

Incident Monitoring in Outdoor Behavioral Healthcare Programs: A Four-year Summary of Restraint, Runaway, Injury, and Illness Rates.

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Abstract

The monitoring of risk-related incidents in residential treatment programs for adolescents with behavioral and emotional disorders is important in light of increased oversight of service delivery by state and national agencies charged with their licensure and accreditation. The goal of any monitoring program is to reduce the rate of injury or incident, which improves service delivery, in turn making the program safer and more effective. This paper provides an overview of the process and results of a risk-related incident monitoring program developed by members of the Outdoor Behavioral Healthcare Industry Council (OBHIC). Outdoor behavioral healthcare (OBH) programs engage resistant adolescents in inherently risk-related outdoor activities during the course of treatment, which averages upwards of 50 days living and traveling in wilderness environments. A risk-related incident monitoring program was developed and utilized to track, report, and analyze incident at approximately ten OBH programs between the years 2001 and 2004. Specific incidents monitored during this time period include therapeutic holds and restraints, runaways, injuries, and illnesses. The percentage of clients that complete their treatment and graduate was also tracked.

Results show that during the years 2001-2004 the rate of therapeutic holds, runaways, injuries, and illnesses steadily declined. Restraints showed a steady rate of use by program staff; occurring approximately once per 3000 days that clients spent in wilderness

environments. Since incident monitoring of field days began in 1996, three fatalities have occurred in OBHIC member programs after approximately 1 million client field days. This equates to approximately 3.0 fatalities for every one million user days in the field. These rates will be compared, where possible, with other outdoor program rates and other therapeutic interventions for troubled adolescents. Recommendations include the importance of developing and maintaining consistent patterns of risk incident monitoring programs for similar programs, and the importance of consistent training and discourse around managing risk-related incidents for residential programs that work with adolescents.

Introduction

This paper will describe the definitions, process, reporting, and analysis of a risk-related incident monitoring program employed by the Outdoor Behavioral Healthcare Industry Council (OBHIC). OBHIC was formed in 1996 to set standards for outdoor programs that utilize backcountry environments to treat adolescents with behavioral problems and addictions. Incidents that are annually monitored at each program include therapeutic holds, restraints, runaways, injuries, illnesses, and fatalities for adolescent clients and field staff. Results are reported from incident monitoring conducted between 2001 and 2004 for ten programs belonging to OBHIC. Also included are data from the years 1998-2001, outlining incidents that were tracked by OBHIC but were not gathered, analyzed, and interpreted by the authors of this report. The results will be discussed in the context of outdoor programming and behavioral healthcare services and recommendations will be made for practice and research.

A brief overview of the risks associated with outdoor program management in general will first be presented, followed by background information on outdoor behavioral healthcare (OBH) programs and their unique characteristics in terms of clientele and practice. Outdoor programming is used in this paper to refer to programs that utilize outdoor and wilderness environments in conducting therapeutic and educational programming to facilitate intentional outcomes for participants. Well known outdoor programs include Outward Bound (OB) and the National Outdoor Leadership School (NOLS), which take thousands of participants annually on guided excursions that are 4-to-8-weeks in length. This will provide context to interpret the results of incidents monitored from OBHIC programs. Findings are presented with graphic figures and

descriptive passages to clarify incident occurrences, identify trends, and make brief comparisons of related incident data and research. Questions and suggestions regarding further evaluation and incident tracking for related programs are proposed, and finally, the author's conclusions are shared to encourage discussion of best-practice in OBH service delivery, with the goal of improved safety and treatment effectiveness for clients and their families.

Outdoor Program Risk Management

Risk is an inherent element of outdoor program activities, intentionally used by providers of educational and therapeutic programs to develop a sense of stress in the individual and group, which in turn is reasoned to facilitate positive outcomes. One of the central roles of outdoor programs is to minimize the levels of actual risk in an activity, and to manipulate the levels of perceived risk to maximize learning for participants (Ewert, 1989; Priest & Gass, 1997). The type and difficulty of activities undertaken, program philosophy, and staff and participant competencies all influence risk assessment and avoidance in effort to reach specific program outcomes (Cloutier & Valade, 2003).

The inherent risks of outdoor programs and the legal expectations of the service provider to address them are critical considerations in outdoor program management (Brown, 1998; Cloutier, 2000; Hanna, 1991; vanderSmissen, 1997). Outdoor programs need to examine and identify what risks they are managing, implement the policies and procedures needed to reduce risks, then write and implement risk management plans. A risk management plan is defined as a "systematic analysis of one's operation for potential risk exposures and then set forth a plan to reduce the severity and frequency of such exposure" (vanderSmissen, 1997, p.1). Risk management plans need to be flexible enough to accommodate variations in staff training levels with use of equipment, understanding of policies and procedures (Ewert, 1987), as well as the type of participant being served. For example, in the provision of OBH programs for adolescents with behavioral, emotional, or psychiatric disorders, programs need to employ staff who are licensed and capable of dealing with potential crisis situations related to a clinical client group (Davis-Berman & Berman, 1994; Russell, 2003).

While limited reporting exists on restraint in outdoor programming, injury and illness rates have been examined and reported in the literature at length

(Boulware, Forgey, & Martin, 2003; Gentile, Morris, Schimelpfenig, Bass, & Auerbach, 1992). The National Outdoor Leadership School (NOLS), in collaboration with other outdoor organizations, has been collecting and reporting injury, illness, and fatality data since 1995 in the published proceedings of the Wilderness Risk Managers Conference. NOLS co-hosts this annual risk management conference with the Student Conservation Association (SCA) and Outward Bound (OB) USA, which is dedicated to developing standards of practice for the wilderness education industry. Specifically, the goals of the conference are to a) educate wilderness practitioners on risk management and practical skills; b) share field and administrative techniques in risk management; c) influence risk management standards in the wilderness adventure and education industry; and d) provide a networking and professional development forum with today's leaders in the field (NOLS, 2005).

These outdoor programs provide valuable reference points for OBH providers because they involve clients that spend extended time in wilderness and outdoor environments engaged in similar activities. OBH program clients are predominantly adolescents while the outdoor programs are most typically young adults, course offerings range from 14-40+. Despite the similarities, OBH programs differ in two significant ways :a) the clientele in OBH programs are predominantly considered at-risk and are generally in treatment against their own free will, and b) high-risk adventure pursuits are not the primary activity in the field. OBH programs typically involve extended backpacking trips, with little or no use of high-risk activities such as mountaineering and rock climbing. Because of these differences, OBH programs also track other forms of data to manage the risk of their programs.

Therapeutic Hold or Restraint?

Because OBH programs are working with resistant youth in therapeutic and clinical settings, it is sometimes necessary to utilize what has been defined in the literature as a therapeutic hold or restraint. There are three types of therapeutic holds that are based on the degree to which a staff member at a program physically moves or restrains the youth. As the therapeutic hold becomes more serious and longer in duration, it becomes a restraint. They are defined¹ as: a) physical assist, where a client passively resists staff making physical contact but complies with movement requested; b) therapeutic hold, which occurs when the client actively resists and is then propelled or held against

that resistance by a staff member in a standing, sitting, or prone position; and c) restraint, which occurs when a therapeutic hold mentioned above exceeds 30 minutes. This leads to confusion when reporting occurrences to outside agencies, as restraint is not so clearly defined in related literature and may therefore be inclusive of all physical contact restricting a client.

Therapeutic holds have long been utilized as a means of controlling aggressive and unpredictable behaviors of clients in numerous medical, judicial, residential, and healthcare settings. The practice continues to be used and is critical in some circumstances to minimize harm to clients, staff, and physical property. However, emphasis must be placed on awareness and understanding of the potential physical and emotional adverse consequences of holding clients against their will (Mohr, Petti, & Mohr, 2003; Paterson et al., 2003). Accrediting bodies of medical and behavioral health organizations have weighed into the discussion of potential adverse effects of restraint when national attention was peaked in 1998 following a feature article from the Hartford Courant titled “Deadly Restraint” (Weiss, 1998). The Joint Commission of Accreditation for Healthcare Organizations (JCAHO) stated in 1998 that restraint would be considered as an acceptable behavior management practice for maladaptive and problem behaviors only when accredited organizations can demonstrate: a) they have initiated a multi-disciplinary team to review, monitor and consult on restraint practices and patient outcomes, and b) that restraint is only used as the last available option to maintain the safety of the client/patient, staff and others.

Effective strategies to reduce therapeutic hold occurrences described in literature include the following: a) the use of a restraint committee, multi-disciplinary approach, and organizational policy changes; b) minimization vs. abolition: a harm reduction approach; c) advanced training for some staff in crisis prevention and response; d) patient and resident assessment and education practices that establish clear guidelines and understanding for restraint incidents; e) family participation that educates and involves family members in treatment process; f) tracking client characteristics identified at intake and through on-going assessments that help flag clients prone to restraint; and f) on-going communication with colleagues to help avoid power struggles and shows of force.

Though not the intention of this paper, results reported here may trigger increased interest in the development of training programs to heighten

awareness of the proper management of restraint-related issues. For example, Luiselli, Kane, Trembl, & Young (2000) found significant clinical reductions in restraint of adolescents with developmental disabilities when specific behavioral criteria for restraints were utilized by staff. The results of these case studies included the use of restraint as a procedural intervention that would occur in a planned (i.e., when specific criteria were met) rather than an emergency (i.e., crisis) manner. More importantly, this research demonstrated that non-aversive treatment approaches such as cueing clients on their behavior, changing both physical and psychological environmental factors, allowing time away from activities causing agitation, and adding novelty to the intervention drastically reduced the need for restraint.

The issues surrounding risk management in OBH treatment and the use of therapeutic holds and restraints helps frame the need and importance of the monitoring program employed by OBHIC. The goal is to track the number of incidences that occur in the field, better understand why they occur, and to communicate with staff and professionals about the most effective way to minimize these risks. Below is a description of the monitoring program and process, which are followed by results from four years of data gathering.

OBHIC Risk Incident Tracking

OBH programs use extended wilderness expeditions that average over 50 days in Wilderness and which are integrated with a clinical treatment model. Common program elements include healthy exercise and diet through hiking and physical activity, psycho-educational curricula, solo and reflection, and individual and group therapy sessions that facilitate a form of therapeutic alliance among adolescent clients, therapists and wilderness leaders that is unique in mental health practice (Russell & Phillips-Miller, 2002). OBH programs practice what has been termed wilderness therapy, which has been defined within a larger collective of alternate treatment modalities referred to as adventure therapy (Bandoroff & Newes, 2004; Gass, 1993; Gillen, 2003). OBH programs utilize one of the five following expeditionary program models :a) contained, b) continuous flow, c) basecamp, d) residential or e) outpatient. These classifications denote the length of time adolescents spend in a particular program, length of field or wilderness exposure, and the clinical aspects of programming including time spent with therapists and level of involvement with parents and families.

The typical adolescent client (age 14-17) is resistant to treatment, has tried other forms of counseling, and is usually in treatment because a parent, school official or judicial system has encouraged them, though some clients do enroll voluntarily. For example, in an outcome evaluation that assessed over 800 adolescents in OBH treatment, 74 % had tried either outpatient or inpatient treatment services, and almost 80 % had presenting symptoms that warranted a primary diagnosis of a mood, behavior, or substance use disorder (K. C. Russell, 2003). Most have failed in school and/or gotten into trouble with the law. Also important in the discussion of risk related incidences is that the majority of clients are entering the programs mentally unprepared and often physically out-of-shape.

Defining Incidents

Members of the Outdoor Behavioral Healthcare Industry Council (OBHIC) developed definitions of incidents through working discussions and subcommittees beginning in 1998¹. These definitions are also the result of consultation and discussion with several state agencies charged with licensing programs, as well as national accreditation agencies like the Joint Commission on the Accreditation of Healthcare Organizations (JCAHO) who accredit OBHIC programs. The definitions that follow are presented here to capture the essence of the type of incidents being monitored.

Therapeutic Holds and Restraints (Level I, Level II, and Restraint). Two categories of therapeutic holds (TH) are described: a) Level I-TH, and b) Level II-TH. A therapeutic hold (TH) occurs when “a client’s freedom of movement is physically restricted.” A Level I TH occurs when a client passively resists staff making physical contact but complies with the movement requested. This would be the case when a client is led along the trail, or moved to his/her campsite, by a hand pulling gently on a backpack strap or guiding her/him by the elbow. The client in such a case may not “want” to go in the direction encouraged, but is “willing to go” when urged along; any resistance is passive. A Level II hold occurs when the client actively resists, and is propelled or held still against that resistance. The hand on the pack strap or the upper arm may still be all that is used, but now it is strongly pulling or pushing a client who is actively resisting. Immobilizing a client against his/her resistance in a standing, sitting, or prone position is a more common type of therapeutic hold. Finally, a restraint occurs when a Level II TH exceeds 30 minutes. This leads to confusion when reporting these

results to outside agencies, as restraint is not so clearly defined in related literature and may therefore be inclusive of all physical contact restricting client or patient movement.

Runaways.

Two categories of runaways are monitored. A Level I run away is defined as an instance when a client leaves a programming area without permission and is out of staff oversight for more than 60 minutes. A Level II runaway occurs when a client is away from programming area without permission and out of staff oversight for more than 24 hours. Reporting for runaways is also based on the seriousness of risk to the client. For example, a client may be away from staff oversight for only 10 minutes, but may be in an unsafe environment (e.g. a river area) which may constitute a runaway report.

Injuries and Illness.

Illnesses and injuries are routinely monitored but are reported only if the incident (injury or illness) takes the client out of regular programming for more than 12 hours. These are reported for both client and guides in charge of client primary care.

Training and Certification for Staff

Qualifications for primary care staff vary with each organization and with each member of what has been defined as the “treatment team.” The treatment team consists of key staff that teach a program that works with the adolescent to help effectuate change. When discussing monitoring incidents in OBH treatment, each team member plays a role. However, it is apparent that the majority of this responsibility falls on the wilderness leaders, who live and work with the clients out in the field. Also of note is that wilderness leaders are typically younger and more inexperienced than the clinical team, necessitating specialized training and on-program supervision. The following brief overview of the team approach highlights each staff member’s contribution to the treatment program.

A treatment team often consists of: a) a clinical supervisor, responsible for the clinical care of the adolescent and oversees the clinical operations of

the program. Duties include regular meetings with therapists and wilderness leaders in the field and with the clients, and periodic contact with the family of the adolescent in treatment. Clinical supervisors possess doctoral degrees in psychology, counseling, family therapy or a related field, or are master's level therapists, counselors, or social workers; b) medical supervisor, responsible for the medical care and treatment of the adolescent. Duties include regular medical check-ups on the adolescent's medical conditions in the field, care for adolescents when an accident, injury or illness occurs, and regular meetings with staff on the status of clients in the field. Medical supervisors are medical doctors (MDs) or licensed registered nurses (RNs); c) field therapist, responsible for the development, implementation and follow-up of the individual treatment plan guiding the care and treatment of the client.

Duties depends on each program's treatment model, but may include daily or weekly contact with the client, carrying out of individual and group counseling sessions, weekly contact with parents of the client, routine meetings and contact with the clinical supervisor, and routine meetings with wilderness leaders in charge of the day-to-day living of the client while on expedition. Field therapists are licensed therapists, family therapists, or counselors, masters level social workers, and have training in drug and alcohol treatment, and other specialty areas; and d) wilderness leaders, responsible for the day-to-day care of the client while on expedition. Duties include leading the expedition of up to 12 people in a variety of wilderness environments, including alpine and desert, communicating with the base camp area, and managing day-to-day living.

Wilderness leaders are required to be trained in first aid, typically as a Wilderness First Responder (WFR) or a certified Emergency Medical Technician (EMT). It is also crucial that wilderness staff are trained in de-escalation techniques. Examples include the non-violent crisis intervention (NVC), a nationally recognized training offered by Crisis Prevention Institute, and Positive Control Systems, recognized by the State of Utah as the training of choice for de-escalation issues. The theory behind these trainings is that to de-escalate and redirect a client's anger, rather than challenge and/or intimidate the client in crisis, reduces the frequency and intensity of physical intervention. Though the treatment team is responsible for the care of the client, it is the primary responsibility of wilderness leaders to manage the day-to-day behavior of the client while in treatment. Therefore, the majority of the

discussion and reporting on incidents centers around wilderness leaders and their day-to-day work with adolescent clients in the field.

Incident Monitoring System

An incident tracking system was implemented by the Outdoor Behavioral Healthcare Industry Council (OBHIC) in 1998 to develop a systematic process to define, record, assimilate, and report incidents at participating member programs. Each program is responsible for day- to-day tracking of incidents using similar forms and reporting methods. Trip leaders submit these forms to the field supervisor responsible for the day-to-day field management of groups. These are then reviewed internally at each program. Programs annually summarize the incidents according to the definitions and submit them to the Outdoor Behavioral Healthcare Research Cooperative (OBHRC), now at the University of Minnesota.

The incidents are then aggregated and analyzed according to various metrics that illustrate rates and trends in the data. Definitions and tracking metrics were pilot tested in 1999 and 2000 and finalized in 2001. Ten member programs adhere to incident tracking procedures and routinely submit data to OBHRC for inclusion in this manner. One of the important metrics used to illustrate rates and trends in incidents is the field-day. A field day is defined as one client or guide remaining in the field for a 24-hour period. Another metric used is the number of total clients who participated in treatment for that program in a calendar year. The figure that is used is the number of incidents per 1000 clients served. Incidents described in the results include therapeutic holds (i.e., forms of restraint), runaways, illness and injury, and fatality rates of clients. Additionally, injury and illness rates of field guides will be described.

All incidents meeting the criteria outlined in the definitions section were included in this data. Finally, the number of clients who completed treatment for each year will also be reported. This important metric looks at a program's ability to maintain the health and wellness of their clients long enough for them to complete their stay in the program. Where applicable, comparisons are made between incident rates of OBHIC programs and wilderness programs like NOLS, SCA, and OB discussed earlier. A discussion section will follow highlighting important implications of these results.

Results

Therapeutic Holds and Restraints

Figure 1 shows the total number of therapeutic holds (Level I and II) per 1000 clients served for the period 2001-2004. In general, therapeutic holds had dropped steadily from 2001-2003. In 2004 the total number of therapeutic holds had increased slightly to levels seen in 2002. Another way to interpret the data is to compare the therapeutic holds to the number of days the client spent in the field. For example, in 2004, there were a total of 50,356 client field days, and less than 80 therapeutic holds were recorded. More specifically, almost 60 of those reported were Level I TH or “physical assists.” This translates to 1.5 therapeutic holds per thousand client field days, meaning that almost 1000 days of treatment would pass before a client would experience a physical assist.

Figure 1. The number of therapeutic holds for every thousand clients served.

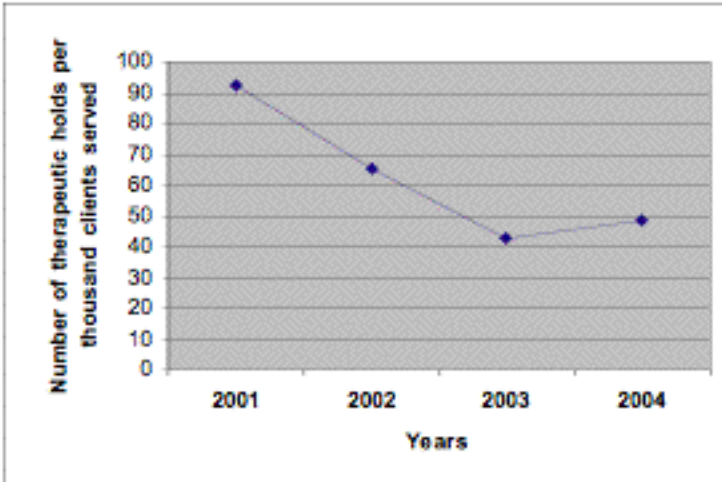
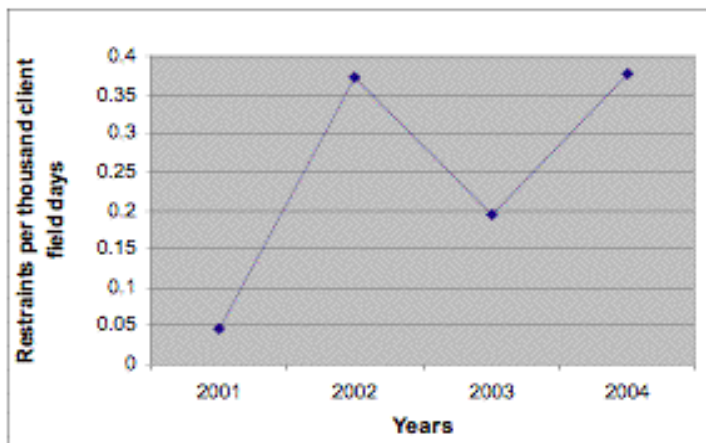


Figure 2 depicts the occurrence of restraints (Level II-TH exceeding 30 minutes) for every 1000 client field days. The highest rate of restraint was reported in 2004 at 0.38 per 1000 client field days. This translates to one restraint occurring every 3000 client field days. This also translates to

approximately one restraint for every 2800 clients served. The occurrence of restraint appears to fluctuate between the years 2001 and 2004, with a low number of restraints reported in 2001 (N=4) and a high number reported in 2002 (N=28). The graphical depiction does suggest that restraints are increasing over this time period.

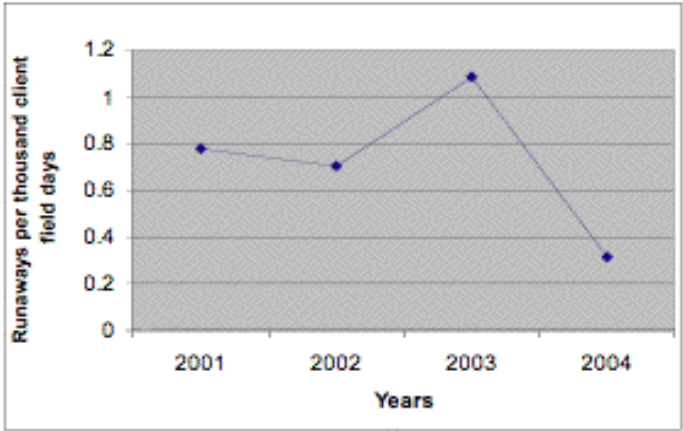
Figure 2. Number of restraints for every thousand client field days.



Runaways

The occurrence of runaways declined from 2001 to 2004. Figure 3 shows a range of runaway rates for every 1000 client field days from a high of 1.1 in 2003 to a low of 0.3 in 2004. For example, in 2003 there were a total of 67 runaways by the 1,700 clients served in treatment. Of these 67 runaways, two were the more serious Level II runaways, where the client is away from the group for more than 24 hours. Therefore, 97% of all runaways recorded for this year were Level I, where the client is away from the programming area for more than 60 minutes. For 2004, this also means that that approximately one out of every 98 clients will attempt at least a Level I runaway while in treatment, or about one client for every 12 groups in the field.

Figure 3. Number of runaways for every thousand client field days.



Injuries and Illness

Injuries are monitored and recorded for both clients and field guides. Client occurrence of injury shown in Figure 4 has ranged between 0.25 per 1000 field days to 0.51. This translates, for example, to one injury every 2000 client field days in 2001 and 2002, and one injury every 4000 client field days in 2003. This rate of injury means that on average, for the years 2001 to 2004, one injury is expected to occur for every 55 clients who entered treatment (i.e., the injury took the client out of regular programming for more than 12 hours).

The number of guide injuries has been steadily rising from 0.3 per 1000 guide field days in 2001 to 0.59 per 1000 guide field days in 2004. These figures translate more practically to a guide experiencing an injury approximately every 1800 – 2000 field days. Illnesses are reported for both clients and field guides. Client illnesses reported in Figure 5 have more recently been in decline since 2001, with 2004 rates of occurrence as slow as 0.05 per 1000 client field days. This figure translates to an illness being reported once every 20,000 client field days. Guides reported one illness for every 3,675 days spent in the field.

Figure 4. Number of injuries per thousand client field days.

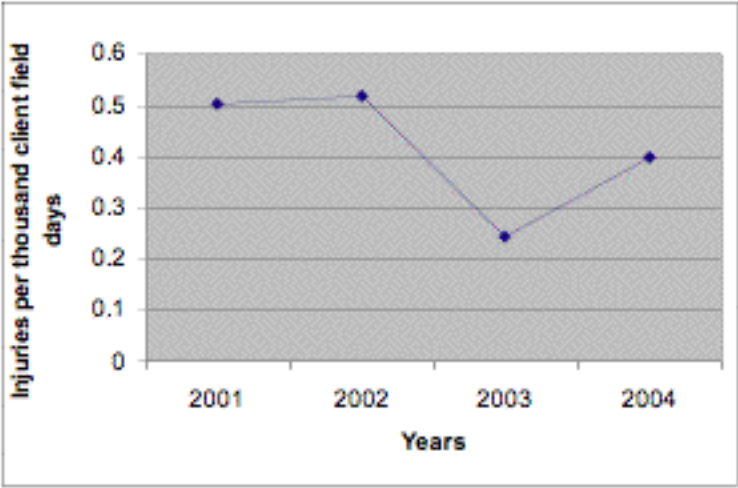
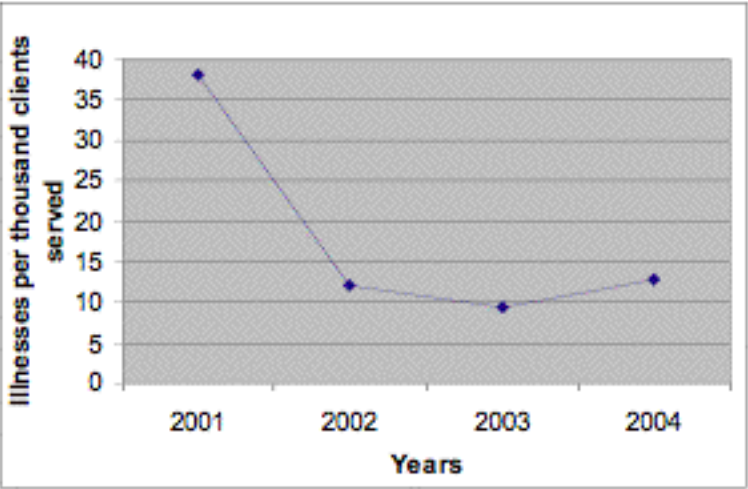


Figure 5. Number of illnesses per thousand clients served.



Fatalities

OBHIC programs have generated over 1 million total client field days since

1996, the year of their inception as an association (Cooley, 1998). For the ten OBHIC programs involved in risk incident monitoring, a total of three fatalities have been reported since 1996. Comparative rates of fatality among this high-risk, high-needs adolescent client group is difficult to make because of the lack of data available. One way to compare these rates is to examine the fatality rate reported by NOLS since it began collecting similar data. While NOLS had several fatalities during its early years, it had only two in the 16 years from 1989 to 1994, and during that time had over one million participant days (Schimelpfenig, 1996). NOLS experienced one death between 1995 and 1998 out of approximately 550,000 participant days (Leemon, 1999), a rate of 1.8 fatalities per million participant days. The rate for the 15- year period is approximately 2.0 fatalities per million participant days. The rate for OBHIC programs is 3.0 fatalities per million client field days.

Treatment Completion

From 2001 to 2004, 93 % of all OBH clients completed treatment. This is a high rate of completion compared to other modalities that report treatment completion rates of 40–60 % for short-and long-term treatment for substance use disorders (e.g., see Substance Abuse and Mental Health Administration, 2005). This appears to be an important metric to assess the degree to which adolescent clients are emotionally and physically well enough to complete, on average, over 50 days of treatment in the wilderness environments of OBH programs.

OBHIC Incident Data since 1998

Data were gathered on field days, injuries, and illnesses beginning in 1998 and are reported to offer a longitudinal perspective of risk incidents. Though definitions may have differed slightly prior to 2001, a pattern is noted in Figure 6, highlighting the decreasing incident rates for injury and illness for clients and guides since 1998, and a general leveling out of incidents between 2002 and 2004. Through discussion with OBHIC member programs, this trend was noted and has been discussed at each program, creating a culture of awareness with field staff responsible for the primary care of clients. It was agreed that both increased awareness by staff, and a sense of pride from reducing incidents in the field, played a role in lowering incident rates during this time period. The leveling out of incidents was also theorized as a potential after effect of this phenomena, suggesting that rates may have stabilized. This anecdotal theorizing would be an excellent subject of future research on the topic.

Figure 6. Percentage of OBH clients who completed treatment from 2001 through 2004.

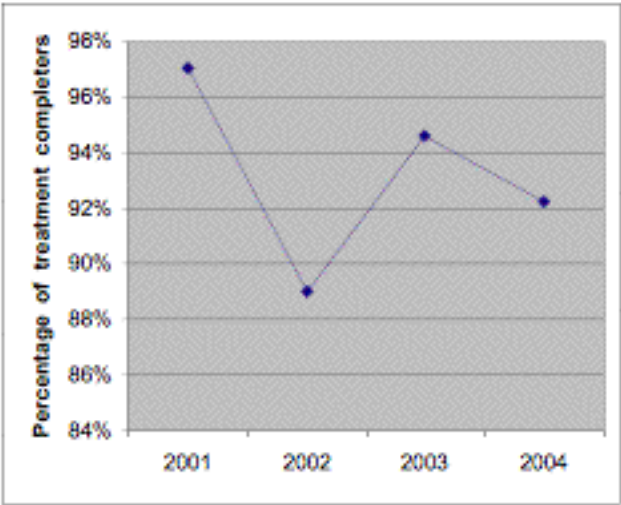
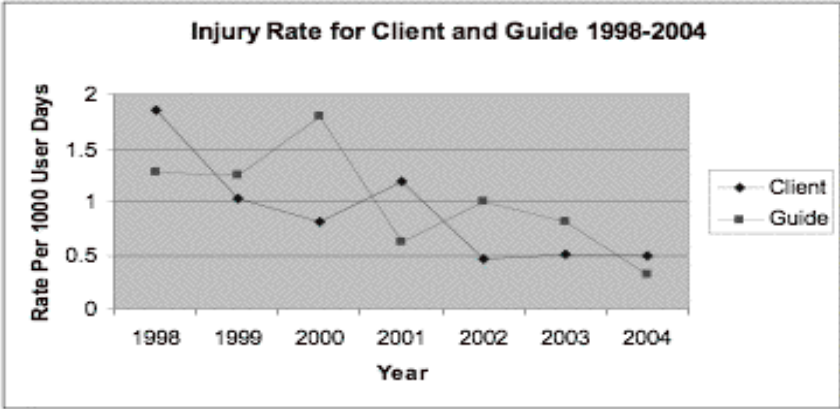


Figure 7. Injury rate per one thousand field days for clients and guides between 1998 and 2004.



Discussion and Conclusions

One consistent finding from this study is that most risk-incident rates appear to decline between 2001 and 2004 (and which is supported by the

trend data from 1998 onward). Questions asked include: Could this be due to systematic strategies implemented by programs after initial monitoring began? If so, what collective and unique strategies are being implemented, and which ones are showing the most effect? Could monitoring efforts have increased discussion of incidents by program staff, creating a “cultural awareness” which influenced incident rates?

In regular meetings of these programs, these questions have been asked and anecdotal responses have been proposed. However, empirical answers derived from systematic research are critical and are beyond the scope of this paper. Moreover, how do these rates compare with other therapeutic residential facilities? Are they less, more? What factors may be driving these differences? Also of note is that restraints, though extremely low in terms of rates per client field day and clients served (approximately one restraint every 3,000 client field days), showed a slight increase during this time period. Is this due to an increase in pathology found in the clientele in recent years? Perhaps a lack of consistent training programs offered at each program? Or a high rate of turn over for primary care staff? It is hoped that these data will instill an industry-wide recognition of the need to focus on these issues through systematic research and engage in best practices to reduce the risk to clients, staff, and families utilizing this treatment.

Programs like NOLS and OB continue to set the industry standard in monitoring illness, injury, and fatality rates in outdoor activities. Further efforts are being made to better understand the rates of medical risks in related outdoor activities by wilderness medicine associations like the Wilderness Medical Institute (Boulware, Forgey, & Martin, 2003). Collaboration with these organizations on future research will allow critical analysis of incidents that may shed light on questions arising from the descriptive reporting of these data. These questions include: what are the leading causes of the injuries, illnesses, and other risk incidents? Where and when are they most likely to occur? How do rates reported in this paper compare to other residential therapeutic facilities? Though answers to these and the above questions are beyond the scope of this paper, it is possible to provide an interpretation of the results to help better understand their meaning in the context of adolescent behavior and treatment.

Rob Cooley (1998), the founder of a member OBHIC program reviewed several injury, illness, and fatality rates when asking the question: how risky is

wilderness treatment for adolescents? Published in the International Journal of Wilderness, Cooley provided a theoretical summary based on actual statistics reported by various competitive sports (e.g. high school football), adolescent risk behavior (e.g. driving in automobiles), and other activities. For example, according to Eric Zemper (1998) of Exercise Research Associates, the injury rate for high school football practices in 1997 was about 19.74 injuries per 1,000 twelve-hour days, and 61.4 for high school football games. This data showed that 22 percent of the high school injuries involve concussion, dislocation, or fracture. NOLS shows seven percent in those more serious categories. This rate is almost 18 times greater than that of OBH programs.

Conclusions

Increased oversight by accrediting associations, licensing agencies, concerned parents and consumers, and others necessitates the continued monitoring, reporting, and analyzing of risk-related incidents in programs like those in OBHIC. No program or group of programs can ever be risk-free. However, understanding the characteristics of risk-related incidents ensures that programs have risk management plans to assess these risks in a systematic manner. Several conclusions were reached after reporting the results of this monitoring program that may be of use to other programs with similar clientele or service delivery, or other outdoor programs working in wilderness or natural environments.

Conclusion 1.

Over 90% of all OBHIC clients complete treatment. Adolescent clients in OBH programs overwhelmingly complete their stays in treatment. This is an important finding that sheds light on the efforts made by OBHIC programs to provide for the health and well-being of clients. It would also seem appropriate to examine the 3-11% of clients that did not complete treatment to better understand the factors that led to their early dismissal. This is critical information because it is well documented in the literature that treatment completion is a major factor in predicting positive outcomes for clients (Winters, 1999).

Conclusion 2.

OBHIC programs have relatively low rates of therapeutic

holds and restraints. Adolescent clients are rarely held or touched or physically made to do something against their will. The low rates for therapeutic holds (one for every 1,000 days a client is in the field) and restraints (one for every 3,000 field days) was quite surprising given that the majority of clients in these programs are there against their will (parents or other authorities require them to go) and have limited or no motivation to change or improve in the beginning of the programs (Russell, in preparation). The beginning phases of OBH treatment are fairly rigorous and demanding, causing many students to become frustrated and not want to continue. Despite these characteristics, staff members motivate clients to comply with safety procedures and engage in the process enough to want to complete treatment. Understanding the motivation strategies utilized by staff could also be an interesting area for future research.

Conclusion 3.

Injuries occur for approximately one in every 55 clients. The data suggests that one in every 55 clients will experience an injury while in treatment that will take them out of programming for more than 12 hours. This finding supports the assertion that programs need to have adequately trained personnel in the field to handle these injuries, as well as detailed evacuation and reporting plans in place to evacuate clients who are in need of medical attention. Due to strict licensing regulations in place at the state level, these are basic requirements of most outdoor programs, and minimum requirements for membership into associations like OBHIC. Accidents occur, and programs have to deal with them in an effective and safe manner.

Conclusion 4.

Illnesses occur once in every 20,000 client field days. This conclusion appears to contradict mainstream perceptions and rhetoric (mostly negative) that surround the OBH industry in general as gleaned from newspaper reports, magazine articles, and lately television shows (e.g. Krakauer, 1995). A common perception of spending on average 50 days in a wilderness environment is that participants will get dirty, and in turn sick, from the unclean environment that is daily wilderness living. Despite these common beliefs, it appears to be a myth. According to these results, a client will require attention for an illness once every 20,000 days in the field. Further, it is

important to remember that these adolescents were not in good physical shape prior to entering the program. Most have a history of substance abuse, poor diet and sleeping habits, and little to no physical exercise prior to entering treatment (Russell, 2003). Physical exercise, a healthy diet, and regular sleep appear to facilitate good physical health for clients in treatment, evidenced by the low illness rates reported here. The physical health benefits of treatment are an important finding that could be examined in more depth as an outcome from treatment.

Conclusion 5.

The death rate is higher than that of the National Outdoor Leadership School and difficult to compare with other similar institutions. This issue is critical; each death that occurs in an OBH program comes under intense scrutiny by state agencies, legal entities, and other vested parties. It is not the purpose of this paper to examine the reasons underlying the deaths and analyze the factors that led to each. However, this issue is one that confronts all mental health service providers and one that needs to be examined in detail by appropriate entities. For example, the Joint Commission on the Accreditation of Healthcare Organizations has reported 124 deaths between the years 1995 and 2004 due to restraints alone among accredited organizations. There is no way to compare metrics because it was not reported how many organizations, clients, or “treatment” days had occurred during the time period these restraint-related deaths were recorded. However, it is clear that at-risk adolescents die in residential treatment centers, schools, correctional facilities, and service providers every year from many causes. The goal is to better understand these deaths and relate them to alternatives, which in the case of OBH treatment may mean an alternative residential treatment modality, or an in-patient hospital.

Finally, these incidents need to be placed in the context of a larger discussion of the outcomes that result from treatment. Though some positive outcomes have been reported from OBH treatment (Clark, Marmol, Cooley, & Gathercoal, 2004; Russell, 2003, 2005), more research is needed to better understand how OBH treatment can be made safer and more effective for adolescent clients and their families. The demand for these programs appears to be directly related to an overall demand for quality behavioral healthcare services, which at present time are not meeting the needs of adolescents. Approximately 2.7 million children are currently reported by their parents to experience severe emotional or behavioral

problems and while more than half of these parents contact mental health resources, less than 25% of these youth receive necessary treatment (National Institute of Mental Health, 2005). If this pattern continues, more parents and their children will turn to OBH treatment for help, necessitating the need for continued research and monitoring of the quality of care.

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Footnotes:

- 1) HOLDS (Level I and Level II)
 - a) A “therapeutic hold” occurs when “a client’s freedom of movement is physically restricted.”
 - i) This would not be the case when a client is led along the trail, or moved to his/her campsite, by a hand pulling gently on a backpack strap or guiding her/his elbow. The client in such a case may not “want” to go in the direction encouraged, but is “willing to go” when urged along; any resistance is passive. This situation may be termed a “physical assist.” However, OBHIC members agreed that we would no longer report physical assists. A program may, if it chooses record and count them, but need not report them to OBHRC.
 - ii) The line between a “physical assist” and a “therapeutic hold” occurs when actively resists, and is propelled or held still against that resistance. The h pack strap or the upper arm may still be all that is used, but now it is strongly pulling or pushing a client who has “dug in her heels” and is actively trying not to go in the direction desired by the staff person. Usually, in such a case, it would take a staff member on each side of the client to propel the client against his/her resistance, but this is not necessarily so. Immobilizing a client against his/her

resistance in a standing, sitting, or prone position is a more common type of therapeutic hold.

- b) A “Level II Therapeutic Hold” is one which lasts longer than 15 minutes. This is not recommended.
- c) A hold lasting longer than 30 minutes is a “Restraint,” even when no physical restraint devices are used.

2) INJURY AND ILLNESS INCIDENTS

- a) An incident becomes reportable when it takes a client out of regular program than 12 hours.
 - i) The time out of programming may be spent entirely in the field, for exam client resting in his/her sleeping bag while recovering from intestinal ups camp with a mild sprain. The incident should be counted even when it does not affect the program or the client or the group. For example, the staff might decide group lay-over day to accommodate a client’s illness, with the client attending all or some groups and doing the same journal assignments as other group members. In this case, if the client is in need of bedrest or camp rest for 12 hours or more, the incident should be counted, even though the program was able to continue with only mild adjustments.
 - ii) The incident time may include evacuation for medical examination. In this case, the evacuation time is counted as part of the 12 hours. For example, if the doctor’s visit and treatment procedure takes 2 hours, but the evacuation time each way is 5.5 hours, the total time is 13 hours and the incident should be counted.
 - iii) However, extra time spent at a base camp due to purely logistical considerations need not be counted. For example, a client might be evacuated at 7p.m., arriving at the emergency room at 10 p.m., finishing there at 11 p.m., but due to the lateness and the hour, the client might be held at base camp until the next morning before the 2 - hour return drive to the field from 7 a.m. to 9 a.m. If the doctor suggested that the client be kept at base overnight, then that would be a 14-hour incident and would be counted. However, if the doctor gave permission for the client to return to the field right away and the client could have returned

by 1 a.m., then that would be a 6-hour incident would not be counted.

- iv) When state regulations or prudence require an evacuation for a medical exam and it turns out that there was in fact no genuine injury or illness in evidence, the incident should not be counted regardless of the time involved.

Note: Although we are sticking with the “12 hours” criterion used by NOLS in order to develop data, which is useful in the real world of outdoor programming, this will generate some problems. Keep in mind that the real point here is simple: any illness or injury which is serious enough to cause the equivalent of a “missed day of school” should be counted and reported.

- b) A “Level II” injury or illness is one which requires an overnight hospitalization equivalent, as judged by the program.

3) NOSOCOMIAL/PROGRAM CAUSED ILLNESSES

- a) We agreed to change the reportability boundary for these from 48 hours to 7 admission to the program. This is based on advice from several of our medical consultants, who suggested waiting periods ranging from 48 hours to 14 days. Some common illnesses require incubation periods as brief as 12 hours; some are 14 days or more. The 72-hour definition is a compromise.
- b) A few well-known and readily identified illnesses, including chicken pox, measles, mumps, do require 10-14-day incubation periods. When these illnesses are clearly identified and their incubation period is known to be longer than the time a child has been in the program, they should not be reported.
- c) Keep in mind, however, that we are interested in getting figures as solid and straight forward as possible: Thus, it is better to err on the side of over-reporting.

4) RUNAWAYS (Level I and Level II)

- a) We will continue to use the definition developed earlier: Away from program oversight without permission for more than 60 minutes. If a client walks away from camp and is

followed by staff who keep him/her under observation or continue to engage a client in conversation, the incident is not considered a runaway.

- b) A Level II runaway is one in which a client is away from staff oversight for more hours without permission.
- c) The question of when a runaway has occurred is, as with other incidents, one of seriousness of risk rather than the client's intentions or the logistics of the situation. A client might walk for several hours or miles but bear essentially no risk because a staff member remains near the client and could provide protection. Another client, away from camp for little more than an hour, might be lost in an unlikely location or hitching a ride with a particularly dangerous driver, and hence be at substantial risk.