



Cannabinoids - Science & Society

The evolving story of 'medical' cannabis – seeing through the haze



Tony O'Brien

*Clinical Professor of Palliative Medicine, College of Medicine & Health, University College Cork
Consultant Physician in Palliative Medicine, Marymount University Hospital & Hospice / Cork University Hospital*

Oxford Advanced Pain & Symptom Management Series
Newcastle June 14 2019





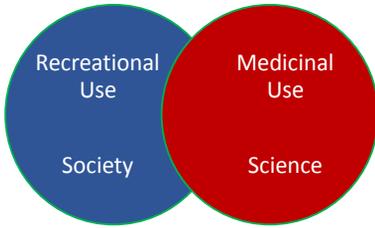
Disclaimer



I know nothing..... but, I learn!





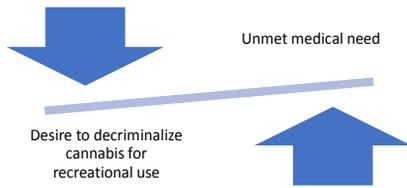


Decriminalisation





Moves to decriminalise cannabis use



Blurring of lines between 'medical' use and 'recreational' use





What is a medicine?

Before a medicinal product may be placed on the market in Ireland, an application must be made to the HPRA for an authorization or to the European Medicines Agency

1. A medicinal product must be of adequate quality
2. The risks should be acceptable and reasonable
3. A demonstrable therapeutic benefit



HPRA Guide to Definition of a Human Medicine 28 March 2017





Authorization as a medicinal product
basic requirements





Health Products Regulatory Authority



Medicines are required to have a marketing authorization which provides reassurance that a rigorous scientific assessment of the products quality, safety and effectiveness has been carried out

Based on this, the benefit / risk profile of the product is both known and considered positive



HPRA Opening statement to the Joint Committee on Health





Regulation – whose job?



Congress established the regulatory authority's (FDA) premarketing approval process to channel claims about safety and efficacy into an expert agency, where the claims can be evaluated rigorously and independently on the basis of submitted evidence

This process creates an incentive for companies to undertake scientific research

This gateway function remains a key way of ensuring that health care is based on robust science, so that patients are protected and wasteful spending is minimized



Robertson C, Kossalheim AG. N Engl J Med 2016; 375:2313-2315





Cannabis use in Ireland



Cannabis is the most widely used illegal drug in Ireland

Cannabis is classified under Schedule 1 of the Misuse of Drugs Act

Cannabis is not an authorized medicine and has not gone through the normal regulatory procedures (Sole exception of Sativex)

The Minister may grant a license under the Misuse of Drugs Act for cannabis use for medical purposes in individual cases on receipt of an application from a medical consultant



Lenora E. Evidence to the Oireachtas Health Committee



Horizontal lines for notes



Horizontal lines for notes



Horizontal lines for notes

Billy Caldwell

Dravet syndrome - a rare form of childhood epilepsy

Sought treatment in US / Canada – very successful

Returned to UK & declared cannabis oil at Heathrow

Drugs confiscated - admitted to St Thomas' in status

Home Secretary granted special licence





Billy Caldwell



Chief Medical Officer reviewed schedule 1 status of medical cannabis

She noted that cannabis is clearly a medicine

November 1 2018 cannabis products were moved to schedule 2 of the Misuse of Drugs Act

Prescription initiation limited to 'specialists'

There are no specified medical indications for cannabis use in the UK – specialist opinion



Teagan Appleby

Imported 3 month supply of THC and CBD oil from the Hague

Lennox-Gastaut Syndrome

Drugs seized on return to the UK but since returned





Effects of cannabis on human behaviour including cognition, motivation and psychosis – a review



Current efforts to normalize cannabis use are being driven largely by a combination of grassroots activism, pharmacological ingenuity and private profiteering

Horizontal lines for writing



Volkow ND, Swanson JM, Evans AE et al. JAMA Psychiatry March 2016, Vol 73, No. 3, 292-297



Horizontal lines for writing



Horizontal lines for writing



Cannabis and the endocannabinoid system



The endocannabinoid system is an ancient, evolutionary conserved and ubiquitous lipid signaling system found in all vertebrates and which appears to have important regulatory functions throughout the human body

Described in the late 1980s / early 1990s

The leaves and flowering tops of Cannabis plants contain at least 700 distinct compounds distributed among 18 different chemical classes and contain more than 110 different phytocannabinoids



Health Canada – Cannabis - information for health care professionals. February 2013



Cannabis and the endocannabinoid system



The system consists of cannabinoid 1 and cannabinoid 2 receptors (CB₁ and CB₂)

CB₁ receptors – expressed mainly by central and peripheral neurons - Concentrated in brain regions related to executive function, cognition, mood, pain perception and movement. Also found in the heart, intestines and bladder

CB₂ receptors – expressed mainly by immune cells – involved in immune regulation - spleen, tonsils, thymus gland, bone, skin and blood (monocytes, macrophages, B-cells and T-cells)

Recommended Reading: Palliative Care Formulary PCF 6



Twynross R, Willcock A, Howard P Palliative Care Formulary PCF 6, 229-234. palliativetrings.com 2017
Health Canada – Cannabis - information for health care professionals. February 2013
Clinical Guidelines on Cannabis for Medical Use. Department of Health 2018



Cannabis and the endocannabinoid system



The principal cannabinoids are delta-9-tetrahydrocannabinol (THC) and cannabidiol (CBD)

THC is responsible for the psychoactive actions of cannabis through its actions at the CB₁ receptor, an inhibitory receptor

CBD lacks detectable psychoactivity and pre-clinical studies suggest that it has anti-inflammatory, analgesic, anti-emetic, anti-psychotic, anti-ischaemic, anxiolytic and anti-convulsant properties. No effect on CB₂ receptors

CBD does not fall under the Misuse of Drugs legislation (1977 to 2016) in Ireland

CBD is sold as a nutritional supplement or health food

Note: It is not permissible to make medicinal claims about food

In the UK, the MHRA regards CBD as a medicine and subject to the usual authorization process



Health Canada – Cannabis - information for health care professionals. February 2013
Clinical Guidelines on Cannabis for Medical Use. Department of Health 2018
Nolan L. HPA – Clearing statement to Joint Committee on Health
MHRA (2016) Meds statement on products containing Cannabidiol (CBD) Available from www.gov.uk





Barnes report



Commissioned by the All Party Parliamentary Group for Drug Policy Reform (APPG)
The global war on drugs has failed and the APPG is committed to working for drug policy reform

The authors received a small unspecified grant from APPG to undertake the work

The authors declare no commercial interest in cannabis or cannabis products

The work was carried out in a personal capacity by the authors and the views expressed are those of the authors alone

The paper was not published in any scientific journal and was not therefore subject to peer review



Cannabis: the evidence for medical use. Barnes MP & Barnes JC, May 2016







U.K's first medicinal cannabis clinic opens in Manchester



Since November 2018, specialist doctors in the UK may prescribe medicinal cannabis

Private clinic in Manchester and multiple other sites

Fees:
GBP£200 for initial consultation
GBP£100 for GP referral letter
GBP£600 - £700 per month for medicinal cannabis

Clinical Director is Prof Michael Barnes: *'Patients suffering from chronic pain and other serious neurological or psychiatric conditions have been crying out for this life-changing treatment. This is a lifeline for those who have found other treatments ineffective'*



The Independent Sunday March 10 2019





Barnes report



Pain – This is a difficult literature to summarize as a number of formulations have been used and a number of different pain types studied
Conclusion: good evidence for efficacy of cannabis for pain relief

MS Spasticity–
Conclusion: Good evidence of efficacy in patient reported symptoms, but not in objective measurements

Epilepsy –
Robust trials are lacking but further results are awaited.
Conclusion: There is only limited evidence at the moment



Cannabis: the evidence for medical use. Barnes MP & Barnes JC, May 2016





Cannabinoids for Medical Use A systematic review and meta-analysis



Recommendations

Further large robust RCTs are needed to confirm the effects of cannabinoids

There is very little evidence on the effects and AEs of cannabis

Further trials should adhere to a standardised reporting structure:

- Appropriate randomisation
- Allocation concealment
- Patient and outcome assessor blinding
- Handling of withdrawals
- Avoiding selective outcome reporting



Whiting PE, Wolff RF, Deshpande S et al. JAMA 2015; 313(24): 2456- 2473





Cannabis for medical use – A Scientific Review HPRA Report January 31 2017



Such evidence as exists is confusing and frequently conflicting

There is an absence of good scientific data demonstrating the efficacy of cannabis products

The safety of cannabis as a medical treatment is not well understood, particularly in long-term use

Most cannabis products available under international access schemes do not meet pharmaceutical requirements

With due regard to the above, they (cannabis products) do not meet the minimum requirements required for authorization as medicinal products (medicines)

Significant gap between the public perception of effectiveness and safety, and the regulatory requirement for scientific data which is mandatory to determine the role of cannabis as a medicine



HPRA Cannabis for medical use –a scientific review January 31 2017





Cannabis for medical use – A Scientific Review
HPRA Expert Working Group



Proposed medical conditions

1. Spasticity associated with multiple sclerosis resistant to all standard therapies and interventions
2. Intractable nausea / vomiting associated with chemotherapy, despite the use of standard anti-emetic regimens
3. Severe, refractory (treatment-resistant) epilepsy that has failed to respond to standard anticonvulsant medications



HPRA Cannabis for medical use – a scientific review, January 31 2017





Trial of Cannabidiol for Drug-Resistant Seizures in Dravet syndrome



Double-Blind, Placebo-Controlled study of 120 children and young adults with Dravet Syndrome and drug resistant seizures

Cannabidiol oral solution of 20 mg / kg per day or matching placebo in addition to standard antiepileptic treatment

Primary outcome: change in convulsive seizure frequency over 14 week treatment period v 4 week baseline period

Median frequency of convulsive seizures per month from baseline:

- > CBD: 12.4 to 5.9
- > Placebo: 14.9 to 14.1

Percentage of patients with at least a 50% reduction in convulsive seizure frequency:

- > CBD: 43%
- > Placebo: 27%

A/Es: Diarrhoea, Vomiting, Fatigue, Pyrexia, Somnolence and abnormal liver function tests



Devinsky O, Patel AD, Cross H, Laux L, Marsh E, Miller J, Nabbout B, Scheffer IE, Thiele EA, Wright S. N Engl J Med 376:21-31(2017) May 25, 2017





Effect of Cannabidiol on Drop Seizures in the Lennox-Gastaut Syndrome



Double-Blind, Placebo-Controlled study of 225 patients at 30 clinical centres; age range 2 – 55 years

Cannabidiol oral solution either 20 mg / kg or 10mg / kg or matching placebo in two divided doses for 14 weeks

Cannabidiol was added to established anti-convulsant regimen

Primary outcome: Percentage change from baseline in the frequency of drop seizures during treatment period

Median % reduction from baseline:

- > 76 patients - CBD 20mg: 41.9% (p=0.005 for CBD 20mg v placebo)
- > 73 patients - CBD 10 mg: 37.2% (p=0.002 for CBD 10mg v placebo)
- > 76 patients - Placebo: 17.2%

A/Es: Somnolence, decreased appetite, diarrhoea, elevated aminotransferase; 7 patients withdrew (6 x 20mg & 1 x 10mg)



Devinsky O, Patel AD, Cross H, Villanueva M, Minirell EC, Pritchard M, Greenwood SM, Roberts C, Chodrette D, VanLindringham KE, Zuberi SM. N Engl J Med 378:20. May 17 2018





Cannabis for medical use – A Scientific Review
HPRA Expert Working Group



Proposed medical conditions

Patients accessing cannabis under this 5 year assessment programme should be:

Under the supervision of a medical consultant

Have had an inadequate response to currently available standard therapies
i.e. Cannabis is not regarded as a first line therapy for any condition

Full information such as demographic data, specific medical indication, details on the specific form of cannabis used, effects – positive and negative etc. will be collected in a standardized format and stored in a central register

The data will be the subject of on-going review and analysis



HPRA Cannabis for medical use – a scientific review. January 31 2017





Cannabis for medical use – A Scientific Review
HPRA Expert Working Group



Irish Pain Society Response

Welcomed the report – ‘well-researched, well-written and important contribution to the debate on medical cannabis’

Controversially, the HPRA recommended against the use of cannabis in chronic pain

The majority of clinical studies, meta-analyses and systematic reviews cited in the HPRA report conclude that cannabis or individual cannabinoids afford moderate to substantial benefit to patients with chronic pain

The Irish Pain Society recommends that:

Medical cannabis could be prescribed initially by a pain specialist / consultant only
Do as much as possible to make new treatments such as cannabinoids with proven efficacy and fewer adverse effects available to patients



Prof David Finn, UCC
President of the Irish Pain Society, February 2017





The cannabinoid system and pain
Neuropharmacology
Stephen G Woodhams, Victoria Chapman, David P Finn, Andrea G Hohmann



Chronic pain states are highly prevalent yet poorly controlled by currently available analgesics

The endocannabinoid system is a major endogenous pain system running in parallel to the opioid system

The initial promise of augmenting EC signaling via specific enzyme inhibitors has been diminished by recent clinical failures

Within the field of endocannabinoid research, significant fundamental questions remain unanswered

Whilst much has been achieved in the past few decades, more work is necessary to characterise both efficacy and safety profiles of existing EC directed therapeutic strategies



Woodhams, SG et al. The cannabinoid system and pain. Neuropharmacology (2017)
<http://dx.doi.org/10.1016/j.neuropharm.2017.06.1015>





Efficacy and safety



- Safety of cannabis as a medical treatment is not well characterized
- Insufficient information on its safety during long-term use
- Quality of evidence is poor
- All researchers cite the need for formal, placebo-controlled studies
- Conflicting interpretations of the published literature
- Major limitation is lack of clarity or standardization of formulation used, especially THC / CBD ratio



Clinical Guidelines on Cannabis for Medical Use. Department of Health 2018



Cannabis: Potential drug interactions



THC potentiators	
CYP2C9 inhibitors: Amiodarone, cimetidine, cotrimoxazole, metronidazole, fluoxetine, fluconazole, voriconazole	CYP3A4 inhibitors: Ketoconazole, clarithromycin, erythromycin, cyclosporine, verapamil, itraconazole, voriconazole
THC inhibitors	
CYP2C9 inducers: Barbiturates, carbamazepine, phenytoin	CYP3A4 inducers: Carbamazepine, dexamethasone, phenobarbital, rifampicin
CBD potentiators	
CYP2C19 inhibitors: Clopidogrel, fluoxetine	CYP3A4 inhibitors: See above
CBD inhibitors	
CYP2C19 inducers: Barbiturates, phenytoin, rifampicin	CYP3A4 inducers: See above



Howard J. Journal of Palliative Medicine – Case discussions. 14 May 2019 / <https://doi.org/10.1089/jpm.2018.0531>



New Zealand passes laws to make medical marijuana widely available



Legislation comes ahead of a referendum on recreational marijuana use in next two years

@EleanorAingeRoy



New Zealand's government has passed a law that will make medical marijuana widely available for thousands of patients over time, after years of campaigning by chronically ill New Zealanders who say the drug is the only thing that eases their pain. The legislation will also allow terminally ill patients to begin smoking illegal pot immediately without facing the possibility of prosecution



The Guardian. December 11 2018





Faculty of Pain Medicine
Australian and New Zealand College of Anaesthetists



"False hope" driving claims medicinal cannabis is "magic pill" for chronic pain relief

Prescribing medicinal cannabis for patients with chronic non-cancer pain is not going to revolutionize their treatment and should not be supported until there is substantial proof of its effectiveness

Professor Milton Cohen
Medicinal cannabis for chronic non-cancer pain: promise or peril?
Australian and New Zealand College of Anaesthetists (ANZCA) annual scientific meeting Brisbane, May 11, 2017



Australian and New Zealand College of Anaesthetists



Faculty of Pain Medicine
Australian and New Zealand College of Anaesthetists



Using human suffering to push for cannabis is 'irresponsible'

The political push for cannabis to be legalized for pain relief because "people are suffering now" is morally and socially irresponsible because it ignores medical findings that the drug is a poor pain reliever and can be harmful

There is little evidence to support the use of marijuana for pain apart from personal testimonials - that is not science. Facebook and Twitter are not science

The medical evidence from trials that have been done suggests that marijuana does not work well at treating the kinds of pain we regularly encounter, including cancer pain. It comes off second best to existing drugs

Marijuana would also fail at the first hurdle in terms of its safety profile



Australian and New Zealand College of Anaesthetists



**Cannabis in cancer pain
Results from phase 3 cancer pain trials**



Remaining trials failed to show superiority over placebo for the treatment of pain in patients with advanced cancer who experience inadequate analgesia during optimised opioid therapy

Consistent with previously reported phase 3 trials, Sativex did not meet the primary endpoint in these trials

The primary end-point was patient assessment of pain using NRS 0 – 10



GW Pharmaceuticals and Orica announce results: www.gwpharma.com
October 27, 2015





Cannabis and cannabinoids for treatment of chronic noncancer pain: a systematic review and meta-analysis of controlled observational studies



- 1. NNTB – to achieve a 30% reduction in pain for ONE patient was 24 (95% CI 15-61)
- 2. NNTH – for ONE patient to experience any AE compared with placebo was 6 (95% CI 5-8)
- 3. Previous studies in neuropathic pain: (Lancet Neurology 2015;14:162-71)
 - Opioids: NNTB was 4.3 (95% CI 3.4- 5.8)
 - Pregabalin: NNTB was 7.7 (95% CI 6.5-9.4)
 - TCADS: NNTB was 3.6 (95% CI 3.0 – 4.4)
- 4. Cochrane review: NNTH with opioids – for one patient to experience any AE compared with placebo was 5 (95% CI 4-9). (Cochrane Database Syst Rev 2017; 10:CD012506)



Stockings E, Campbell G, Hall WD, Nielsen S, Zajic O, Rahmanian R, Morrison B, Farrell M, Walker M, Degenhardt L. *PLoS One* 2018; Vol. 13(9); Issue 10:1-9/22





Adverse Health Effects of Marijuana Use



Effects of Short-Term Use

- Impaired short-term memory, making it difficult to learn and to retain information
- Impaired motor coordination, interfering with driving skills and increasing risk of injury
- In high doses, paranoia and psychosis



Yollow ND, Baker RD, Compton WM, Weiss SRB. *Adverse Health Effects of Marijuana Use NEJM* 2014; 370:2210-2227





Adverse Health Effects of Marijuana Use



Effects of Long-Term or Heavy Use

- Addiction – 9% of users overall; 17% of those who start in adolescence and 25 – 50% of daily users
- Altered brain development
- Poor educational outcomes, with increased risk of dropping out of school
- Cognitive impairment with lower IQ among those who were frequent users during adolescence
- Diminished life satisfaction and achievement
- Symptoms of chronic bronchitis
- Increased risk of chronic psychosis (including schizophrenia) in persons with a predisposition to such disorders



Yollow ND, Baker RD, Compton WM, Weiss SRB. *Adverse Health Effects of Marijuana Use NEJM* 2014; 370:2210-2227





Cannabis use and mental health



Although causality has not been conclusively demonstrated, heavy cannabis use is associated with increased risk of:

- Mental disorders
- Psychosis
- Addiction
- Depression
- Suicidality
- Cognitive impairment
- Amotivation

Acute THC administration causes increased dopamine release and neuronal activity, long term use is associated with blunting of the dopamine system



Bloomfield MAR, Ashok, AH, Volkow NY, Howes OD Nature Vol 559, 17 November 2016





Effects of cannabis on human behaviour including cognition, motivation and psychosis – a review Cannabis use and schizophrenia



Longitudinal investigations show a consistent association between adolescent cannabis use and schizophrenia

Cannabis use is considered a preventable risk factor for psychosis

The link between cannabis and schizophrenia could stem from:

- Direct causality
- Gene-environment interactions
- Shared aetiology

There is a strong mechanistic link between cannabis use and schizophrenia



Volkow ND, Swanson JM, Evans AE et al. JAMA Psychiatry March 2016, Vol 73, No. 3, 292-297





Cannabis use and psychotic disorder does cannabis use influence rates of psychotic disorder



Many countries have decriminalized cannabis use
Will this result in an increase in cannabis use and consequent harm?

Cross-sectional and prospective epidemiological studies support a causal link between cannabis use and psychotic disorder

Meta-analysis shows a dose-response association with the highest odds of psychotic disorder in those with the heaviest cannabis use

Previous studies have demonstrated the harmful effects on mental health of daily use of cannabis



Di Forti M, Freeman TP, Tripodi G, Clayton-Anderson C, Daghay H, Rodriguez V, et al. The Contribution of cannabis use to variation in the incidence of psychotic disorder across Europe (EU-GEI): a multicenter case-control study. Lancet Psychiatry March 19 2019; 1 – 9.





Effects of cannabis on human behaviour including cognition, motivation and psychosis – a review



Vulnerable populations such as children, adolescents, the elderly or individuals with other disorders may experience novel toxic effects (as well as the potential benefits)

If we stay the current course, we are likely to uncover effects that were rare in the past only because the use was not as widespread as that of legal drugs



Volkow ND, Swanson JM, Evans AE et al. JAMA Psychiatry March 2016, Vol 73; No. 3. 292-297





Cannabis Hyperemesis Syndrome in Palliative Care: A Case Study and Narrative Review



31 year old male with ALS/MND

Three characteristic features:

- ✓ Chronic cannabis use
- ✓ Severe cyclical nausea and emesis
- ✓ Frequent hot bathing – symptom relief with hot showers / baths

Cases of acute renal failure and death related to cannabis hyperemesis syndrome are described

Survey of 155 chronic cannabis users attending emergency department:

- ✓ 32% reported features of Cannabis Hyperemesis Syndrome



Howard J. Journal of Palliative Medicine – Case discussions. 14 May 2019 / <https://doi.org/10.1089/jpm.2018.0531>





Use of Medicinal Cannabis Products in Queensland



While there are anecdotal reports of the therapeutic value of medicinal cannabis, the evidence to support the safety and efficacy of these products is limited

While animal data shows therapeutic potential and some human research has suggested some therapeutic potential, there is insufficient evidence by contemporary standards, such as randomized controlled trials, for most indications

The document should not be construed as an endorsement about the use of medicinal cannabis in individual patients



Clinical Guidance for the use of medicinal cannabis products in Queensland. March 2017





Use of Medicinal Cannabis Products in Queensland



Cannabis products are NOT considered first-line therapy for any indication

Cannabis products have NOT undergone the rigorous testing required to ensure safety and efficacy

Research suggests that there MAY be some therapeutic benefit from various cannabinoids

Medical practitioners are enabled to access medicinal cannabis products BEFORE they have reached the standard required for a pharmaceutical product



Clinical Guidance for the use of medicinal cannabis products in Queensland, March 2017





Recommendations on cannabis-based products for medicinal use



Chemotherapy induced nausea and vomiting –

1. Effective but high side effect profile
2. More efficacious agents available
3. High discontinuation rates
4. Relatively old data
5. Adverse effects – psychological, neurological, gastrointestinal. Psychosis is particular concern



Royal College of Physicians, Royal College of Radiologists, Faculty of Pain Medicine, Royal College of Anaesthetists
October 2016





Recommendations on cannabis-based products for medicinal use



Pain –

1. Limited evidence available on which to formulate guidelines
2. Studies show mixed results / uncertain clinical significance
3. Use in treatment of pain in palliative care patients is unclear and not recommended in routine clinical practice



Royal College of Physicians, Royal College of Radiologists, Faculty of Pain Medicine, Royal College of Anaesthetists
October 2016





Cancer Pain Key Point



Nabiximols oro-mucosal spray can be considered as part of an add-on individual therapeutic trial for cancer pain without sufficient relief from opioids or other established analgesics

Four studies, 1130 patients, duration of 2 – 9 weeks

All studies failed to meet the primary end-point –
Statistically significant superiority over placebo in pain relief of 30% or greater or mean pain intensity reduction with p-values >0.05 to <0.10



European Pain Federation (EFIC) position paper on appropriate use of cannabis-based medicines and medical cannabis for chronic pain management. Eur J Pain 2018;22:1547-1564





Chronic neuropathic pain Key Point



Cannabis based medicines can be considered as third-line therapy for chronic neuropathic pain



European Pain Federation (EFIC) position paper on appropriate use of cannabis-based medicines and medical cannabis for chronic pain management. Eur J Pain 2018;22:1547-1564





Chronic neuropathic pain Key Point



Cannabis based medicines can be considered as third-line therapy for chronic neuropathic pain

A systematic overview concluded that there were inconsistent findings on the efficacy of cannabinoids in chronic neuropathic pain

The authors concluded that there was no high quality evidence that any cannabis based medicine was of value in treating people with chronic neuropathic pain

Psychiatric disorders occurred in 17% of participants using cannabis based medicines and in 5% using placebo

Nervous system adverse events occurred in 61% of participants using cannabis based medicines and in 29% using placebo.

The potential benefits of cannabis based medicines might be out-weighted by their potential harms (Mackie, 2018)



European Pain Federation (EFIC) position paper on appropriate use of cannabis-based medicines and medical cannabis for chronic pain management. Eur J Pain 2018;22:1547-1564





Chronic Pain Management Summary and conclusions



Evidence is insufficient

Further studies are in the design phase or have commenced

The expansion in the number of countries that have authorized medical cannabis for chronic pain will afford the opportunity for larger scale empirical studies

We expect the quality and quantity of evidence and clinical experience to improve within the next three years

We will update the position paper in 2021



European Pain Federation (EFIC) position paper on appropriate use of cannabis-based medicines and medical cannabis for chronic pain management. Eur J Pain 2018;22:1547-1564



CUH
Christiana Care Health System
Christiana Care Hospital



A Survey of Hospice Professionals Regarding Medical Cannabis Practices



An anonymous on-line survey with 310 hospice professionals across 40 states responding

Nurses (62%), Administrators / others (20.5%), Physicians (11.5%), Pharmacist (3%), Social Worker (3%)

Conclusions:

- Overwhelming support for access to medicinal cannabis
- Appears to be relatively safe and effective
- Increasing acceptance
- Increasing availability
- Anecdotal reports of its effectiveness in managing symptoms at the end of life
- Concern about recreational use and diversion among family members
- Could be commonly used in hospice



Constantino RC, Felten N, Todd M, Maxwell T, McPherson ML Journal of Palliative Medicine, 2019



CUH
Christiana Care Health System
Christiana Care Hospital



Prevalence of non-prescription cannabinoid-based medicines in British Children's Hospices



Ten-question electronic survey sent to all 54 children's hospices in the UK between May – July 2018

40 responded (74%)

- 87.5% of hospices reported knowing of children who use cannabis oil (CO) therapeutically
- 69% reported receiving requests to administer CO during admission episode
- Variation noted in policies governing CO management, storage, administration and recording of use
- Lack of available guidance made decision making challenging
- One-third of services routinely questioned families regarding cannabis use when prescribing

Conclusions:

- ✓ Cannabis oil is used extensively
- ✓ Need for clear guidelines



Taterton ML, Walker C. Prevalence of non-prescription cannabinoid based medicines in British Children's Hospices: Results of a National Survey. Journal of Palliative Medicine. 4 Feb 2019 <https://doi.org/10.1089/jpm.2018.0522>



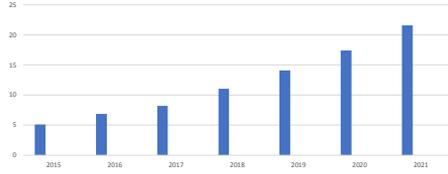
CUH
Christiana Care Health System
Christiana Care Hospital



The state of legal marijuana markets
\$ \$
Actual and predicted



USA Legal Cannabis Annual Spend in US Dollars / Billions



State of Legal Marijuana Markets 5th edition, www.arcviewmarketresearch.com



Medical Cannabis



What we know to date –a summary
