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Financial Cost of Addictive Disorders [1]

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Introduction:
"Addiction is a disease in and of itself, characterized by compulsion, loss of control, and continued use in spite of adverse consequences" (Coombs, 2004, p.5). In addiction, the important phase is the loss of control, in which, though the addicted person can control the use for a short period, but compulsion to use more returns more strongly leading to out-of-control use. Addiction is progressive, and over a period of time, addiction becomes chronic and the person falls to relapse. Most people believe that simply refraining from the use of alcohol or drugs causing addiction can stop addiction, but it is not as easily done as it sounds. Long-term abstinence from the factors that create the dependency requires repeated treatments, which not only cost a great deal but also needs to be sustained for a long period of time. These treatments include cognitive therapies and drug therapies which turn out to be an expensive affair. In most cases, addiction is incurable. The patient can move to a state of mental depression, or can result in death.

Addiction is one of the most serious and expensive public health problems in the United States. By the young age of twelve, as much as 52% of US adolescents have consumed alcohol and more than 40% have smoked tobacco, or marijuana and over four million people use pain relievers, stimulants and sedatives for non-medical uses in one month. Nearly five million Americans are found to suffer from eating disorders and more grave situations like anorexia nervosa and bulimia nervosa. An unofficial study found that more than 15 million Americans have another major addiction, gambling. The net economic cost of substance abuse is estimated to exceed four hundred billion dollars. Health care costs for substance abuse and treatment costs for addictive disorders alone are estimated to exceed hundreds of millions of dollars.

Statement of the Thesis:
The thesis investigates the financial and social issues in treating addiction in people and examines whether it is financially prudent to provide treatments for people who are addicts. It investigates the cost incurred, directly and indirectly, in treating addictive disorders in the United

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States and the benefits of making treatments available for addicts.

Research is done in areas like the grants provided by the Federal government in studying addiction related disorders and the steps taken to educate people to prevent addiction. The study sheds light on the actual health care costs associated with untreated addiction. It can provide insights on the financial gain on the money invested, after successful treatment of addictive disorders. The study can also help in estimating the financial rewards and losses of addiction and to determine the best way to treat addiction related disorders.

Cost of addictive disorders in the United States:
The National Institute of Drug Abuse (NIDA), a subsidiary of the National Institutes of Health, developed an estimate of the economic costs of alcohol and drug abuse in the US. The report indicates that alcohol and drug abuse alone cost an estimated amount of $246 billion in 1992. "Alcohol abuse and alcoholism cost an estimated $148 billion, while drug abuse and dependence cost an estimated $98 billion. When adjusted for inflation and population growth, the alcohol estimates for 1992 are very similar to cost estimates produced over the past 20 years, and the drug estimates demonstrate a steady and strong pattern of increase" (The economic costs of alcohol and drug abuse in the United States-1992, 2006, Overview, para.1).

Most studies reveal that severe drug problems and crimes related to addictive disorders and impaired mental health have progressively increased over the past years. The aftermath of drug and alcohol addiction leads to negative consequences in health and health care systems. The prevalence of criminal behavior and violence is high in addicted individuals and often leads to unemployment, financial destitution and homelessness.

To realize the actual economic costs caused by addictive disorders, various aspects like health care costs, productivity loss, the relation between crime and addiction, automobile accidents involved and premature loss of life have to be analyzed. Health care costs and productivity loss are the direct costs involved in addictive disorders whereas violent crime, automobile accidents and premature death are indirect consequences.

Health care costs:
"The total estimated spending for health care services was $18.8 billion for alcohol problems and the medical consequences of alcohol consumption and $9.9 billion for drug problems in 1992. Specialized services for the treatment of alcohol and drug problems cost $5.6 billion and $4.4 billion, respectively". (The economic costs of alcohol and drug abuse in the United States-1992, 2006, Health care expenditures, para.1). Health care expenditures include a number of factors like detoxification and rehabilitation services. Prevention, training and research costs incurred are also grouped under health care costs. Alcohol and drug abuse treatment and prevention costs are estimated as $7.2 billion and $1.8 billion respectively. The support costs like training and research expenditure and insurance administrations total up an amount of $983 million. Thus, the specialty services and support cost for addiction alone add up to $9.9 billion in 1992 and is much more in the recent years.

The medical consequences caused by addiction includes fetal alcohol syndrome, tuberculosis,

HIV/AIDS, Hepatitis, violence, drug exposed infants etc. These diseases cost a total of 18 billion dollars with HIV/AIDS accounting for the highest expenditure of almost 3.7 billion. Health care costs also include treatment costs and specialty treatment expenditures like residential care costs, outpatient costs and rehabilitation costs. Specialty treatment costs include the cost of services provided by physicians, nurses, registered doctoral counselors, administrative professionals, and hospitals, etc. and account for another 10 billion dollars. The costs of treatment of addictive disorders in US are discussed later in this paper.

However, the estimates of expenditure due to addiction given in this paper are not absolute. The cost of self help groups and volunteers who attend to alcoholic and drug related addiction problems and other addictive disorders cannot be determined accurately. Traditional treatments and counseling and other costs related to abuse of family members and friends must also be considered to obtain an actual estimate of the health costs due to addictive disorders.

Productivity Loss:
The cost accrued due to impaired productivity or loss of productivity is estimated to be over eighty billion dollars a decade back. Impaired productivity and loss of productivity is the loss of earnings due to the absence of work and household tasks. The costs incurred by impaired productivity are usually born by the addicted individuals or their family members. The prevalence of low work productivity from employees who are drug or alcohol dependant is very high. Addiction leads to loss of pay and increased unemployment as the individual suffering from addiction starts showing withdrawal symptoms and stops working altogether. “An estimated $107 billion in overall productivity losses is attributable to alcohol abuse, and $69.4 billion is attributable to drug abuse” (The economic costs of alcohol and drug abuse in the United States-1992, 2006, Productivity losses: Synopsis, para.1).

Addictive disorders also cost mortality and the number of deaths due to addictive disorders is increasing at a massive rate over the years. The loss of human capital also contributes to the economic loss caused by addiction related disorders. Costs due to mortality is estimated by identifying the deaths caused by addiction related factors like drug or alcohol.

Crime and violence related costs:
The study by the National Institute of Drug Abuse states that “drug abuse is estimated to have contributed to 25 to 30 percent of income-generating crime, and alcohol abuse is estimated to have contributed to 25 to 30 percent of violent crime” (The economic costs of alcohol and drug abuse in the United States-1992, 2006, Crime, para.2). Alcohol and substance related addiction lead to damage of property, destruction of public and private property, smuggling of cash and property, illicit trade of drugs and related objects, physical, sexual and violent abuse of other citizens and homicides. Suicide rates are also high in individuals suffering from addiction related disorders. The expenditure of the criminal justice system in the United States accounted for over 23 billion dollars twelve years ago and has obviously increased over the years. The main components contributing to criminal injustice and violence are alcohol and the use of drugs.

Expenditures due to incarceration of individuals suffering from addiction and related disorders must also be considered as a direct cost of addiction. Incarceration also causes loss of

productivity and reduces human capital.

Accidents including fatal motor vehicle crashes are also caused by addiction. This includes loss of property, cost of health care and injury treatment due to accidents, permanent disability to the victims involved in accidents and premature death. “Total costs attributed to alcohol-related motor vehicle crashes were estimated to be $24.7 billion” (The economic costs of alcohol and drug abuse in the United States-1992, 2006, Motor vehicle crashes, para.1). An estimate of the overall cost of drug abuse alone (in millions of 2000 dollars) from 1992 – 2000 is shown in the table below:

Cost categories	1992	1993	1994	1995	1996	1997	1998	1999	2000
Health care costs	$13,132	$13,095	$12,959	$12,630	$12,402	$12,821	$13,435	$14,165	$14,899
Productivity losses	$69,421	$91,874	$94,996	$98,411	$100,296	$100,218	$102,855	$106,648	$110,491
Other costs	$21,912	$26,406	$28,078	$30,300	$29,782	$32,383	$33,513	$35,050	$35,274
Total	$104,465	$131,376	$136,033	$141,340	$142,479	$145,422	$149,803	$155,863	$160,664

(The economic costs of drug abuse in the United States 1992-1998, 2001, p.98, tab. C-1).

This table shows the costs for drug abuse alone. The table shows that the cost incurred has progressively increased over the years. The cost of addictive diseases due to alcohol and other factors added up to this will result in a huge amount. The victim of addiction or the immediate family members often incurs the cost of addictive disorders. But the cost to society is equally large as costs to the individual. The costs include the effects on non users, efforts taken by the government and insurance and tax systems.

Costs of incarceration:
Incarceration is the process of keeping the individuals of addictive disorders behind the bars. The number of incarcerated victims in the United States is increasing each year. “In the seven decades from 1910 to 1980, the number of inmates grew by 462,006; while in the 1990’s alone, the number of inmates grew by an estimated 816,965” (Education News: Treatment or incarceration, 2009, para.6). The taxes spent in incarcerating non-violent victims of addiction disorders alone exceed 24 billion dollars each year in the US. Individuals of drug and alcohol addiction and related crimes account for the highest percentage of inmates in state and federal prisons.

Costs of treatment of addictive disorders in the United States:
The department of health and human services under the government of the United States of America has conducted an investigation called the Alcohol and Drug Service Study and have formulated a paper on the Cost of Substance Abuse Treatment in the specialty sector. The report was developed for the Substance Abuse and mental Health services Administration (SAMHSA) and gives detailed cost statistics of addictive disorders in the United States. The

national level study was conducted to collect information on the characteristics of substance abuse treatment facilities in the country, clients presently under treatment, status of the clients post treatment, and financing of specialty substance treatment sector care. The results of the cost study are categorized into three: key unit costs, personnel costs and national cost estimates.

The key unit cost variables are the mean cost per admission, mean cost per client day, mean cost per documented visit, mean cost per reported visit and mean cost per counseling hour.

Cost Results:
The estimated mean cost per admission for non hospital residents was found to be $3,132 and the mean cost per admission of outpatient methadone treatment was estimated as $6,048. The mean cost per admission for outpatient non methadone facilities was calculated as $1,169. A total amount of mean cost per admission in general is $1.849 in the United States. The admission of outpatient methadone treatment is found to be costlier than the mean cost per residential and outpatient non methadone treatment. This is because outpatient methadone treatment needs longer periods of treatment when compared to outpatient non methadone treatment and residential treatment.

The residential care costs a total of $62.20 per enrolled client day. The mean cost per enrolled client day for outpatient methadone treatment is found as $10.32 and the mean cost per enrolled client day for outpatient methadone treatment is totaled as $9.17. Many sub care types are present in both residential as well as outpatient non methadone and methadone treatment and this can cause variations in the cost estimates given above. Residential treatments include detoxification services and rehabilitation services. Outpatient services included educational sessions in large or small groups, regular outpatient service which had an hour per week counseling sessions and intensive outpatient services with counseling lasting for several hours per week. Methadone treatments included both methadone dosing and counseling for the patients. The variations in the estimates can also be due to the change in prices of different services offered by the medical personnel.

The mean cost per reported visit for outpatient methadone treatment was $14.50 and for outpatient non methadone treatment, the mean cost per visit was $21.80.

The cost per counseling hour for individuals for outpatient non methadone care is estimated as $75.65 and the cost per group counseling hour per client for non methadone outpatient care is $7.90. Residential non hospital treatment care and outpatient methadone care facilities had additional inputs and outputs and there is a chance that the amount derived as cost per counseling hour for these would overestimate the cost of counseling.

The study also has estimated the mean hourly rates for full time staff in all three types of care. It is found that Physicians have an hourly rate of $51.59 and Doctoral level counselors have $27.86 as their mean hourly rate and these two groups have the highest mean hourly rates. Registered nurses have a mean hourly rate of $18.71 and master's level counselors have the same as $16.95. Bachelor level counselors' mean hourly rate is estimated as $14.15 and

administrative staffs and non degree counselors have the lowest mean hourly rates as $12.04 and $10.83 respectively. The mean hourly rate of other medical staff is estimated to be $13.49. These estimates are calculated according to the rates of 1997 and can be much higher in 2008 – 2009.

The mean proportion of personnel costs to total costs is highest in public health care systems and is 78% while private non profit health care systems and private for-profit care systems have it as 72% and 79% respectively.

The national cost adjusted estimates of substance abuse treatment in the specialty sector for three types of care are given in the table below:

Type of care	*Estimated point prevalence client count*	*Days in 12 month period*	*Estimated cost per enrolled client day*	*Estimated total annual costs*
Non hospital residential (n = 48)	99,895	365	$62.10	$2,264,270,018
Outpatient Methadone (n = 44)	151,882	365	$10.32	$572,109,118
Outpatient Non methadone (n = 222)	806,706	365	$9.17	$2,700,085,317
Total	1,058,483			$5,536,464,453

(The ADSS Cost Study: Cost of Substance abuse treatment in the specialty sector, 2003, p.21).

The estimates are calculated according to the rates of 1997 as conducted by the ADSS study and the present rates can be much higher. As in 2002, the residential treatment cost was as high as $3,840 per admission and outpatient methadone treatment cost was $7,415 per admission. (The ADSS Cost Study: Cost of Substance abuse treatment in the specialty sector, 2003).

The ADSS cost study shows that non methadone outpatient care is the least expensive than the other two care modalities discussed in this paper and it is only one third of the costs incurred by non hospital residential treatment. The mean cost per enrolled day for outpatient non methadone care was also much less than non hospital residential care and outpatient methadone care. Personnel expenses are found to be the largest component of all costs for all care types. It takes 63% of non hospital residential care costs, 65% of the outpatient methadone treatment costs and 79% of the outpatient non methadone treatment costs. “A report from the Substance Abuse and Mental Health Services Administration (SAMHSA) calculates that the average cost for treatment of alcohol or other drug addiction in outpatient facilities was $1,433 per course of treatment in 2002” (SAMHSA report shows cost of addiction treatment, 2008, para.1).

Benefits of treatments for addiction disorders:
The benefits of treatments can be evaluated by considering two main aspects, the effectiveness of the treatment and the cost effectiveness of the treatment. The effectiveness of treatment does not simply involve the abstinence from the factors causing addiction. Although abstinence is the target, the effectiveness can be measured only in terms of the patient's health and his social behaviors. Addiction treatments in the present scenario are found beneficial. It can contribute to the significant reduction of usage of addiction causing factors and reduce crimes and abuses. Productivity impairment and family violence are reduced to the maximum extent.

Addiction treatments are found to be effective for 40 to 70 percent of the alcoholic patients and 50 to 60 percent of drug using patients. Treatments for addictions can bring down and eventually reverse the consequences of addiction at a much higher rate than most chronic diseases like asthma and hypertension. Addiction can cause and occur alongside other chronic diseases like tuberculosis, hypertension, and variety of cancers. "Persons with addictive disorders suffer from many of the same medical conditions as non addicted persons, but addiction can interfere with the disease or its management" (Saitz, n.d., p.2, Addiction treatment yields better health care outcomes, para.3). If the patient does not receive adequate treatment for addiction at the right time, the cost of health and medical care can be double that of normal addiction treatment alone. Also, treating addiction helps to yield better health care outcomes for patients.

The facts about addiction paper prepared by the Institute of Research Education and Training in Addictions say that the tax payers save an average of $7.46 for each dollar invested in treating addiction. Addiction treatments, if given at the right time, can reduce criminal and violent tendencies of the victims thereby contributing to the savings. Social and cultural benefits of treating women with addiction disorders are much greater than the cost of treatment. "A 1997 study published in the Journal of Quantitative Criminology found that drug treatment saves $19,000 per patient in crime-related costs in the year following treatment. Compared with the costs of treatment for addiction ($2,828 for methadone maintenance, $8,920 for residential treatment, and $2,908 for outpatient drug-free treatment) drug treatment can offer immense savings" (The facts about addiction, 2003, p.2, Addictions treatment is cost effective, para.7).

Public awareness:
Public awareness is the most effective way of preventing addictions at the individual, family and community levels. The grave situation caused by addiction disorders and their consequences – health wise, social and economical – should be made aware to the public. "We must recognize and address the debilitating effects of addiction on all of us - whether the addict is a family member, neighbor, or co-worker. Re-allocating resources to treatment is vital not only to the well-being of our communities but to our very ability to weather the severity of this downturn". (America's silent crisis, 2009, para.12). Addiction and related health and mental conditions can cause people to lose their jobs and savings and become homeless. The loss of self respect must also be emphasized.

Public awareness and group counseling can bring about reduction in addictions. It was found in

a study that a “group of at-risk alcohol users who received brief counseling recorded 20 percent fewer emergency department visits and 37 percent fewer days of hospitalization” (Unforeseen benefits: Addiction treatment reduces healthcare costs, n.d., p.1, para.7). This can in turn reduce the cost incurred for treatment and rehabilitation of addicted victims.

Drug addiction is a dangerous cause for spreading of HIV virus through sharing of needles for the drug injection. It causes to make improper decisions and judgments and indulging in unsafe sexual relationships with HIV infected. There is a correlation between drug addiction and infection of HIV since drug addiction is one of the fastest causes in the spread of HIV especially in US. Prevention and treatment for drug addiction is necessary to alleviate a number of diseases especially HIV infection. Around 50 percent of American youth are in the clutches of drug addiction and they get addicted to drugs when their ages are fifteen to eighteen. Therefore, considering the dangerous facts, some steps are needed to provide treatment for the drug addicted. Otherwise, the number of people who get infected with HIV and other diseases will be increasing. “NIDA states that from 1998 to 2003, an estimated 240,000+ AIDS diagnoses were due to the use of injecting drugs” (Drug addiction and society, 2007, The impact of drug addiction on society, para.2).

Some of the drugs effecting dangerous results are heroin, cocaine and methamphetamine and injecting these drugs causes for more than a third of newly appearing AIDS incidences. “HIV and drug addiction during pregnancy is a complex problem that needs designing of special interventions which would improve the adherence to medical follow up and interventions to reduce the risk of HIV infection in infants” (Malyuta, Aryaev & Semenenko, 2004, para.1). Most of the drug users are not aware that sharing of needles for injecting drugs would increase the possibility of infecting HIV. Drug users are more active and dynamic in their sexual activities and they practice unsafe sexual practices. Women drug users who do not have money to get drugs, practice sex as a trade that would result in the drastic spread of HIV. A survey was conducted among 6,000 drug addicts in India and it presented results that half of the drug users take the drugs by way of injection. Among them, 1,279 drug users received the used syringes from other drug addicts. More women who are infected with HIV in urban areas could be observed having a connection with drug use. Developing countries are at the risks of wide spread of HIV patients among drug users.

HIV spread among injecting drug users is a threat and obstacle in the path of development of humanity. Intervention from the government through formulating strategies and policies to deal with the situation decreases the risks. High demand and supply of drugs, the process of drug trafficking and handing over of the needles are the main factors in the spread of HIV. There are social and economic aspects like poverty, homelessness, migration, social instability, calamities, marginalization, being involved in the trade sex work, unemployment and social stigma that would lead to the spread of HIV through drug users. In the light of a study conducted by World Health Organization shows that HIV infection among injecting drug users occurs in 114 countries. The developing countries which are at the risks of HIV transmission by way of injecting drug are China, Russia, Ukraine, Vietnam, Malaysia and Kazakhstan. The growth of illicit drug use is also a burden to deal with the issue effectively. According to the report presented by the United Nations, there are 21 million people who take heroin and cocaine and

more than 30 million people take stimulants like amphetamines and barbiturates.

Prevention education of addictive disorders:
"Prevention Education provides education, training and technical assistance to individuals and communities to delay the onset of use, reduce risk factors, and increase protective factors linked to substance abuse and dependency" (Office for addictive disorders-region 7, n.d., Overview of services offered, para.2).

Prevention education focuses on increasing knowledge perspective on drugs, understanding the consequences of drug use, developing self respect and esteem, developing skills for good communication, interpersonal relationships, assertion and reducing anxiety, making aware the influence of other people like film stars and celebrities, bringing an ethical approach where the use of substance is bad and enhancing an attitude of anti drug use. The methods that are used in the prevention education are instructions on the different substances and the consequences of their use, discussion on the substances, audio video presentations, display of various substances and their side effects, distributing posters, notices and pamphlets, group problem solving through conducting group discussions. Individual and group psychotherapy is very useful in the prevention of addictive disorders where the therapist and the client engage in a discussion on problems of the client after using chemical substances. Therefore, the subject comes to learn more about issues related to the addictive disorders and their consequences. Counseling is also a good approach to the patients who are suffering from addictive disorders. In counseling, the counselor helps the client to make better choices by way of suggestion. The client is responsible for his decision and thereby the client will develop a resistance against the use of substance. The program for prevention education against addiction should start from primary school. Children should be made aware of addiction to different substances and other addictions like the Internet, sex etc. If one is addicted to anything, his productive life will be interrupted with this addiction. The children should be imparted with good knowledge about various addictions and their consequences.

Addiction disorders are the cause of major health problems in the United States. It becomes much severe if it is left untreated. "The economic cost of substance abuse in the United States exceeds $414 billion, with health care costs attributed to substance abuse estimated at more than $114 billion" (Addiction: Description, 2009, para.2).

52% of adolescents in United States have used alcohol, 41% used tobacco and 20% of adolescents have experimented with marijuana. 25% of the total population in the United States uses tobacco and around 4 million people who are above 12 use pain relievers and sedatives. According to a report based on a study conducted by Harvard shows that 15.4 million people in United States are addicted to gambling. Taking these factors into consideration, an effective prevention education against the addictive disorders should continue to be developed and implemented.

Health care costs associated with untreated addiction:
"Untreated or under-treated substance abusers are world-class consumers of health care dollars; they are repeat customers, who crowd emergency rooms and overwhelm clinics"

(Treating addiction cuts health care costs, 2009, para.3).

There are reasons to believe that the number of adults in the criminal justice system has quadruplicated in the last quarter of a century. In the year 1980, it was just 1.8 Million but this has gone up to nearly 7.3 Million by 2007. (Treating offenders with drug problems: Integrating public health and public safety, 2009).

Given the fact that there is a positive nexus between crime and drug abuse, it is seen that a large proportion of prisoners do not receive proper treatment, and this assumes greater risks when they are returned to mainstream of society. Therefore, it is seen that the medical bills of treatment that run into billions of dollars could be avoided if proper treatment and most treatment strategies are taken up. In the present context, in-house treatment of prisoners and inmates of psychiatric wards would go a long way in education of patients and work towards their well being and welfare.

Financial rewards of recovery for individuals and society:
The main aspect that needs to be seen is the question of rehabilitation in society after treatment, in terms of generation of employment and income generation of sustenance for family, in the event the patient is a family person. The financial rewards could be a good job with steady income, with fair growth prospects, or business with good scope for growth and future development. Financial rewards could also be garnered through covenants between the patient and the caregiver through mutual understanding. It is important that patients understand and interpret the financial or non-monetary rewards and incentives in its right perspective. It is also necessary that certain kinds of sanctions be enforced, in order not only to highlight the need for treatment and abstinence, but also to show the importance of reward systems. For individuals, the reward systems could be in terms of financial or non-financial incentives for abstinence, good conduct, or maintenance of medication regime or other desirable behavior needed during and after the treatment. Coming to community-based treatment, continuing management strategy could envision “voucher based incentives or rewards” which could be food coupons, bus passes or other kinds of rewards. (Frequently asked questions (FAQs), 2009).

It is very important that the patient is made aware of the value and importance of rewards and act according to the directives of health care professionals. The sanctions follow as a natural corollary to rewards, but needs to commensurate with the level of transgression and need to be constructively designed rather than punitive, in which case it would do more harm than good and could also wipe away the positive impacts of reward systems. In the case of rewards, it is also important that the rewards are announced and distributed as soon as the desired performance is achieved, or conduct established, in order for it to be effective and motivate the patient for maintaining abstinence from dependency or cravings. Similarly, in the case of sanctions, it should be milder at the initial stages, but need to be increased with heightened violation or transgression, in order to establish parity and equity. The rewards objectives is useful in order to motivate and stimulate the patient, and establish a robust patient-provider rapport, in order to secure an early recovery and avoid relapses and cravings, for these latter situations are distinctly possible, especially for patients who do not follow a strict regimen and discipline in their dependency habits. Rewards are also important in the sense that all the good

work done by the health care provider are unsuccessful if patients go back to their previous ways, and indulge in practices that are detrimental to their own health and well being and the efforts of health care providers to care for them through medication, counseling and other preventive and curative therapies. Further, it is also seen that consistency and regularity are recommended features, since treatment and therapy for mental disorders may be lengthy in time and intensive in its scope and delivery systems. Sometimes, treatment may be needed for years, and in such circumstances, depending upon the length of treatment and its intensity, suitable reward systems need to be provided for early and sustained recovery of patients.

It is now necessary to come to the aspect of return on investments (ROI) for successful treatment modalities.

Return on investments (ROI) for successful treatment modalities:
The mental health care scenario is plagued with a number of problems. For one thing, there have been staggering amounts of funds that need to be invested in the US. It is estimated at around $66 billion. (Training and education, 2009, p.134).

These figures are continually rising as the proportion, variety and incidence of mental health keep increasing. Again, the rate of investments need to consider that mental health research is a field that has long gestation periods, fewer specialists coming forward to offer a hand since it is a stigmatized field not only in terms of emoluments and career growth prospects, but also the risk of contracting serious diseases like Tuberculosis and AIDS thanks to constant interaction with patients who have tested positive to these types of ailments. Again, not many results are seen in terms of proved medication against various kinds of mental diseases. It is seen that the last decade has been more productive than the last thirty years, in that, during the last 10 years nearly 4 anti-disease medications have been successful, but during the last 30 years, only 4 kinds of medication have proved worthy. Again, mental health medication is an area where most specialists would think a lot before participating, given the fact that government grants are short and slow. In the present economic scenario, there may be other pressing priorities that need to be taken care of in as far as distribution of funding for mental health care is concerned. However, it is necessary that steps need to be taken in the right direction. The main challenges lie in the fact that mental health is an area which, sad to state, has not been fully explored and controlled, and with new kinds, and combinations of mental illness on the rise, the challenges posed to mental health specialists and practitioners are indeed challenging and demanding. High investments need to be made, especially in institutional health care settings and the government may need to divert, or seek public assistance for meeting such exigencies. Moreover, it is also seen that donor support, a critical element in mental health, considering the stigmatized conditions in which the patients live and seek medication, also need to be forthcoming substantially.

Further, it is seen that a major and critical aspect of health care is institutional or private individual support, from governments, insurance companies and other donors. Under the changed circumstances, it is evidenced that funding needs to be properly channeled and should reach the segment for which it is intended. There are great fears among public authorities that there could be wasteful dissipation of scarce funds or its misuse in areas that are low priority or

are not in consonance with the aims, goals and objectives for which they have been intended, in the first place.

Further, the question that arises is “Are today’s drug treatment programs cost-effective? Apsler develops a three-part argument about the results in the literature. First, there is evidence that some “typical” drug programs are of “questionable” cost-effectiveness. There is also evidence that some treatment strategies are “cost-ineffective.” “Finally, there is evidence that certain treatments have positive cost effectiveness“(Cartwright & Kaple, 1991, p. 4).

How ROI could be improved:
Therefore, ROI studies need first to consider the aspects of cost effectiveness or ineffectiveness of programs. It is necessary that first programs need to evaluate what are the risks involved, how these could be mitigated or dealt with. Next, how best the interests of different patient groups could be protected and improved by seeking out these options. Next, facts and figures about the levels of investments, interest rates, as applicable and perceived cost benefits need to be worked out, at present and future levels. The Return on investment needs to be seen in the context of patient cases that have been successfully treated. Further, it would indeed be a difficult task to ascertain the cure rate, considering the fact that mental health is an area where recidivism and relapse are always possible. Thus, only the most optimistic and perhaps presumptuous of people could think in terms of a complete cure for mental case patients, although its possibility cannot be entirely discounted. Again, aspects like the kind of treatment, the length of time treatment is necessary and cost benefit factors need to be taken into account in the case of arriving at cost benefit ratios or return on investments. These could even be vitiated by non availability of accurate and genuine facts and data, poorly compiled statistics, and generally a lack of a coherent and acceptable standards and level of data assimilation on mental health care services. “Drug abuse and addiction are major public health problems that impact us all. To put it in dollar figures, substance abuse, including smoking, illegal drugs, and alcohol, cost our Nation more than $484 billion per year. Illicit drug use alone accounts for about $161 billion. “(Volkow, 2004, Statement for the record, para.2).

Thus, it is seen that the aspect of investments in health care is indeed substantial. However, in individualized or institutional settings, spreadsheets could help in controlling and effecting cost control programs.

“For *counselors*, summarizing cost, procedure, process, and outcome data for their patients, for *supervisors of counselors*, summarizing cost, procedure, process, and outcome data for (the patients of) the counselors they supervise and for *program managers*, summarizing data for (patients of counselors of) different supervisors.” (Yates, 1999, p.107).

Conclusions:
There is evidence to indicate that treatment of the disease of addiction is the best option, resulting in not only cost savings but also returning people with the disease to productive lives and jobs. “Substance abuse costs our Nation over one half-trillion dollars annually and treatment can help reduce these costs. Drug addiction treatment has been shown to reduce associated health and social costs by far more than the cost of the treatment itself “(Principles of

drug addiction treatment: A research-based guide, 2009, p.12).

The costs of treatment and implementation of mental health care strategies work well for the need to control and manage the disease.

However, the main aspect that needs to be mentioned is that drugs and alcohol addiction, or substance addiction is not something that occurs overnight. It starts as casual affair, perhaps in peer associated groups and matures into a strong and indomitable habit, accompanied with other kinds of deviant behavior patterns. There are clear indications to prove that chemical dependency need to be tackled at its roots, preferably at the level during which it first manifests, in order to ensure a clear cure devoid of craving or relapse, which are the main risk factors that are associated with this kind of drug. In terms of costs, it is phenomenal, not only to the public or insurance companies like Medicaid and Medicare, but also to the institutional funding agencies in Government, public and private health care settings. And the cost of treatment and rehabilitation is indeed high.

Therefore, the main aspects would be in terms of preventive therapies that are intended to arrest further deterioration and degenerative aspects of mental health ailments, especially among the high risk prone segments - young people and elderly. Moreover, the incidence of recidivism could be controlled by proper techniques aimed at controlling and treating the diseases.

Finally, it could be said that the total responsibility of ensuring and maintaining a good preventive and curative drug disorder systems lies not only with healthcare providers and professionals, but also among the donors, the patients and the general public, especially the younger generation who are more susceptible to the ill effects of drug and substance abuses and dependency due to lack of maturity and age factors in which they could be easily impressed by others to resort to drugs and other substances. Moreover, it is also seen that more and more people are taking up drug habits due to stress, family constraints and other issues. It is also important to deliver strong messages to the community through media and public systems regarding the long term consequences associated with substance disorders, including many kinds of illnesses, both mental and physical. Moreover, people with drug dependency are susceptible to risky behavior like unsafe sex, deviant sexual behavior and may fall prey to a host of major illnesses like AIDS, TB and cancer.

The public information services regarding drug intakes need to carry the message across strongly. The evils of alcohol and drugs, which may be a lethal combination also needs to be fully explored and mass prevention information needs to be carried out regarding these evils and the ways and means by which these threats and challenges could be attended to, not only by the government, but also by private institutional agencies.

References

Addiction: Description. (2009). The Free Dictionary by Farlex. Retrieved October 20, 2009, from http://medical-dictionary.thefreedictionary.com/Addictive+disorders

America's silent crisis: Addiction - Downturn fuels rising drug and alcohol abuse, phoenix house study reveals. (2009). Medical News Today. Retrieved October 20, 2009, from http://www.medicalnewstoday.com/articles/155097.php

Cartwright, W S., & Kaple, J M. (1991*). Economic costs, cost-effectiveness, financing and community-based drug treatment: Cost-effectiveness*. National Institute on Drug Abuse: Research Monograph Series. Retrieved October 20, 2009, from http://www.drugabuse.gov/pdf/monographs/113.pdf

Coombs, R H. (2004). *Handbook of addictive disorders: A practical guide to diagnosis and treatment: What is addiction?*. John Wiley and Sons.

Drug addiction and society: The impact of drug addiction on society. (2007). Treatment Centers. Retrieved October 20, 2009, from http://www.treatment-centers.net/drug-addiction-and-society.html

Education News: Treatment or incarceration: Drug addiction facts. (2009). Trans World News. Retrieved October 20, 2009, from http://www.transworldnews.com/NewsStory.aspx?id=61145&cat=15

Frequently asked questions (FAQs). (2009). NIDA: National Institute on Drug Abuse: The Science of Drug Abuse & Addiction. Retrieved October 20, 2009, from http://www.nida.nih.gov/PODAT_CJ/faqs/faqs2.html

Malyuta, R., Aryaev, N., & Semenenko, I. (2004). *Drug addiction and mother-to-child HIV transmission prevention programs in the South Ukraine*. NLM Gateway: A Service of the US National Institutes of Health. Retrieved October 20, 2009, from http://gateway.nlm.nih.gov/MeetingAbstracts/ma?f=102280600.html

Office for addictive disorders-region 7: Overview of services offered: Prevention Education. (n.d.). Retrieved October 20, 2009, from http://oadrg7.blogspot.com/

Principles of drug addiction treatment: A research-based guide: Is drug addiction treatment worth its cost? (2nd ed.). (2009). NIDA: National Institute on Drug Abuse. Retrieved October 20, 2009, from http://www.nida.nih.gov/PDF/PODAT/PODAT.pdf

Saitz, R. (n.d.). *Unforeseen benefits: Addiction treatment reduces healthcare costs: Addiction treatment yields better health care outcomes.* Closing the Addiction Treatment Gap: Open Society Institute. Retrieved October 20, 2009, from http://www.saprp.org/pdf/CATGwhite%20paper_UnforeseenBenefits.pdf

SAMHSA report shows cost of addiction treatment. (2008). Drug-Rehabs: Connecting People with People Who Can Help. Retrieved October 20, 2009, from http://www.drug-rehabs.com/addiction-treatment-cost.htm

The ADSS Cost Study: Cost of Substance abuse treatment in the specialty sector. (2003).

Department of Health and Human Services.

The economic costs of alcohol and drug abuse in the United States-1992: Crime. (2006). NIDA: National Institute on Drug Abuse: The Science of Drug Abuse & Addiction. Retrieved October 20, 2009, from http://www.nida.nih.gov/EconomicCosts/Chapter1.html#1.6

The economic costs of alcohol and drug abuse in the United States-1992: Executive summary: Overview. (2006). NIDA: National Institute on Drug Abuse: The Science of Drug Abuse & Addiction. Retrieved October 20, 2009, from http://www.nida.nih.gov/EconomicCosts/Chapter1.html#1.1

The economic costs of alcohol and drug abuse in the United States-1992: Health care expenditures. (2006). NIDA: National Institute on Drug Abuse: The Science of Drug Abuse & Addiction. Retrieved October 20, 2009, from http://www.nida.nih.gov/EconomicCosts/Chapter1.html#1.2

The economic costs of alcohol and drug abuse in the United States-1992: Motor vehicle crashes. (2006). NIDA: National Institute on Drug Abuse: The Science of Drug Abuse & Addiction. Retrieved October 20, 2009, from http://www.nida.nih.gov/EconomicCosts/Chapter1.html#1.5

The economic costs of alcohol and drug abuse in the United States-1992: Productivity losses: Synopsis. (2006). NIDA: National Institute on Drug Abuse: The Science of Drug Abuse & Addiction. Retrieved October 20, 2009, from http://www.nida.nih.gov/EconomicCosts/Chapter5.html#5.1

The economic costs of drug abuse in the United States, 1992-1998: Table C-1. (2001). Office of National Drug Control Policy. Retrieved October 20, 2009, from http://74.125.155.132/search?q=cache:0mH1MYwe9k4J:www.whitehousedrugpolicy.gov/publications/pdf/economic_costs98.pdf+economic+costs+alcohol+drug+abuse+united+states+1992&cd=4&hl=en&ct=clnk&gl=in&client=firefox-a

The facts about addiction: Addictions treatment is cost effective. (2003). Addiction Treatment Facts. Retrieved October 20, 2009, from http://www.pacdaa.org/pacdaa/lib/pacdaa/IRETA_main__Facts_About_Addiction.doc

Training and education. (2009). The National Academies Press. Retrieved October 20, 2009, from http://www.nap.edu/openbook.php?record_id=4906&page=134

Treating addiction cuts health care costs -'let's put our money where the savings are' says Howard Meitiner, president and CEO of phoenix house. (2009). Reuters. Retrieved October 20, 2009, from http://www.reuters.com/article/pressRelease/idUS174944+29-Sep-2009+PRN20090929

Treating offenders with drug problems: Integrating public health and public safety. (2009). NIDA: National Institute on Drug Abuse: The Science of Drug Abuse & Addiction. Retrieved

October 20, 2009, from http://www.drugabuse.gov/tib/drugs_crime.html

Unforeseen benefits: Addiction treatment reduces healthcare costs. (n.d.). Closing the Addiction Treatment Gap: Open Society Institute. Retrieved October 20, 2009, from http://www.saprp.org/pdf/CATGwhite%20paper_UnforeseenBenefits.pdf

Volkow, N D. (2004). *Measuring the effectiveness of drug addiction treatment- testimony before the house committee on government reform subcommittee on criminal justice, drug policy and human resources-United States house of representives*. NIDA: National Institute on Drug Abuse: The Science of Drug Abuse & Addiction. Retrieved October 20, 2009, from http://www.drugabuse.gov/Testimony/3-30-04Testimony.html

Yates, B T. (1999). *Measuring and improving cost, cost-effectiveness, and cost-benefit for substance abuse treatment programs: Minimize the cost*. NIDA: National Institute on Drug Abuse. Retrieved October 20, 2009, from http://www.drugabuse.gov/PDF/Costs.pdf

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