compliance at the end of the study observation period, but had less than 2 years of compliance for MBH or 3 years of sobriety for SUD, were categorized as "open" and were not included in the overall success rate calculation.

For MBH contracts, PHS defines "successful completion" as complete and continuous compliance for a minimum of 2 years (the standard length of the MBH contract) with regular psychotherapy and, when indicated, psychopharmacological treatment, as well as the absence of any inappropriate professional behaviors as documented by self-report and collateral reports from the hospital chief and at least one other professional colleague. PHS defines "relapse" as any evidence of failure to adhere to recommended treatments or any unprofessional conduct. PHS does not necessarily consider a recurrence of illness (e.g., recurrent severe depression) to be "relapse" as long as the physician provides proper notification to PHS, fully complies with recommended treatments, and does not demonstrate any lapse in judgment or impairment while at work.

For SUD contracts, PHS defines "successful completion" as continuous and complete abstinence from any use of alcohol or drugs for a minimum of 3 years as evidenced by self-report, collateral reports from the hospital chief and other professional colleagues, and random weekly urine drug testing. PHS defines "relapse" as any alcohol or drug use, as evidenced by a self-report of use, a report from a professional colleague or other authority that indicates use, any unexplained positive urine drug test, or contract noncompliance (e.g., a pattern of late or missing tests).

For the outcomes analysis, we classified physicians as "other" if they did not complete their monitoring con-

tract for any other reason; this category included those who retired from medicine, moved out of state, died, or were otherwise lost to follow-up.

Physicians were categorized as "licensing board involved" if they continued to practice medicine after signing either a confidential letter of agreement or a probation agreement with the Massachusetts Board of Registration in Medicine, or if they had their license temporarily suspended but were expected to return to practice while being monitored.

PHS requires that physicians who relapse sign a new monitoring contract. As a result, some physicians have multiple contracts over time. We therefore calculated success rates by sequence number of contract, and we computed an overall success rate based on the disposition of the latest (i.e., most recent) contract. Overall success rates were therefore based on data from physicians who presented for evaluation after the initial observation start date of January 1, 1993 and before May 31, 2002 for physicians with MBH contracts and before May 31, 2000 for physicians with SUD contracts. These endpoints were chosen so that all physicians in the final dataset would have had the opportunity to complete at least one monitoring contract successfully.

We computed frequencies and descriptive statistics. Because it yields robust estimates of precision with small cell sizes, we used Fisher's exact test to compare proportions by gender and specialty. Fisher's exact test was also used to compare success rates across categorical factors, including gender, age, and licensing board involvement, and the standard t test was used to assess differences in success rate by age. We computed Kaplan-Meier survival curves to assess time to relapse for MBH and SUD contracts, and to compare time to relapse across gender, age, and licensing board involvement categories. We also performed Cox proportional hazards regression analysis to assess the effects of other variables on time to relapse, but found no significant factors or covariates. We are therefore presenting only the Kaplan-Meier curves.

RESULTS

Of 550 physicians who presented to PHS for evaluation during the 10-year observation period, 132 (24%) signed SUD contracts, 63 (11%) signed MBH contracts, and 355 (65%) did not sign any contract. The no contract group included many physicians who were assessed but did not require monitoring, and a smaller group of physicians who were recommended for monitoring but refused. Men comprised 82% of the SUD sample and 76% of the MBH sample ($p = 0.44$). Eighty percent of the total PHS sample was male, which is similar to the proportion of male physicians statewide (80% vs. 74%, $p = 0.06$). The mean age was 44.2 ± 9.6 years for the SUD group and 45.8 ± 12.0 years for the MBH group ($p = 0.39$). Twenty-one medical students presented to the PHS program, four of whom signed monitoring contracts (3 for SUD, 1 for MBH). (Table 1).

In general, the distribution of contracting physicians by medical specialty reflected the statewide distribution of licensed physicians and was similar across types of monitoring contract. However, compared to SUD contracts, a significantly higher proportion of psychiatrists had MBH contracts (29% vs. 12%, $p = 0.01$). The proportion of psychiatrists in the MBH group was also significantly higher than the proportion of psychiatrists statewide (29% vs. 8.8%, $p < 0.0001$). Anesthesiologists made up 11.4% of the SUD sample but only 4.8% of the state sample ($p = 0.003$), and emergency medicine specialists were also over-represented, making up 8.3% of the SUD sample but only 3% of the state sample ($p = 0.004$). Pediatricians were significantly underrepresented in the SUD sample, with only 3% compared to 7.9% for the state ($p = 0.03$). However, due to small cell sizes, these results should be viewed cautiously.

We separately computed success rates for first, second, and third contracts and an overall success rate ("all"), defined by the eventual successful completion of a contract. The proportions of first and all MBH contracts classified as successful completion, relapse, and other are presented in Table 2. Cell sizes for 2nd and 3rd MBH contracts were too small for meaningful analyses. The success rate for first contracts was 68% and the overall success rate was 74%. Successful completion of MBH contracts was not significantly associated with gender, age, or licensing board involvement. However, the magnitude of the differences for gender (male 78% vs female 62%) and licensing board involvement (involvement 79% vs no involvement 69%) in this small sample are suggestive.

The proportions of first, second, third, and all SUD contracts classified as success, relapse, and other are presented in Table 3. Of 132 first SUD contracts, 74 (56%) successfully completed, while 46 (35%) relapsed, and 12 (9%) did not complete for other reasons. Success rates for 2nd and 3rd SUD contracts were significantly lower compared to 1st contracts (27% and 32%, respectively; $p < 0.01$). However, a total of 120 individuals completed at least one SUD monitoring contract during the study observation period and 90 of these successfully completed the most recent 3-year contract, for an overall success rate of 75%.

Table 1. Comparison of all Massachusetts (MA) physicians with substance use disorder (SUD) contracts and mental and behavioral health (MBH) contracts

	All MA (estimated[a])	*SUD (n = 132)*		*MBH (n = 63)*	
	%	***n***	*%*	***n***	*%*
Male sex	74%	108	82%	48	76%
Female sex	26%	24	18%	15	24%
Age[b,c]					
30–39		8	6%	2	4%
40–49		38	29%	19	34%
50–59		49	37%	13	23%
60–69		29	22%	14	25%
70–79		7	5%	7	13%
80–89				1	2%
Degree[b]					
MD		127	96%	62	98%
DO		2	2%	0	0%
Student		3	2%	1	2%
Licensing Board Agreement[b]		71	54%	22	35% (p = 0.02)
Specialty					
Anesthesiology	4.8%	15	11%[d]	4	6%
Emergency Medicine	3.0%	11	8%[d]	1	2%
Family Practice	4.7%	8	6%	3	5%
Internal Medicine	30.9%	41	31%	19	30%
Obstetrics/ Gynecology	4.1%	8	6%	3	5%
Pediatrics	7.9%	4	3%[d]	3	5%
Psychiatry	8.8%	16	12%	18	29%[d,e]
Radiology	5.0%	5	4%	2	3%
Surgery	12.4%	16	12%	6	10%
Other	3.3%	3	2%	3	5%
Student	—	3	2%	1	2%
Unknown	15.0%	2	2%	0	0%

[a]*Massachusetts state percentages are estimates based on data from the MA Board of Registration in Medicine for the years 1993 through 2001 (N = 249,630).*

[b]*State data not available.*

[c]*Age data not available for 1 SUD and 7 MBH cases.*

[d]*Fishers exact test of proportions, differs significantly from state at $p < 0.05$*

[e]*Fishers exact test of proportions, differs significantly from SUD at $p < 0.05$*

Overall success did not differ significantly between MBH and SUD contracts (75% vs. 74%, p = 1.0). Successful SUD contract completion was not significantly associated with gender or age, although our design was underpowered for age (beta = 0.79). However, the rate of successful completion for SUD physicians with licensing board involvement was significantly higher compared to those who did not have such involvement (84% vs. 66%, p = 0.04).

A substantial number of physicians (n = 28) were classified as "other" for the overall analysis: 8 of those with MBH contracts and 20 of those with SUD contracts. Of the eight MBH cases, 3 retired from medicine or were disabled, 2 moved out of state, 1 died, and 2 were otherwise lost to follow-up. Of the twenty SUD cases, 5 retired from medicine or were disabled, 9 moved out of state, 4 died, and 2 were otherwise lost to follow-up. Of the 8 physicians in total who retired from medicine or were disabled, several developed cancer or another medical illness that was unrelated to their presenting problem but precluded their return to the practice of medicine. Of the 5 who died, at least two died while in full recovery from their SUD or MBH problem due to an unexpected and unrelated medical condition (e.g., myocardial infarction, ruptured aneurysm).

Kaplan-Meier analyses did not show significant differences in time to relapse across type of contract, age, or licensing board involvement. However, compared to men, women had significantly shorter time to first relapse for both MBH and SUD monitoring contracts (log rank test for equality of survival distribution $p <$ 0.001 for MBH and p = 0.001 for SUD) (Figure 1). The shape of these curves indicates that the risk of relapse for both MBH and SUD is highest during the first year or two of the monitoring period, and subsides over time. PHS monitors physicians for more than 5 years only when there are special circumstances. The shape of the SUD curve suggests that there may be a second period of high relapse risk beyond the 5-year mark for men. However, because of the small numbers of individuals who are monitored for extended periods, little can be concluded from the shape of the SUD curve beyond the 5-year mark.

DISCUSSION

This study shows that the overall success rate for both MBH and SUD physician monitoring contracts is high, with approximately 75% of physicians eventually completing a contract successfully. We are not aware of any previously published reports on outcomes of physician

Table 2. Outcomes of Physician Health Services mental and behavioral health contracts

	Total	*Success*		*Relapse*		*Other*		
	n	*n*	%	*n*	%	*n*	%	*p*
1st Contract	63	43	68%	10	16%	10	16%	
All[a]	**58**	**43**	**74%**	**7**	**12%**	**8**	**14%**	**0.55**
Male	45	35	78%	3	7%	7	16%	
Female	13	8	62%	4	31%	1	8%	0.29
Younger[b] (< 44.6 years)	26	19	73%	5	19%	2	8%	
Older[b] (⩾ 44.6 years)	25	19	76%	3	12%	3	12%	1.00
License Board involvement[c]	19	15	79%	1	5%	3	16%	
No License Board involvement[c]	32	22	69%	6	19%	4	13%	0.53

[a]5 participants had less than 2 years of monitoring.
[b]7 participants did not have age information.
[c]7 participants did not have licensing board information.

Table 3. Outcomes of Physician Health Services substance use disorder contracts

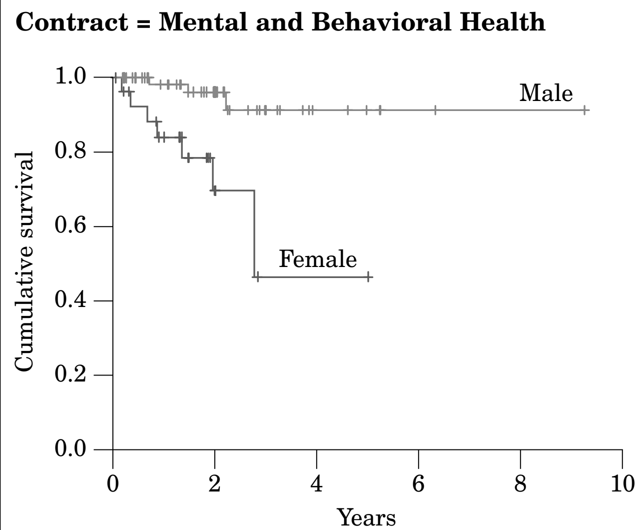
	Total	*Success*		*Relapse*		*Other*		
	n	*n*	%	*n*	%	*n*	%	*p*
1st Contract	132	74	56%	46	35%	12	9%	
2nd Contract	45	12	27%	25	56%	8	18%	
3rd Contract	19	6	32%	11	58%	2	11%	< 0.01
All[a]	**120**	**90**	**75%**	**10**	**8%**	**20**	**17%**	
Male	101	76	75%	7	7%	18	18%	
Female	19	14	74%	3	16%	2	11%	1.0
Younger[b] (< 44.6 years)	57	46	81%	4	7%	7	12%	
Older[b] (⩾ 44.6 years)	62	44	71%	6	10%	12	19%	.029
License Board Involvement	61	51	84%	3	5%	7	11%	
No License Board Involvement	59	39	66%	7	12%	13	22%	0.04

[a]12 participants had less than 3 years sobriety.
[b]One participant did not have age information.

MBH monitoring programs, and not all state programs currently offer services to physicians with problems other than substance abuse. While additional studies are needed, our findings suggest that physicians with MBH problems can be monitored using a strategy similar to that used for physicians with SUDs, and that most can be safely maintained in practice. We therefore urge other state programs to seriously consider expanding their services to include MBH monitoring programs, and we urge state licensing agencies to recognize MBH

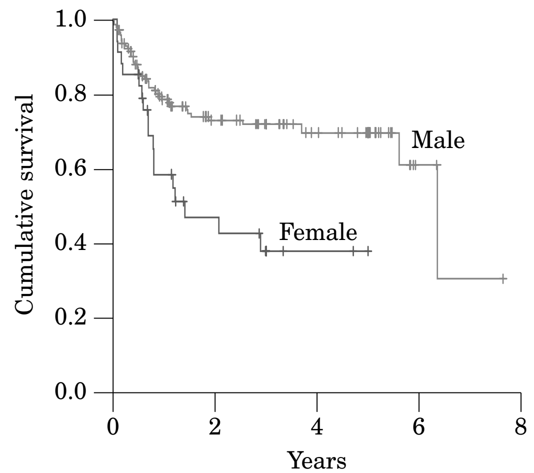
Figure 1. Kaplan-Meier survival functions: Time to first relapse female vs male

Contract = Mental and Behavioral Health



Log rank test for equality of survival distribution p < 0.001

Contract = Substance Use Disorder



Log rank test for equality of survival distribution p = 0.001

monitoring programs as a viable alternative to discipline for at least some physicians.

We found that a greater proportion of those with SUD contracts become involved with the state licensing board, compared to those with MBH contracts. The precise reason for this is unknown, but may have to do with the fact that physicians who become chemically dependent are more often reported to licensing authorities because of prescription irregularities or some other violation of the law.

We also found that certain specialties were over-represented in the PHS program. Anesthesiologists and emergency medicine specialists have previously been reported to be at greater risk of substance abuse, given the access they have to potent narcotic and sedative agents, and pediatricians have been reported to be at lower risk.[17] However, our study also found that psychiatrists are over-represented in the MBH group. It is unknown if this is because they have greater awareness of mental disorders and are therefore more likely to self-refer, or if psychiatrists have an increased risk of mental and behavioral health problems because of early life influences, or stress and related problems that emerge during practice. Whatever the underlying reasons, more health education and prevention programs are needed during residency training for psychiatry residents and other specialties that are at increased risk.

We did not find successful completion of MBH contracts to be significantly associated with gender, age, or licensing board involvement. However, the cell sizes in these analyses were small. The magnitude of the differences in success rate for gender (male 78% vs female 62%) and licensing board involvement (79% vs 69%) are quite suggestive and should be further investigated in studies with larger sample sizes.

The overall rate of successful completion of SUD contracts in our study was slightly lower than other published studies on outcomes of physician SUD monitoring programs, some of which have reported success rates as high as 96%.[18] However, compared to other reports, our study used a very high threshold for defining success (i.e., complete abstinence from alcohol or drug use) over a relatively long monitoring period (i.e., at least 3 years). In addition, alcohol and drug use was tracked by a robust assessment system that included self-report, collateral report, and random weekly urine drug testing. Previous reports from physician SUD monitoring programs have used follow-up periods varying between 0 and 8 years.[18] Some have defined successful outcome as return to practice, regardless of whether abstinence was continuously maintained, while others have defined success as either abstinence or a brief relapse.[12] In addition, some previous reports have excluded from the analysis participants with missing information, raising the possibility of bias in their estimates.[14] Our study employed a more conservative approach to data analysis, in that we did not exclude physicians who left the state, retired from medicine, or did not complete a contract for some other reason. If we were to exclude the "other" category from our outcome analysis, we would

have reported an overall success rate of 90%, which compares quite favorably to other reports.

However, the success rate for first SUD contracts in our study was much lower, only 56%. Thirty-five percent of first SUD contracts ended in relapse, and relapse rates for subsequent SUD contracts were even higher. These findings have implications for licensing boards, credentialing committees, and employers. "Slips" or brief relapses may be part of the early recovery process, and expectations for continuous sobriety during the initial monitoring contract may need to be adjusted accordingly. In any case, effective detection of early relapse most often results in additional treatment, increased monitoring under a new contract, and an eventual successful outcome.

We did not find successful completion of SUD contracts to be significantly associated with gender or age. However, physicians who were followed closely by the state licensing board had 84% success compared to 66% for those who did not. The reason for this difference is unknown, but may have to do with physicians' motivation related to knowing they could be immediately removed from practice, or delayed in a return to practice, if they test positive for alcohol or drugs while being followed closely by the licensing board.

Gender was shown to be a significant and powerful predictor of time to relapse in our survival analyses, with women relapsing sooner than men on both MBH and SUD monitoring contracts. This finding is of great concern, especially considering a recent report on the high suicide rate among women physicians.[19] The reasons for this difference may include greater disease severity at baseline or inadequate treatment and support services for women during the monitoring period. For example, because there are fewer women participating in the PHS program, support groups tend to be comprised mostly of men. Women are required to attend these groups, but they may be reluctant to share their personal experiences in predominantly male groups, especially if they are dealing with issues of spousal infidelity, or sexual harassment or abuse. Whatever the reason, greater attention should be given to development of treatment and monitoring services that are specifically tailored to meet the needs of women physicians.

A number of study limitations should be noted. This was a retrospective analysis of data from an administrative database, which was not created with study questions or hypotheses in mind. It involved only one state's physician monitoring program. The extent to which these results can be generalized to all states is therefore unknown. The comparison of our outcomes analyses involved unequal timeframes, since the SUD contracts are for a minimum of 3 years while MBH contracts are for a minimum of 2 years. However, we did compute the overall success rate for SUD contracts at 2 years (75.4%), and found it was virtually identical to that at 3 years (75%). PHS also has differing standards for defining success for SUD vs. MBH. For SUD, even a brief relapse to alcohol or drug use is considered failure. However, for MBH problems, a hospitalization alone in the absence of unprofessional conduct is not necessarily considered a failure.

The PHS administrative database did not include information on specific drugs of abuse, psychiatric diagnoses, or intensity of treatment. Domino et al. recently published an analysis of the Washington State Physicians Health Program and found that relapse to SUD was significantly associated with use of a major opioid, a co-occurring psychiatric disorder, and a positive family history of SUD.[20] The lack of information on psychiatric diagnoses in our dataset also raises questions on selection bias regarding MBH participants. However, it is the policy of PHS to offer MBH contracts only to those physicians whose emotional problems or unprofessional behavior is related to a treatable condition or disorder, and whose participation in psychotherapy can be monitored.

More studies are needed, which include data from multiple states, larger samples, and information on specific diagnoses and treatments applied. In addition, greater attention should be given to providing effective services for women who enter into monitoring programs, regardless of the presenting problem. Nonetheless, this initial report on outcomes of MBH monitoring suggests that many physicians with mental illness and/or disruptive behaviors can safely practice while receiving treatment and close monitoring. We urge all states to develop MBH monitoring programs for physicians, and we urge all state licensing boards to recognize MBH monitoring as a reasonable alternative to discipline, in much the same way that SUD monitoring is presently recognized.

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