
Evaluation in cancer pain:
from private to public trouble?
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Project aim and objectives

Aim

To analyse the global development of innovative technologies for cancer pain relief since 1945, using sociological, historical and ethical perspectives.

Objectives

To construct a narrative history of cancer pain relief since 1945, identifying key forms of technological innovation.

To conduct two case studies of cancer pain innovation

1) the clinical domain

2) the public health domain

identifying in each case 'critical incidents' of innovation and key drivers.

Methods: see Final report to the ESRC, award no.: **L218252055**

Clark D et al www.regard.ac.uk

Culture, technology and the cancer pain experience : the early days

'I enquired why narcotics were not available for men and was told that men don't need powerful drugs like that. It is hard to believe that such attitudes existed, but they did …it is worth recording that life was very bad sometimes for people with severe pain' ***[1]***

[1] Professor Sir Michael Bond, in: Reynolds LA and Tansey EM (eds) (2004) *Wellcome Witnesses to Twentieth Century Medicine, Volume 21: Innovation in Pain Management.* London: Wellcome Trust Centre for the History of Medicine at UCL, p21.

Overview

1. The transformation of morphine from ‘last resort’ to ‘gold standard’
2. A commercial space for innovation: new products and their evaluative criteria
3. New products and resource poor countries: the concept of ‘balance’

The transformation of morphine from ‘last resort’ to ‘gold standard’

Early changes

- From liberal use in the early 20th century, to rapid regulation and moral panic about addiction:

'…we are often loath to give liberal amounts of opiates because the drug addiction itself may become a hideous spectacle and actually result in great misery for the patient'[i], p8

[i] Cole W (1956) Foreword In: MJ Schiffin (ed) *The Management of Pain in Cancer.* Chicago, Year Book.

Looking back on clinical practice

'I will say that until about 1965 in hospitals-general hospitals and general practice- there was entrenched ignorance, a tremendous amount of severe pain. Patients who were in severe, or dying with pain, were often given the Brompton Cocktail (or Mist Obliterans as it was politely known), and it was a matter of patients being rendered so that they did not know what they were doing by doctors who ***certainly*** *did not know what they were doing*'[i].

[i] Professor Duncan Vere, in: Reynolds LA and Tansey EM (eds) (2004) *Wellcome Witnesses to Twentieth Century Medicine, Volume 21: Innovation in Pain Managemen*t. London: Wellcome Trust Centre for the History of Medicine at UCL, p15.

‘Attacking’ the pain: a logical alternative

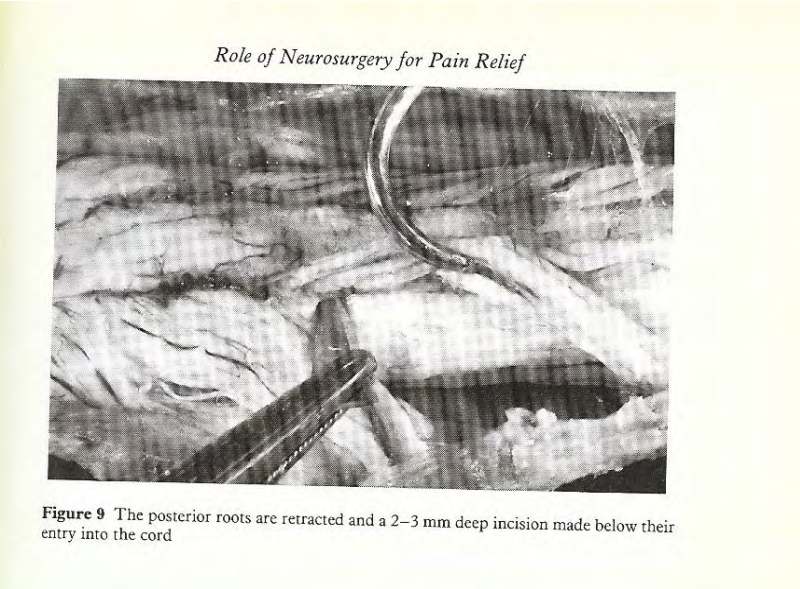


Figure 9 The posterior roots are retracted and a 2–3 mm deep incision made below their entry into the cord

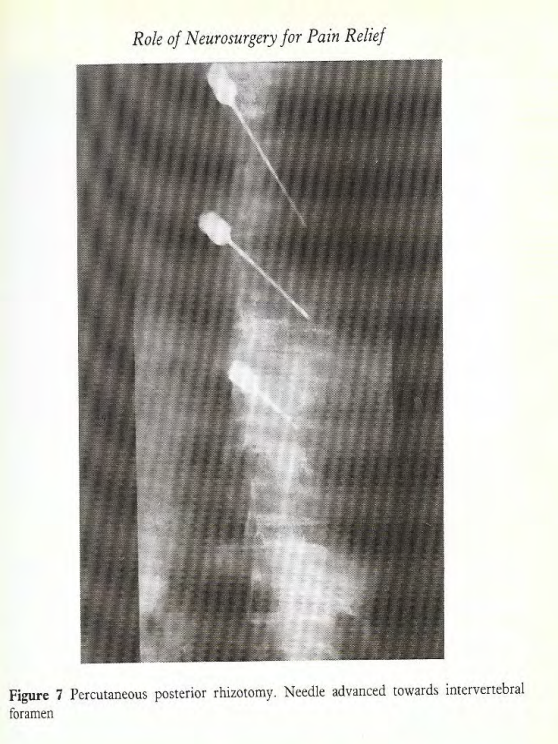
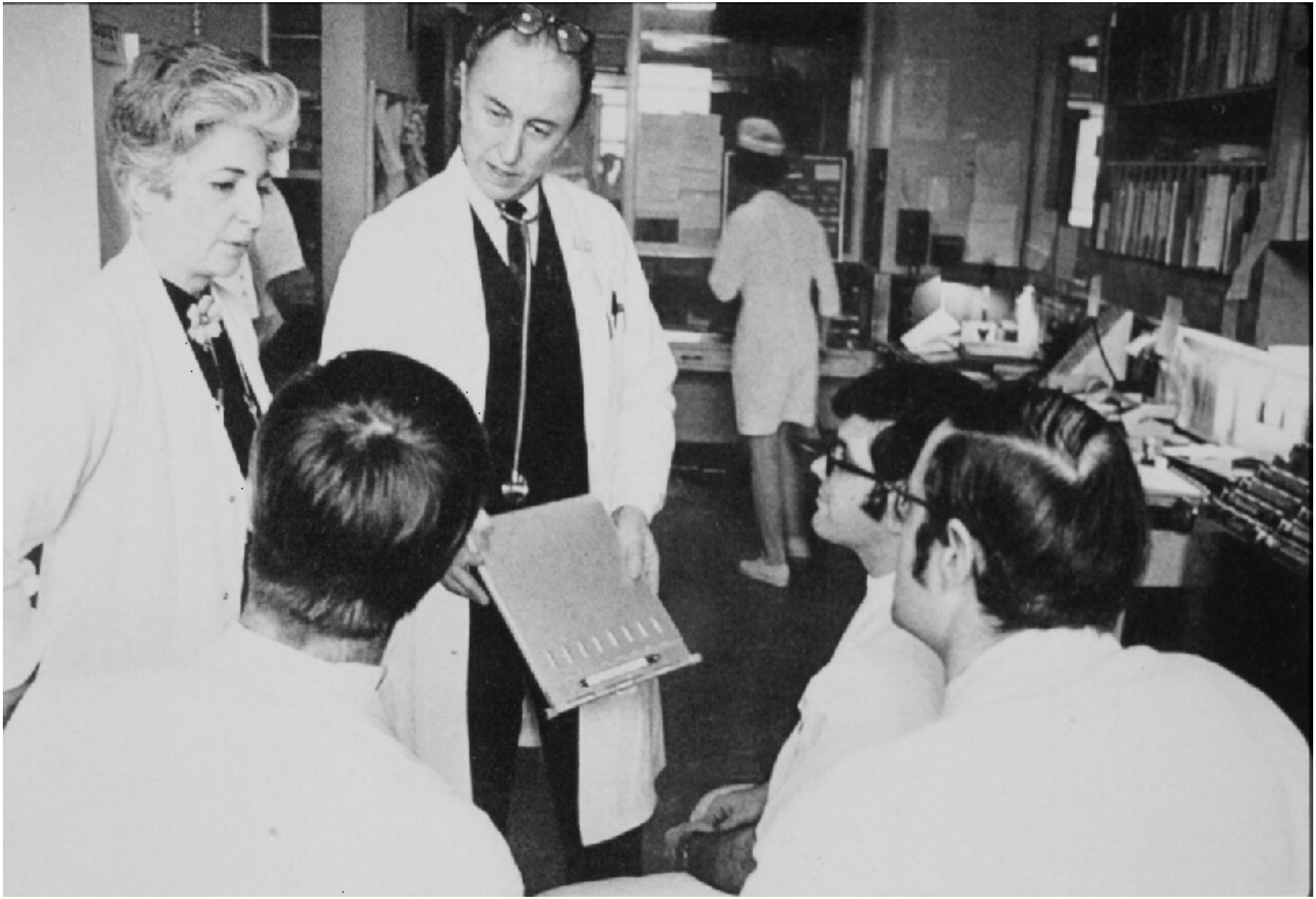


Figure 7 Percutaneous posterior rhizotomy. Needle advanced towards intervertebral foramen

….a vision of pain as a signal or symptom that could reasonably by combated through the cause it indicated rather than for itself.

Baszanger I (1998) Inventing pain medicine. p29

Learning to use morphine well by default

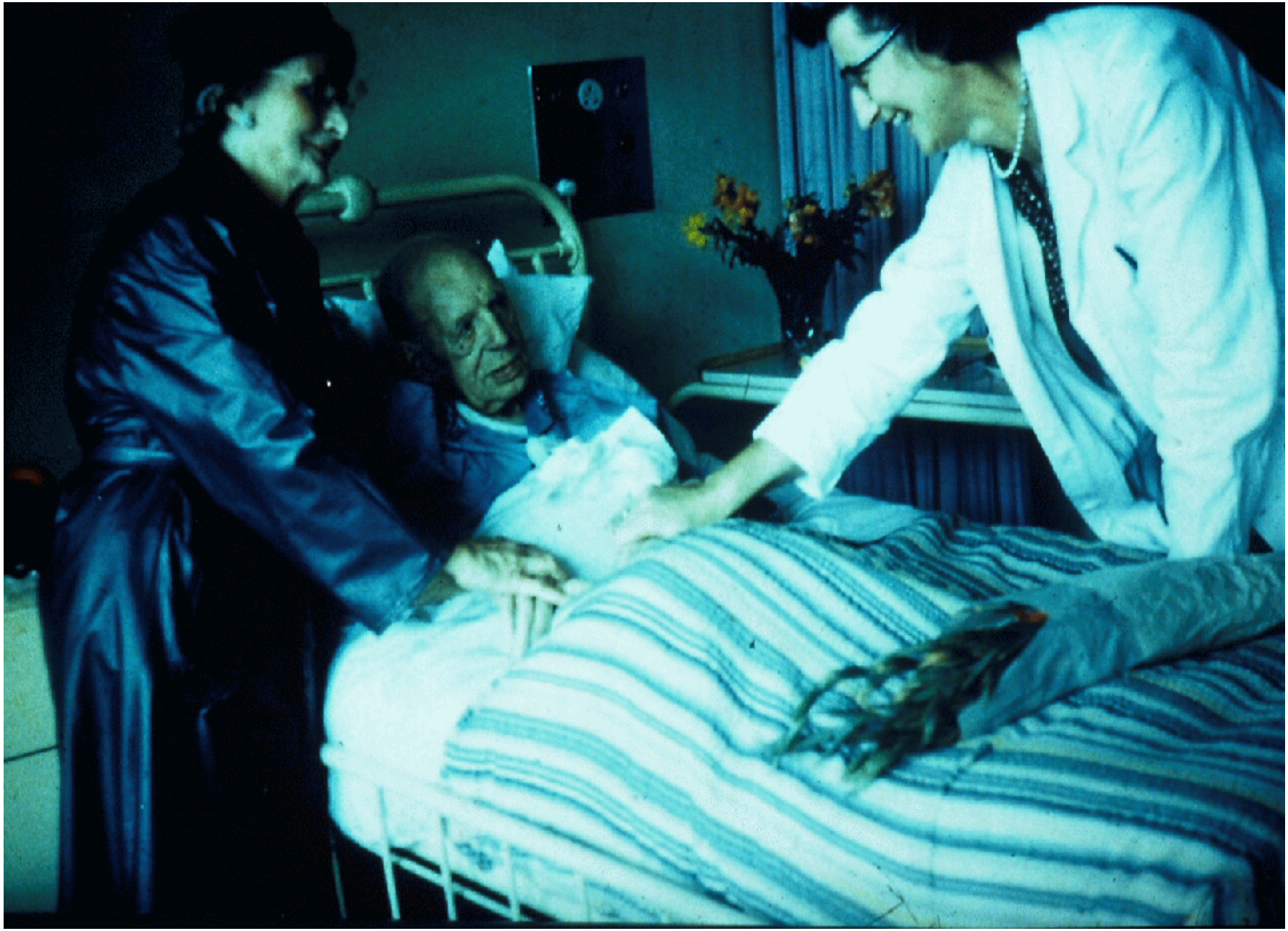


Support from a ‘blocker’

*‘…in spite of what has been and will be said, it is my opinion that narcotic drugs, particularly morphine, when **properly used** have no pharmacological rivals in the management of intractable pain associated with inoperable disease …Even when other methods are available not all patients are suitable candidates for these procedures. This should be borne in mind by the young and enthusiastic anaesthesiologist or surgical consultant … who is likely to place an emphasis on such evils as addiction and other deleterious effects of morphine and its contaminating influence on the success of the nerve block operation, as to restrict or discourage the proper use of these wonderful drugs’*

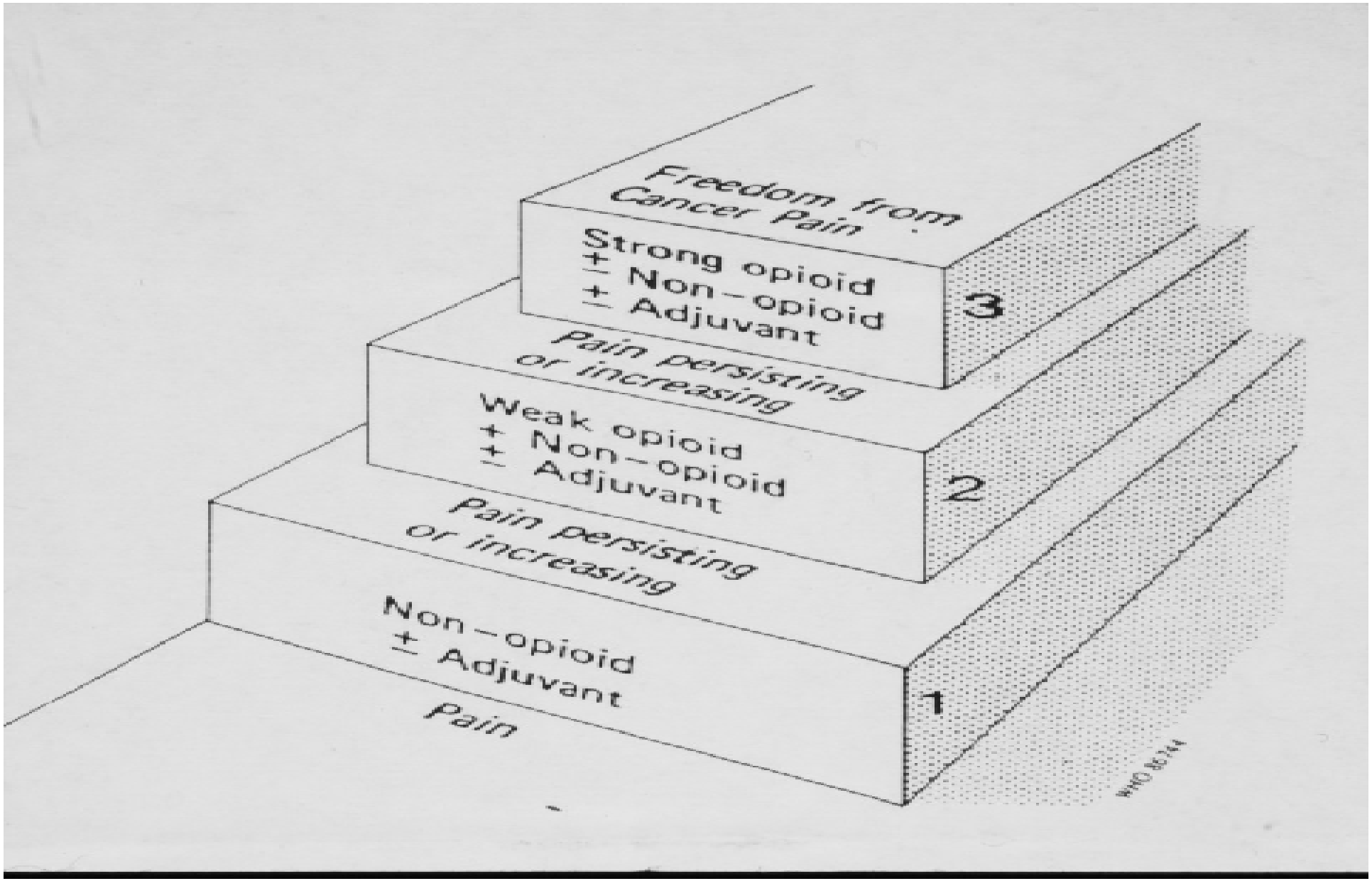
Bonica J (1953) *The Management of Pain with special emphasis on the use of analgesic block in diagnosis, prognosis and therapy.* London, Henry Kimpton. p1430, original emphasis

Staying with the dying and giving regular relief



Robert Twycross' systematic studies at St. Christopher's Hospice, 1971-75:

- Oral morphine
- "By-the-clock" message
- Exploded the tolerance / addiction / euphoria myths.



Twycross' work and the Sloan-Kettering studies provided the evidence base for the WHO Cancer Pain Relief Programme (Analgesic Ladder) in the early 1980s in which morphine became a 'gold standard' treatment.

A commercial space for innovation

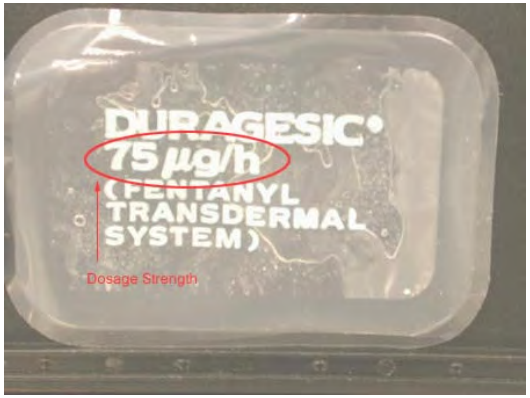
Characteristics of ‘radical process’ innovation [1]

- Dissemination of WHO Ladder and recognition of cancer pain as a public health issue
- Patient activism grows
- A space is created for new technologies meeting demands for patient autonomy and comfort *and* enabling ‘the ladder’ and ‘the clock’

[1] Achilladelis B and Antonakis N (2001) The dynamics of technological innovation: the case of the pharmaceutical industry. *Research Policy*, **30**: 535-588

Drivers, patches and pills: product innovation in the late 20th century

The opioid class became a significant driver of the pain market through increased acceptance about their safety from physicians …Datamonitor recommends that manufacturers target education initiatives at primary care physicians and invest in developing novel formulations.[i]



MST CONTINUS* 10 mg TABLETS
MST CONTINUS* 30 mg TABLETS
MST CONTINUS* 60 mg TABLETS
MST CONTINUS* 100 mg TABLETS

[i] SMI Publishing (2002) Market Dynamics: Pain: the escalating battle between Merck and Pfizer. A comprehensive analysis. *Data Monitor* (October).
www.smi-online.co.uk/reports/contents.asp?is=4&id=1587
(accessed on 2nd Feb 2004)

One example: MST-1Continus

- *A new oral preparation of morphine which has the potential to provide analgesia of longer duration than conventional therapy with a concomitant reduction in the level of associated side effects* [[1]

- *[immediate release] solution is convenient for most patients, but those who are forgetful, live alone or have poor eyesight may find their therapy difficult to manage. The aim of a slow release formulation of morphine is to allow a reduction in the frequency of analgesic administration, and given at bedtime it may also help patients who would otherwise wake in pain in the early morning* [2]

[1] Leslie ST, Rhodes A and Black FM (1980) Controlled release morphine sulphate tablets: a study in normal volunteers. (letter), *British Journal of Clinical Pharmacology, 9:531-4*]

[2] Drug and Therapeutics Bulletin (1981) Morphine in slow-release tablets. *Drug and Therapeutics Bulletin,* 19: 44.]

Filling a clinical need

- Perceived as transformational by hospice pioneers (an ‘icon’ of palliative care)
- From back room isolation to mainstream:

Then all the firms got in on the act and now we have so much we don't know what to do with it. We [laughs] we have patches, durogesic patches, you know, which was the original Sublimase, Fentanyl is the drug there. We have patches, we've, the MST came on stream, which of course was really wonderful, the MST, because you only had to administer it twice a day. *(Oral History Interview, Peg Prendergast, hospice pharmacist, Ireland)*

MST and the development of palliative medicine?

- Its introduction legitimised claims to expertise
- Aided the emergence of ‘palliative medicine’ in 1987 and legitimised their role in advising the WHO on cancer pain relief.
- Profoundly changed the management of cancer pain, by almost eradicating mechanical interruption of pain pathways
- By the early 1990s, it was a vital part of the general pharmacopoeia of all doctors caring for patients in pain from cancer.

Evaluative criteria of ‘novel’ products

- ‘Choice’, ‘autonomy’, ‘ease of use’, ‘discretion’ and ‘deceptive simplicity’ .
- Cultural change: *‘Pills are what you need: lots of pills’* [1]
- Easing of physical pain: attention turns to the meaning of suffering and to personhood.
- Competing tensions towards and away from medicine: resolution is a measure of technical success

1. Diamond J. (1998)‘C’. Because Cowards get Cancer Too. London: Vermilion, p227.

Dissemination to resource poor countries: problems and issues

Scotland

- Main issue is the prospect of death
- Pain is unusual
- Anger in the face of illness
- Just keep it to myself
- Spiritual needs evident
- Diagnosis brought active treatment and then a period of watching and waiting
- Patients concerned about how carer will cope in the future
- Support from hospital and primary care teams
- Specialist palliative care available
- Cancer a national priority

Kenya

- Main issue is physical suffering, especially pain
- Analgesia unaffordable
- Acceptance rather than anger
- Acceptance of community support
- Patients comforted by belief in God
- Diagnosis signalled waiting for death
- Patients concerned about being burden to their family
- Lack of medical support, treatment options, equipment, and basic necessities
- Specialist palliative care services not available in the community
- Cancer not a national priority

from Murray SA, Grant, E, Grant, A, Kendall, M (2003) *BMJ,* 7385: 326-368

Reaching ‘balance’

- WHO strategy now three pronged: *availability, education and policy*
- Availability for medical purposes must be balanced with restriction to avoid risk of diversion
- Advocacy has led to calls for affordable access and low level technologies:

  It is better to have poorer and older technologies that are available to all, than more recent technologies that must be rationed. A fair and general allocation of health resources, even with less than up-to-date technologies, is better than a system creating a massive technological gap between rich and poor[i]

[i] Callahan D (2000) Justice, biomedical progress and palliative care. Progress In Palliative Care, 8(1): 3-4. Cited in: Wright M (2003*) Models of hospice and palliative care in resource poor countries: issues and opportunities.* London, Help the Hospices.

Conclusion

- a story of abject need and suffering which we now have the knowledge and skills to contain
- a story of insight, tenacity, vocation and clinical and commercial genius
- perspectives of patients, clinicians, policy makers, governments, non governmental bodies and commercial interests throughout the world need to be brought together to ensure that innovation is directed and shaped to achieve the core goals of palliative care for all .