

***“[W]e concluded that there are some limited circumstances in which we recommend smoking marijuana for medical uses.”***

— from Principal Investigator Dr. John Benson’s opening remarks at IOM’s 3/17/99 news conference

## **Questions about medical marijuana answered by the Institute of Medicine’s report Marijuana and Medicine: Assessing the Science Base\***

**Excerpts compiled by the Marijuana Policy Project**

### **What conditions can marijuana treat?**

“The accumulated data indicate a potential therapeutic value for cannabinoid drugs, particularly for symptoms such as pain relief, control of nausea and vomiting, and appetite stimulation.” [p. 3]

“[B]asic biology indicates a role for cannabinoids in pain and control of movement, which is consistent with a possible therapeutic role in these areas. The evidence is relatively strong for the treatment of pain and, intriguing although less well established, for movement disorders.” [p. 70]

“For patients such as those with AIDS or who are undergoing chemotherapy and who suffer simultaneously from severe pain, nausea, and appetite loss, cannabinoid drugs might offer broad-spectrum relief not found in any other single medication. The data are weaker for muscle spasticity but moderately promising.” [p. 177]

“The most encouraging clinical data on the effects of cannabinoids on chronic pain are from three studies of cancer pain.” [p. 142]

### **Why can’t patients use medicines that are already legal?**

“[T]here will likely always be a subpopulation of patients who do not respond well to other medications.” [Pp. 3, 4]

“The critical issue is not whether marijuana or cannabinoid drugs might be superior to the new drugs, but whether some group of patients might obtain added or better relief from marijuana or cannabinoid drugs.” [p. 153]

“The profile of cannabinoid drug effects suggests that they are promising for treating wasting syndrome in AIDS patients. Nausea, appetite loss, pain, and anxiety are all afflictions of wasting, and all can be mitigated by marijuana. Although some medications are more effective than marijuana for these problems, they are not equally effective in all patients.” [p. 159]

### **What about Marinol®, the major active ingredient in marijuana in pill form?**

“It is well recognized that Marinol’s oral route of administration hampers its effectiveness because of slow absorption and patients’ desire for more control over dosing.” [Pp. 205, 206]

### **Why not wait for more research before making marijuana legally available as a medicine?**

“[R]esearch funds are limited, and there is a daunting thicket of regulations to be negotiated at the federal level (those of the Food and Drug Administration, FDA, and the Drug Enforcement Administration, DEA) and state levels.” [p. 137]

“Some drugs, such as marijuana, are labeled Schedule I in the Controlled Substance Act, and this adds considerable complexity and expense to their clinical evaluation.” [p. 194]

“[O]nly about one in five drugs initially tested in humans successfully secures FDA approval for marketing through a new drug application.” [p. 195]

“From a scientific point of view, research is difficult because of the rigors of obtaining an adequate supply of legal, standardized marijuana for study.” [p. 217]

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“In short, development of the marijuana plant is beset by substantial scientific, regulatory, and commercial obstacles and uncertainties.” [p. 218]

“[D]espite the legal, social, and health problems associated with smoking marijuana, it is widely used by certain patient groups.” [p. 7]

### **Do the existing laws really hurt patients?**

“G.S. spoke at the IOM workshop in Louisiana about his use of marijuana first to combat AIDS wasting syndrome and later for relief from the side effects of AIDS medications. ... [He said,] ‘Every day I risk arrest, property forfeiture, fines, and imprisonment.’” [Pp. 27, 28]

### **Why shouldn't we wait for new drugs based on marijuana's components to be developed, rather than allowing patients to eat or smoke natural marijuana right now?**

“Although most scientists who study cannabinoids agree that the pathways to cannabinoid drug development are clearly marked, there is no guarantee that the fruits of scientific research will be made available to the public for medical use.” [p. 4]

“[I]t will likely be many years before a safe and effective cannabinoid delivery system, such as an inhaler, is available for patients. In the meantime there are patients with debilitating symptoms for whom smoked marijuana might provide relief.” [p. 7]

“[W]hat seems to be clear from the dearth of products in development and the small size of the companies sponsoring them is that cannabinoid development is seen as especially risky.” [Pp. 211, 212] [*IOM later notes that it could take more than five years and cost \$200-300 million to get new cannabinoid drugs approved—if ever.*]

“Cannabinoids in the plant are automatically placed in the most restrictive schedule of the Controlled Substances Act, and this is a substantial deterrent to development.” [p. 219]

### **Isn't marijuana too dangerous to be used as a medicine?**

“[E]xcept for the harms associated with smoking, the adverse effects of marijuana use are within the range of effects tolerated for other medications.” [p. 5]

“Until the development of rapid onset antiemetic drug delivery systems, there will likely remain a sub-population of patients for whom standard antiemetic therapy is ineffective and who suffer from debilitating emesis. It is possible that the harmful effects of smoking marijuana for a limited period of time

might be outweighed by the antiemetic benefits of marijuana, at least for patients for whom standard antiemetic therapy is ineffective and who suffer from debilitating emesis. Such patients should be evaluated on a case-by-case basis and treated under close medical supervision.” [p. 154]

“Terminal cancer patients pose different issues. For those patients the medical harm associated with smoking is of little consequence. For terminal patients suffering debilitating pain or nausea and for whom all indicated medications have failed to provide relief, the medical benefits of smoked marijuana might outweigh the harm.” [p. 159]

### **What should be done to help the patients who already benefit from medical marijuana, prior to the development of new drugs and delivery devices?**

“Patients who are currently suffering from debilitating conditions unrelieved by legally available drugs, and who might find relief with smoked marijuana, will find little comfort in a promise of a better drug 10 years from now. In terms of good medicine, marijuana should rarely be recommended unless all reasonable options have been eliminated. But then what? It is conceivable that the medical and scientific opinion might find itself in conflict with drug regulations. This presents a policy issue that must weigh—at least temporarily—the needs of individual patients against broader social issues. Our assessment of the scientific data on the medical value of marijuana and its constituent cannabinoids is but one component of attaining that balance.” [p. 178]

“Also, although a drug is normally approved for medical use only on proof of its ‘safety and efficacy,’ patients with life-threatening conditions are sometimes (under protocols for ‘compassionate use’) allowed access to unapproved drugs whose benefits and risks are uncertain.” [p. 14]

“Until a nonsmoked rapid-onset cannabinoid drug delivery system becomes available, we acknowledge that there is no clear alternative for people suffering from *chronic* conditions that might be relieved by smoking marijuana, such as pain or AIDS wasting. One possible approach is to treat patients as *n-of-1* clinical trials (single-patient trials), in which patients are fully informed of their status as experimental subjects using a harmful drug delivery system and in which their condition is closely monitored and documented under medical supervision. ...” [p. 8] [*The federal government's “compassionate use” program, which currently provides marijuana to seven patients nationwide, is an example of an n-of-1 study.*]

**The IOM report doesn't explicitly endorse state bills and initiatives to simply remove criminal penalties for bona fide medical marijuana users. Does that mean that we should keep the laws exactly as they are and keep arresting patients?**

"This report analyzes science, not the law. As in any policy debate, the value of scientific analysis is that it can provide a foundation for further discussion. Distilling scientific evidence does not in itself solve a policy problem." [p. 14]

**If patients were allowed to use medical marijuana, wouldn't overall use increase?**

"Finally, there is a broad social concern that sanctioning the medical use of marijuana might increase its use among the general population. At this point there are no convincing data to support this concern. The existing data are consistent with the idea that this would not be a problem if the medical use of marijuana were as closely regulated as other medications with abuse potential. ... [T]his question is beyond the issues normally considered for medical uses of drugs and should not be a factor in evaluating the therapeutic potential of marijuana or cannabinoids." [Pp. 6, 7]

"No evidence suggests that the use of opiates or cocaine for medical purposes has increased the perception that their illicit use is safe or acceptable." [p. 102]

"Thus, there is little evidence that decriminalization of marijuana use necessarily leads to a substantial increase in marijuana use." [p. 104]  
*[Decriminalization is defined as the removal of criminal penalties for all uses, even recreational.]*

**Doesn't the medical marijuana debate send children the wrong message about marijuana?**

"[T]he perceived risk of marijuana use did not change among California youth between 1996 and 1997. In summary, there is no evidence that the medical marijuana debate has altered adolescents' perceptions of the risks associated with marijuana use." [p. 104]

"Even if there were evidence that the medical use of marijuana would decrease the perception that it can be a harmful substance, this is beyond the scope of laws regulating the approval of therapeutic drugs. Those laws concern scientific data related to the safety and efficacy of drugs for individual use; they do not address perceptions or beliefs of the general population." [p. 126]

**Isn't marijuana too addictive to be used as a medicine?**

"Some controlled substances that are approved medications produce dependence after long-term use; this, however, is a normal part of patient management and does not generally present undue risk to the patient." [p. 98]

"Animal research has shown that the potential for cannabinoid dependence exists, and cannabinoid withdrawal symptoms can be observed. However, both appear to be mild compared to dependence and withdrawal seen with other drugs." [p. 35]

"A distinctive marijuana and THC withdrawal syndrome has been identified, but it is mild and subtle compared with the profound physical syndrome of alcohol or heroin withdrawal." [Pp. 89, 90]

Drug Category	Proportion Of Users That Ever Became Dependent (%)	
Alcohol	15	
Marijuana (including hashish)	9	[p. 95]

"Compared to most other drugs ... dependence among marijuana users is relatively rare." [p. 94]

"In summary, although few marijuana users develop dependence, some do. But they appear to be less likely to do so than users of other drugs (including alcohol and nicotine), and marijuana dependence appears to be less severe than dependence on other drugs." [p. 98]

**Doesn't the use of marijuana cause people to use more dangerous drugs?**

"[I]t does not appear to be a gateway drug to the extent that it is the *cause* or even that it is the most significant predictor of serious drug abuse; that is, care must be taken not to attribute cause to association." [p. 101]

"There is no evidence that marijuana serves as a stepping stone on the basis of its particular physiological effect." [p. 99]

"Instead, the legal status of marijuana makes it a gateway drug." [p. 99]

**Shouldn't medical marijuana remain illegal because it is bad for the immune system?**

"The short-term immunosuppressive effects are not well established; if they exist at all, they are probably not great enough to preclude a legitimate medical use. The acute side effects of marijuana use are within the risks tolerated for many medications." [p. 126]

### **Doesn't marijuana cause brain damage?**

"Earlier studies purporting to show structural changes in the brains of heavy marijuana users have not been replicated with more sophisticated techniques." [p. 106]

### **Doesn't marijuana cause amotivational syndrome?**

"When heavy marijuana use accompanies these symptoms, the drug is often cited as the cause, but no convincing data demonstrate a causal relationship between marijuana smoking and these behavioral characteristics." [Pp. 107, 108]

### **Doesn't marijuana cause health problems that shorten the life span?**

"[E]pidemiological data indicate that in the general population marijuana use is not associated with increased mortality." [p. 109]

### **Isn't marijuana too dangerous for the respiratory system?**

"Given a cigarette of comparable weight, as much as four times the amount of tar can be deposited in the lungs of marijuana smokers as in the lungs of tobacco smokers." [p. 111]

"However, a marijuana cigarette smoked recreationally typically is not packed as tightly as a tobacco cigarette, and the smokable substance is about half that in a tobacco cigarette. In addition, tobacco smokers generally smoke considerably more cigarettes per day than do marijuana smokers." [Pp. 111, 112]

"There is no conclusive evidence that marijuana causes cancer in humans, including cancers usually related to tobacco use. ... More definitive evidence that habitual marijuana smoking leads or does not lead to respiratory cancer awaits the results of well-designed case control epidemiological studies." [p. 119]

### **Don't the euphoric side effects diminish marijuana's value as a medicine?**

"The high associated with marijuana is not generally claimed to be integral to its therapeutic value. But mood enhancement, anxiety reduction, and mild sedation can be desirable qualities in medications—particularly for patients suffering pain and anxiety. Thus, although the psychological effects of marijuana are merely side effects in the treatment of some symptoms, they might contribute directly to relief of other symptoms." [p. 84]

### **What other therapeutic potential does marijuana have?**

"One of the most prominent new applications of cannabinoids is for 'neuroprotection,' the rescue of neurons from cell death associated with trauma, ischemia, and neurological diseases." [p. 211]

"There are numerous anecdotal reports that marijuana can relieve the spasticity associated with multiple sclerosis or spinal cord injury, and animal studies have shown that cannabinoids affect motor areas in the brain—areas that might influence spasticity." [p. 160]

"High intraocular pressure (IOP) is a known risk factor for glaucoma and can, indeed, be reduced by cannabinoids and marijuana. However, the effect is too and [sic] short lived and requires too high doses, and there are too many side effects to recommend lifelong use in the treatment of glaucoma. The potential harmful effects of chronic marijuana smoking outweigh its modest benefits in the treatment of glaucoma. Clinical studies on the effects of smoked marijuana are unlikely to result in improved treatment for glaucoma." [p. 177] *[Note that IOM found that marijuana does work for glaucoma, but was uncomfortable with the amount that a person needs to smoke. Presumably, it would be an acceptable treatment for glaucoma patients to eat marijuana. Additionally, MPP believes that IOM would not support arresting patients who choose to smoke marijuana to treat glaucoma.]*

### **Do the American people really support legal access to medical marijuana, or were voters simply tricked into passing medical marijuana ballot initiatives?**

"Public support for patient access to marijuana for medical use appears substantial; public opinion polls taken during 1997 and 1998 generally report 60-70 percent of respondents in favor of allowing medical uses of marijuana." [p. 18]

### **But shouldn't we keep medical marijuana illegal because some advocates want to "legalize" marijuana for all uses?**

"[I]t is not relevant to scientific validity whether an argument is put forth by someone who believes that all marijuana use should be legal or by someone who believes that any marijuana use is highly damaging to individual users and to society as a whole." [p. 14]