

USING THE INFORMATION MANAGEMENT SYSTEM (IIMS) TO DIRECT MEDICATION SAFETY INITIATIVES AT A LARGE AREA HEALTH SERVICE – TRANSDERMAL MEDICATIONS

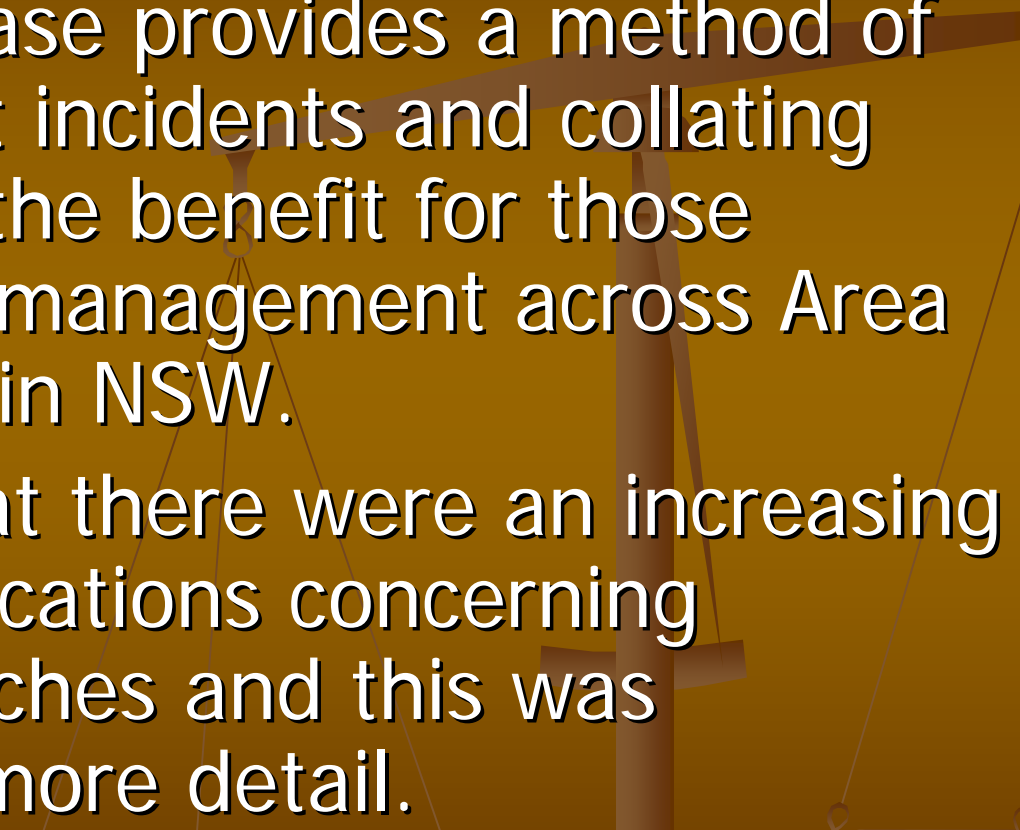
Or

PROBLEMS WITH PATCHES

Diane Reeves
Area medication safety officer NSCCH
Change Champions
March 2008

NORTHERN SYDNEY
CENTRAL COAST
NSW HEALTH

USING IIMS TO MONITOR AREA MEDICATION SAFETY NOTIFICATIONS

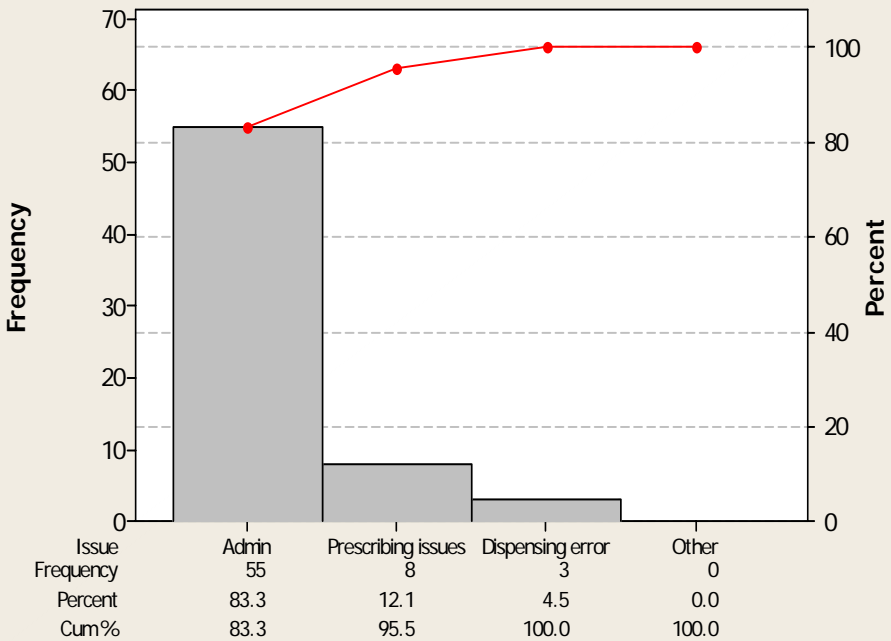
- The IIMS database provides a method of notifying patient incidents and collating information for the benefit for those engaged in risk management across Area Health Services in NSW.
 - It was noted that there were an increasing number of notifications concerning transdermal patches and this was investigated in more detail.
- 

Searches

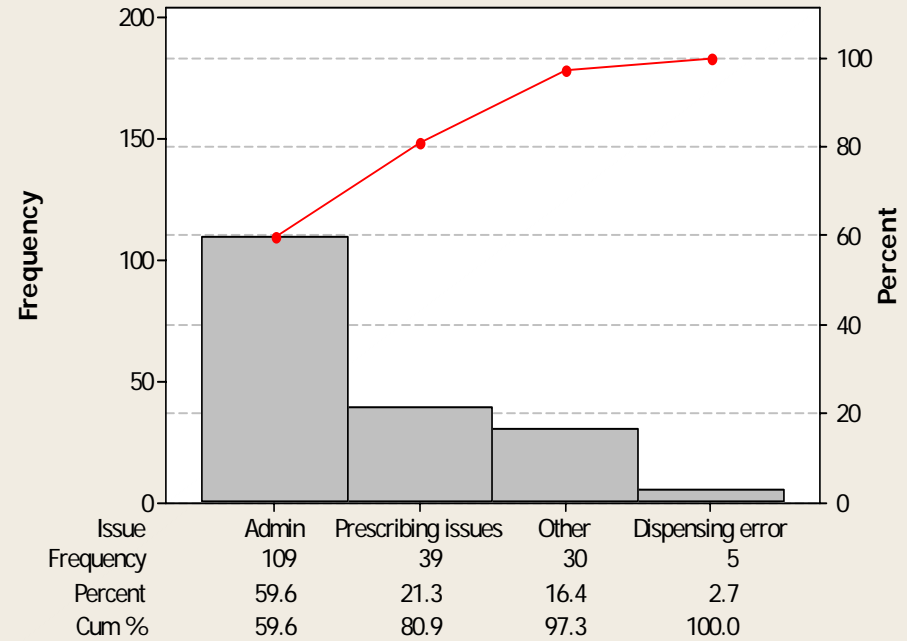
- Initially in 2006 the NSCCH database was searched via the Incident Description field by “Patch” and by the medication name. The results were manually manipulated to remove duplication of notifications and incidents not involving the transdermal route.
- In 2008 the database was searched using the term “Patch” and the patch trade names. This avoided sorting out non-transdermal incidents.

Changes in Notification Type

Transdermal medication issues (all meds) 2005 to 2006 (n=66)

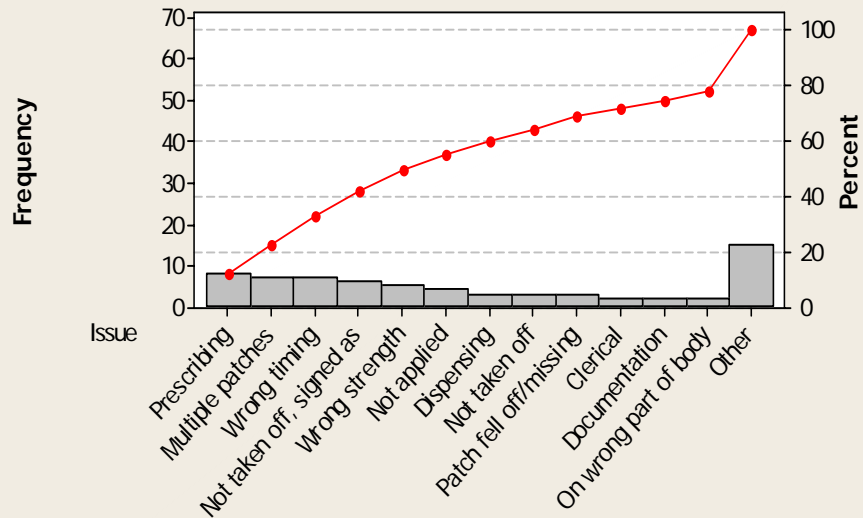


Transdermal medication issues (all meds) 2005 to 2008 (n=183)



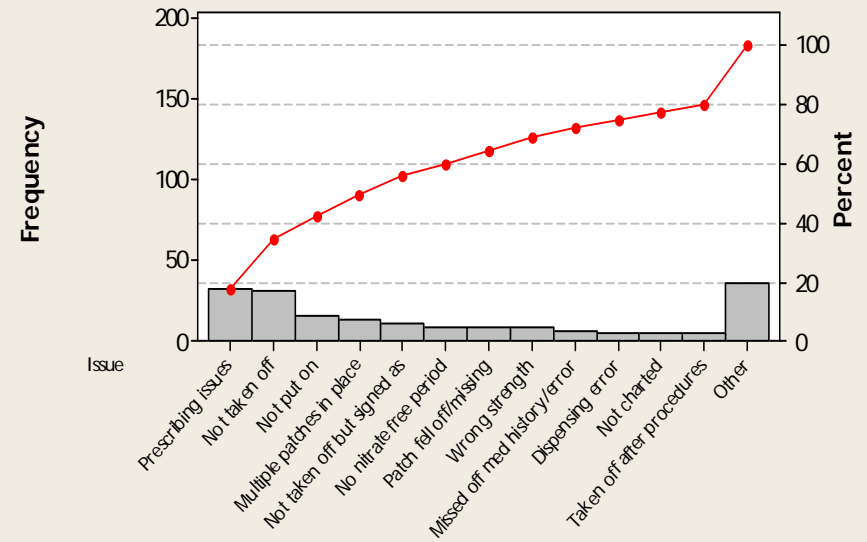
And what appeared to be the problem?

Transdermal medication issues (all meds) 2005 to 2006 (n=67)



Frequency	8	7	7	6	5	4	3	3	3	2	2	2	15
Percent	12	10	10	9	7	6	4	4	4	3	3	3	22
Cum %	12	22	33	42	49	55	60	64	69	72	75	78	100

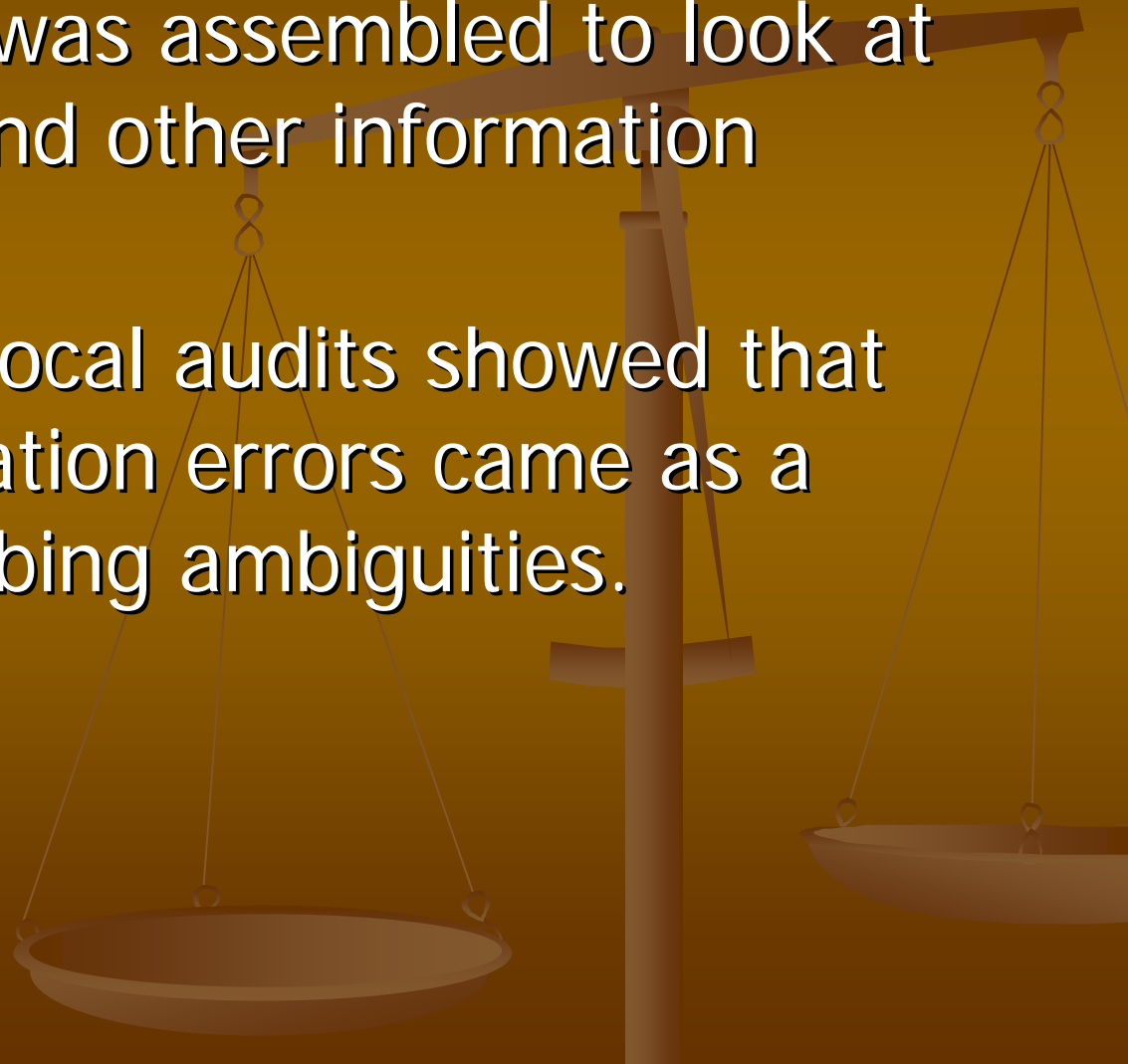
Transdermal medication issues (all meds) 2005 to 2008 (183)



Frequency	32	31	15	13	11	8	8	8	6	5	5	5	36
Percent	17	17	8	7	6	4	4	4	3	3	3	3	20
Cum %	17	34	43	50	56	60	64	69	72	75	78	80	100

The next step

- A project team was assembled to look at the local data and other information nationally.
- On pilot wards local audits showed that often administration errors came as a result of prescribing ambiguities.



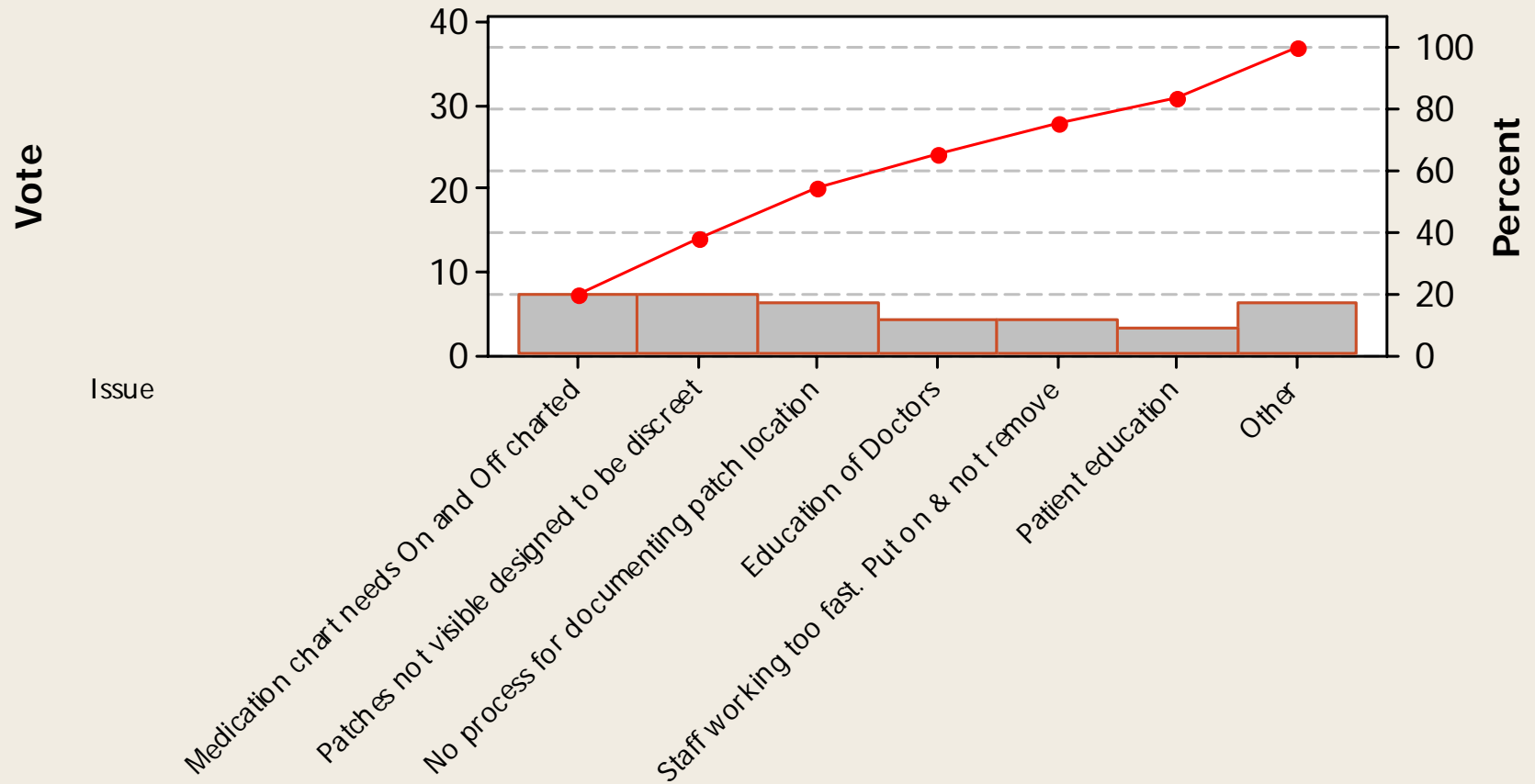
It's all about communication - 1

WHEN YOU PUT ON A NEW NICOTINE PATCH YOU'RE SUPPOSED TO TAKE THE OLD ONES OFF!



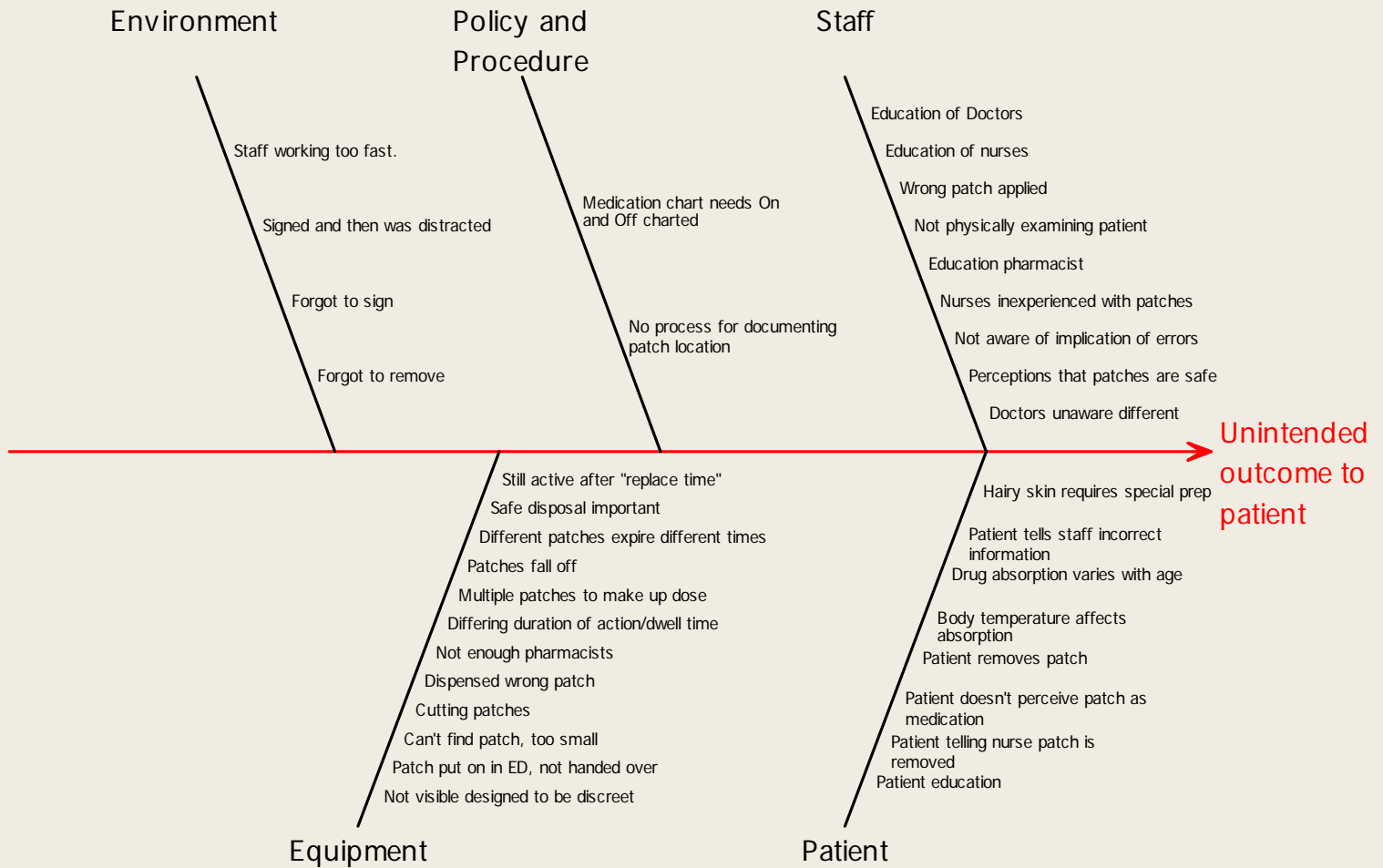
The Verdict

Pareto Chart of Voting on Issues of Transdermal Medications



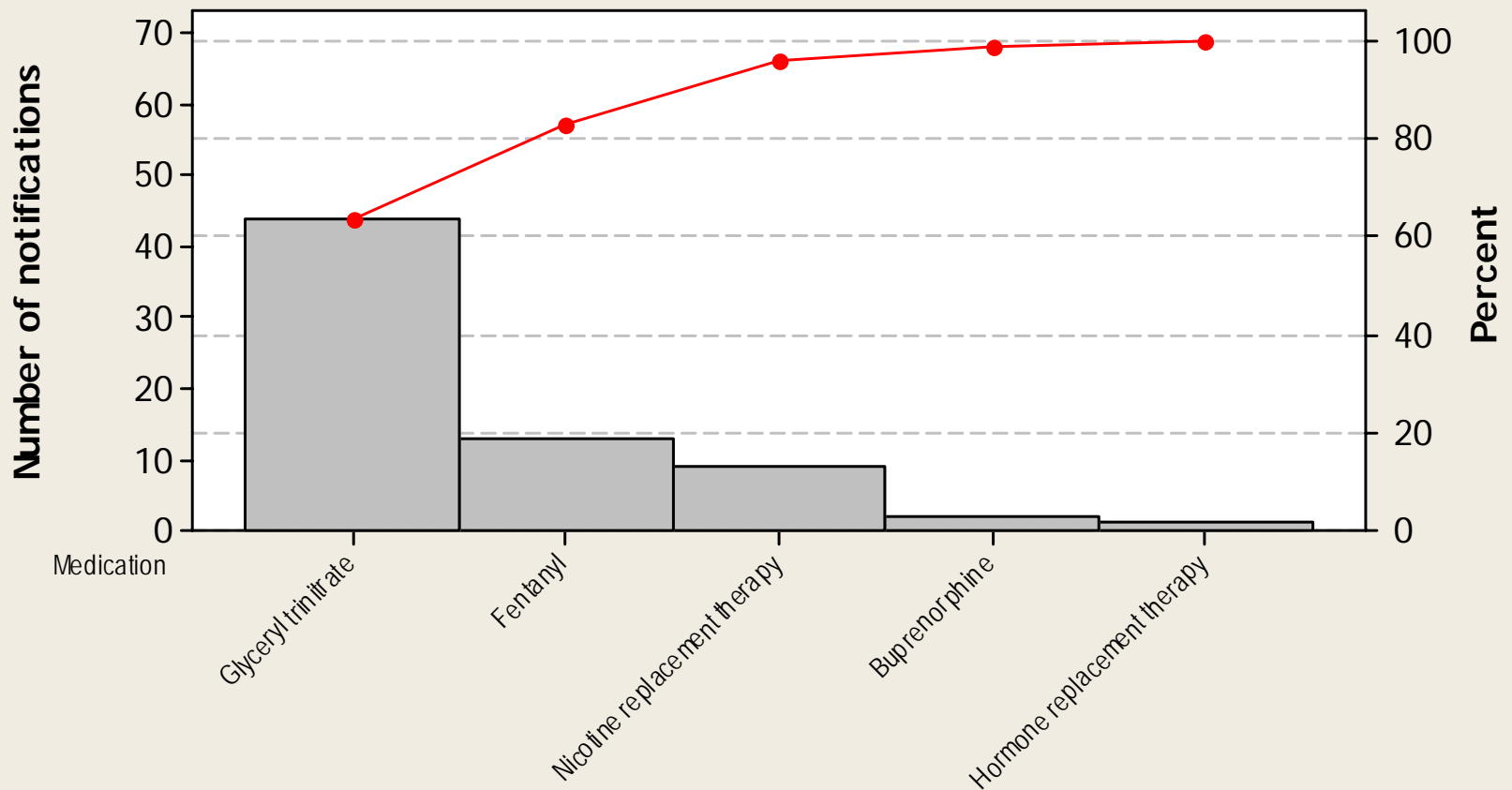
Count	7	7	6	4	4	3	6
Percent	18.9	18.9	16.2	10.8	10.8	8.1	16.2
Cum %	18.9	37.8	54.1	64.9	75.7	83.8	100.0

Fishbone diagram of problems with transdermal medication



And the culprits are? (July 2006)

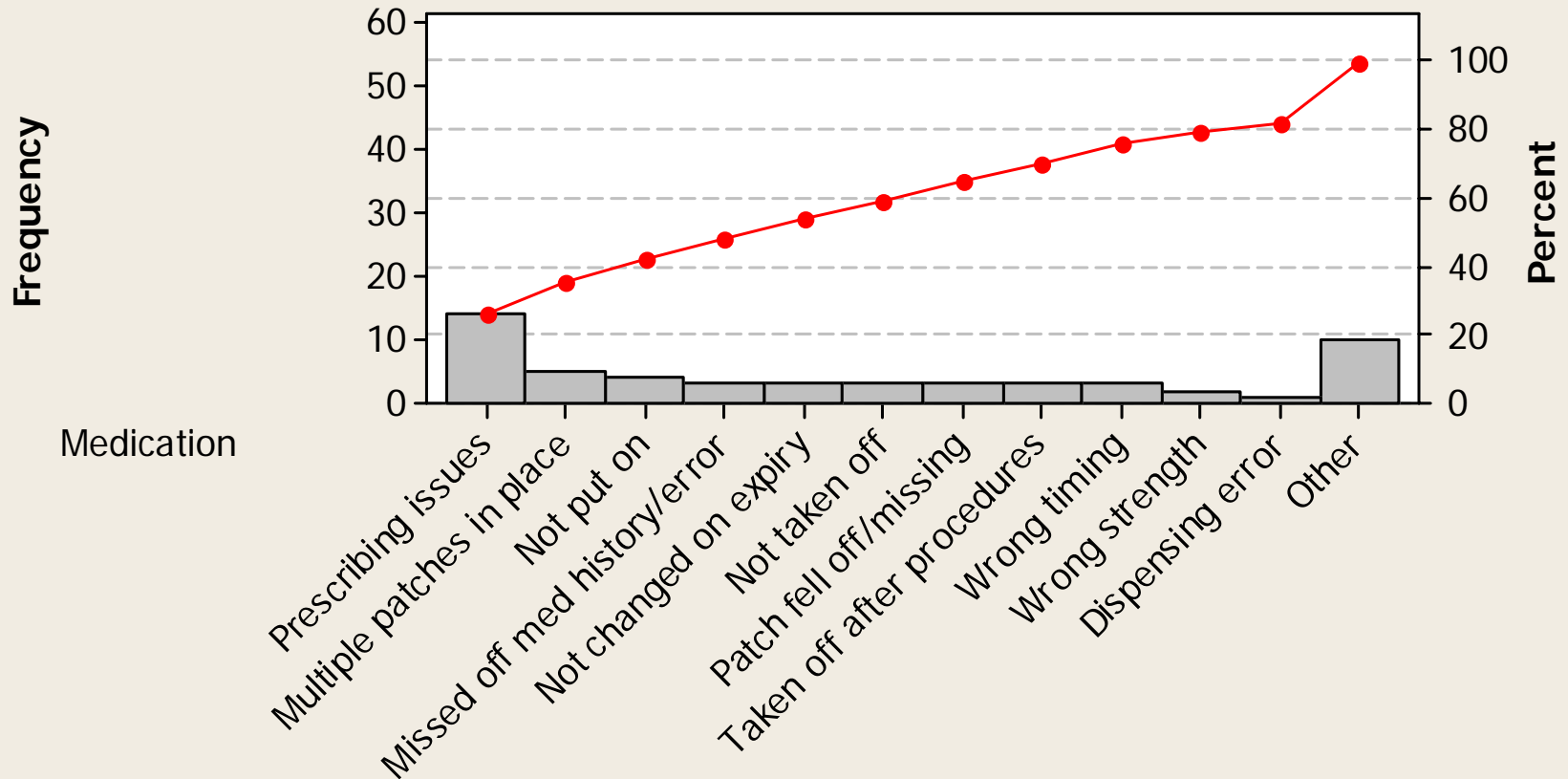
Pareto Chart of Transdermal Medications Reported to IIMS Database.



Count	44	13	9	2	1
Percent	63.8	18.8	13.0	2.9	1.4
Cum %	63.8	82.6	95.7	98.6	100.0

But, incident type varied with medication

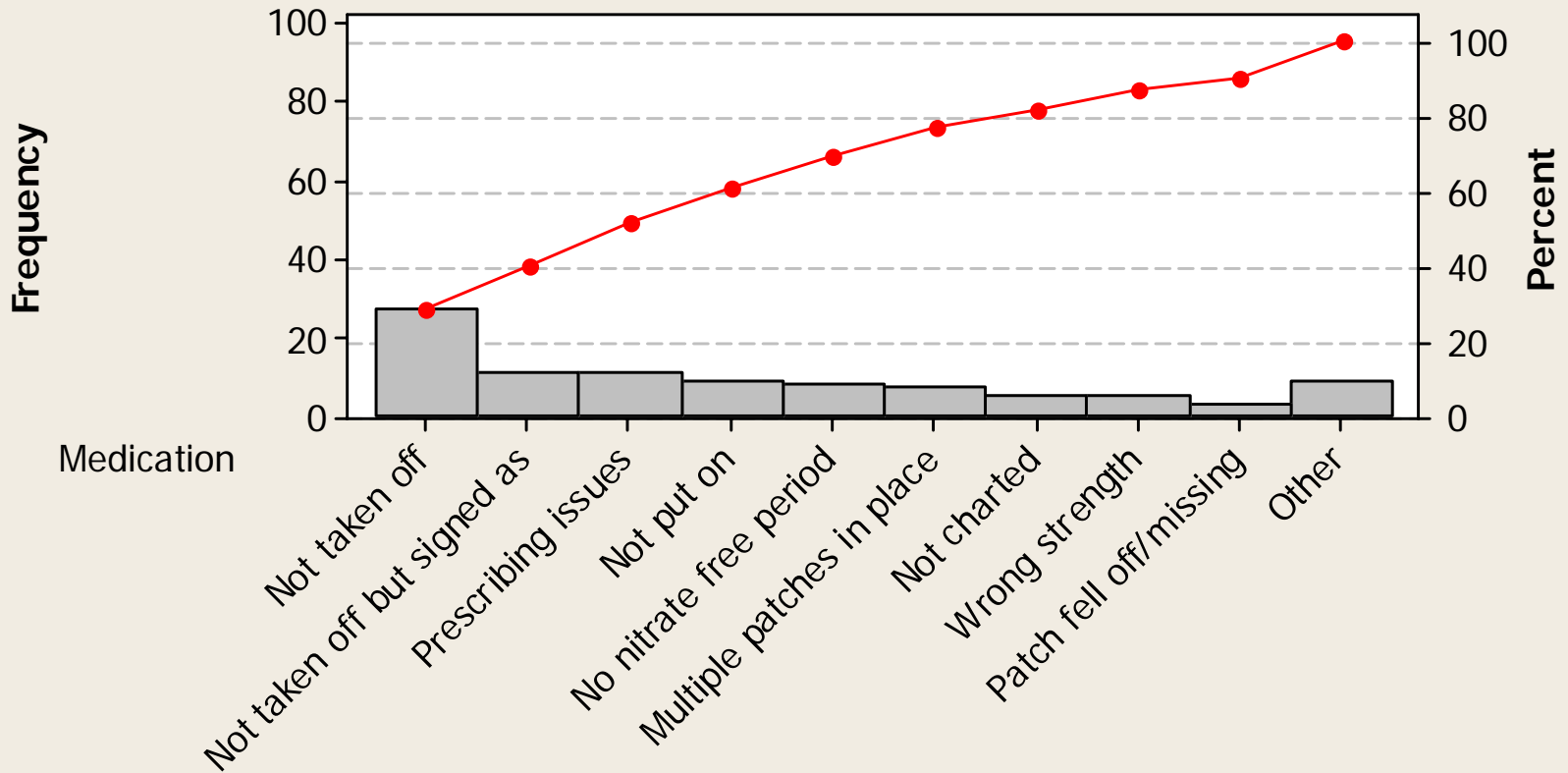
Fentanyl Transdermal Notifications 2005 to 2008



Frequency	14	5	4	3	3	3	3	3	3	2	1	10
Percent	25.9	9.3	7.4	5.6	5.6	5.6	5.6	5.6	5.6	3.7	1.9	18.5
Cum %	25.9	35.2	42.6	48.1	53.7	59.3	64.8	70.4	75.9	79.6	81.5	100.0

Glyceryl Trinitrate

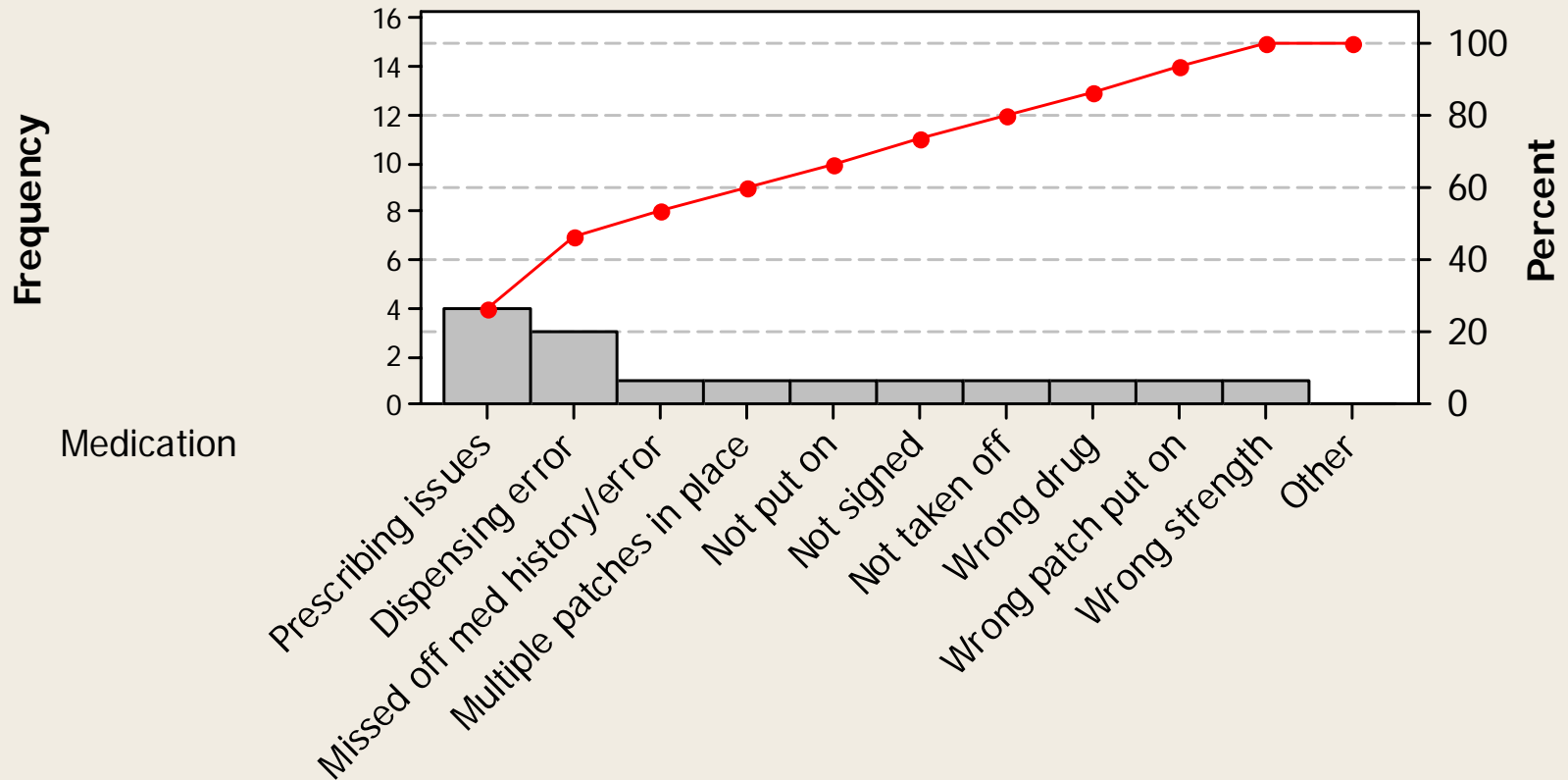
GTN Transdermal Notifications 2005 to 2008



Frequency	27	11	11	9	8	7	5	5	3	9
Percent	28.4	11.6	11.6	9.5	8.4	7.4	5.3	5.3	3.2	9.5
Cum %	28.4	40.0	51.6	61.1	69.5	76.8	82.1	87.4	90.5	100.0

Nicotine Replacement Therapy

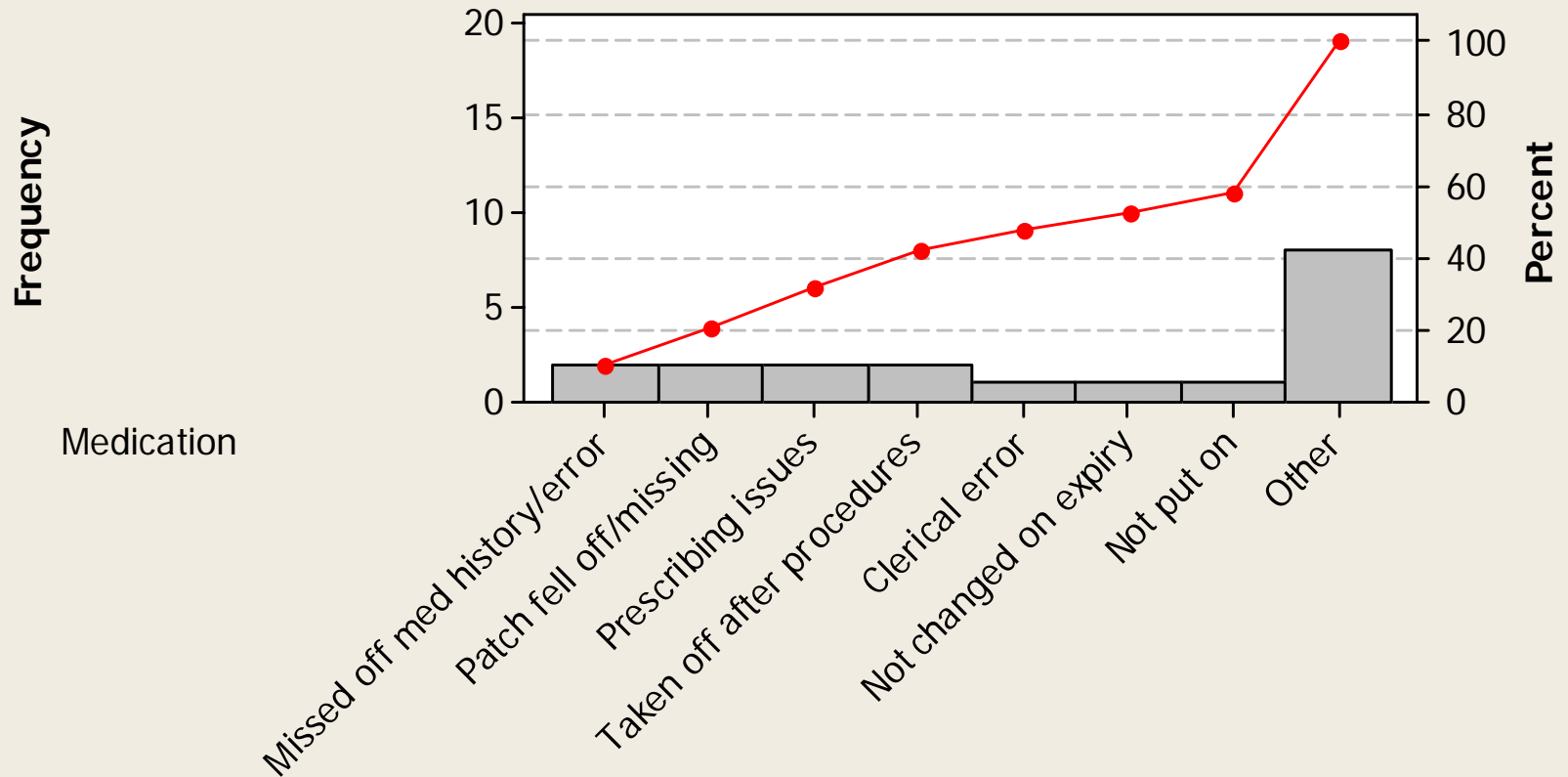
Nicotine Transdermal Notifications 2005 to 2008



Frequency	4	3	1	1	1	1	1	1	1	1	0
Percent	26.7	20.0	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	0.0
Cum %	26.7	46.7	53.3	60.0	66.7	73.3	80.0	86.7	93.3	100.0	100.0

Buprenorphine

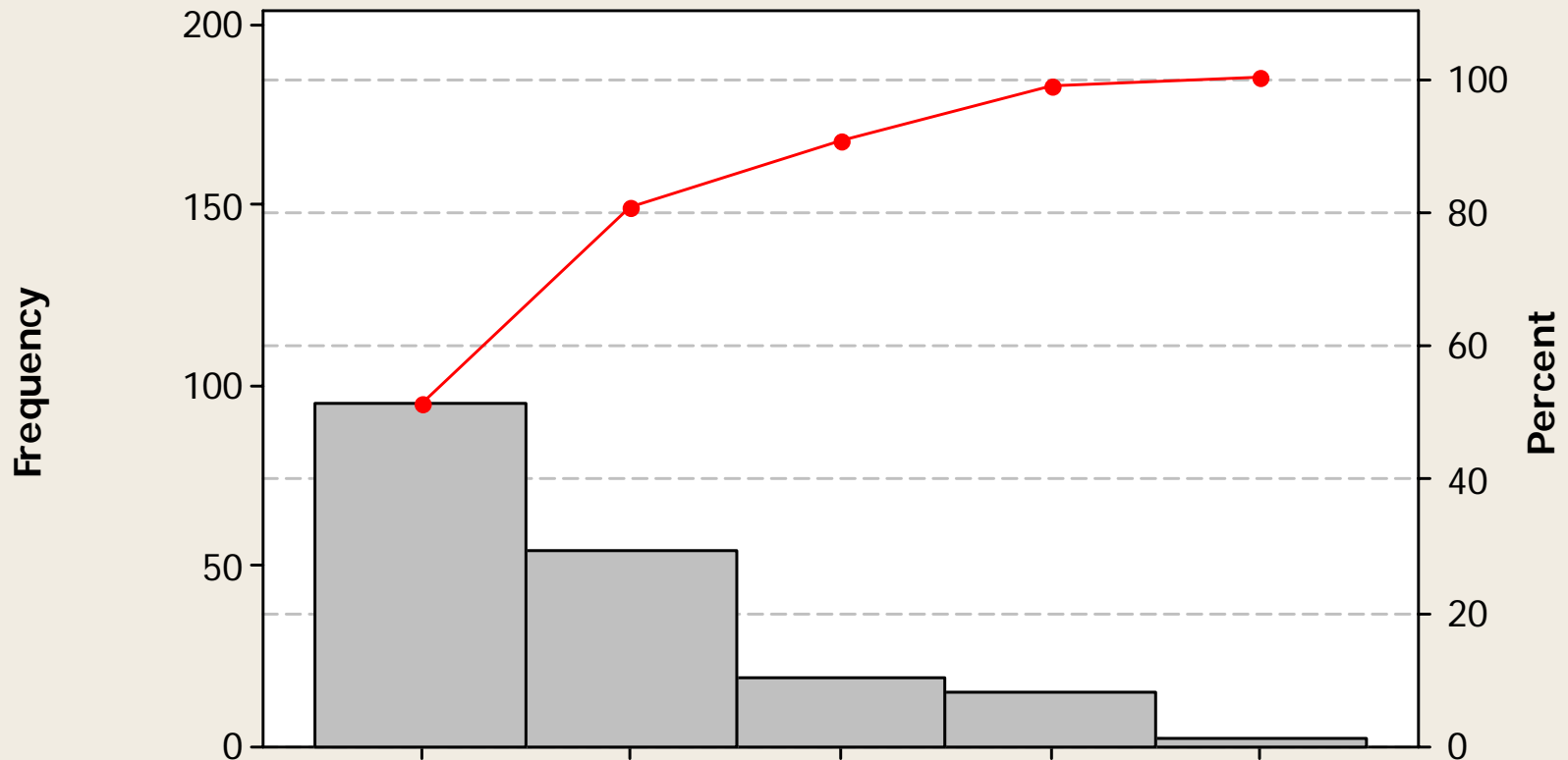
Buprenorphine Transdermal Notifications 2005 to 2008



Frequency	2	2	2	2	1	1	1	8
Percent	10.5	10.5	10.5	10.5	5.3	5.3	5.3	42.1
Cum %	10.5	21.1	31.6	42.1	47.4	52.6	57.9	100.0

And the culprits still are? (February 2008)

Transdermal Notifications 2005 to 2008



medication	GTN	Fentanyl	Buprenorphine	Nicotine	HRT
Frequency	95	54	19	15	2
Percent	51.4	29.2	10.3	8.1	1.1
Cum %	51.4	80.5	90.8	98.9	100.0

So, are patches a problem?

By 2005 230 patients had died from using Fentanyl patches in North America, 127 probably from accidental overdose

Australian deaths and near misses have been reported

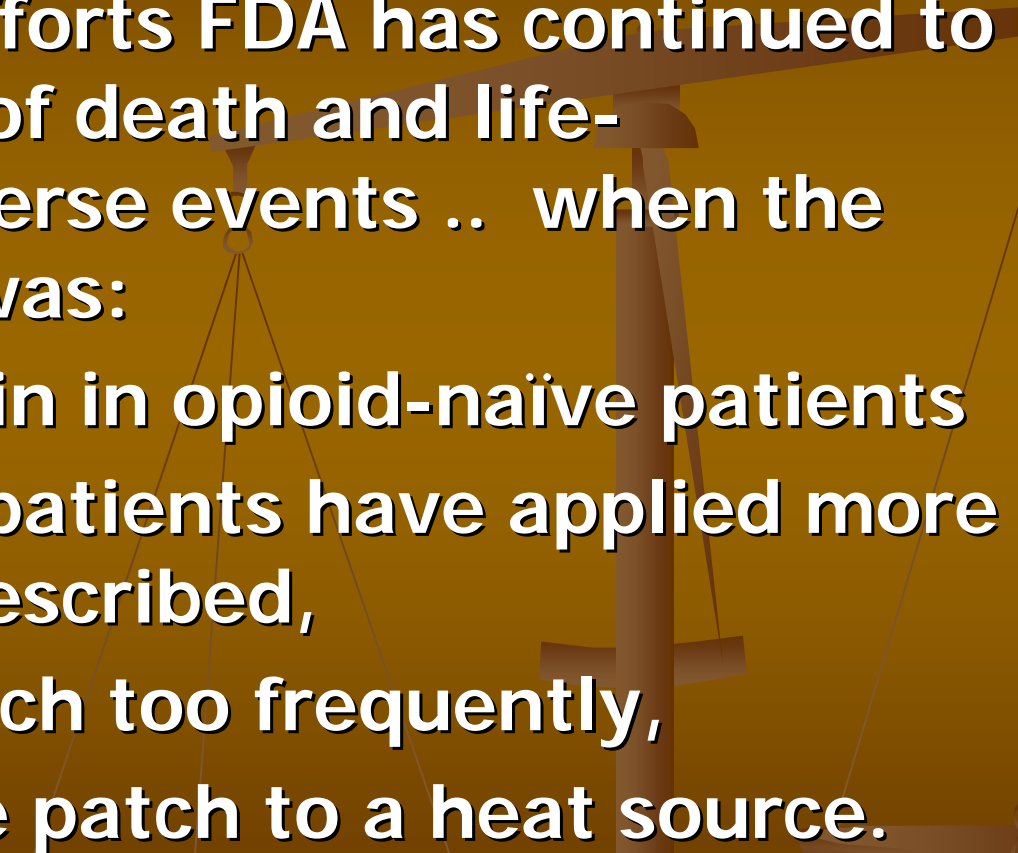
- Birth Control Patch Law Firm – “News about our Class Action Lawsuit and Ortho Evra® Dangers”
- FDA Issues Warning About Ortho Evra® Birth Control Patch
- Contact us for Fentanyl Duragesic Patch Lawyer Representation in ...

Fentanyl Transdermal System (marketed as Duragesic) Information

- **FDA ALERT 7/15/2005;**

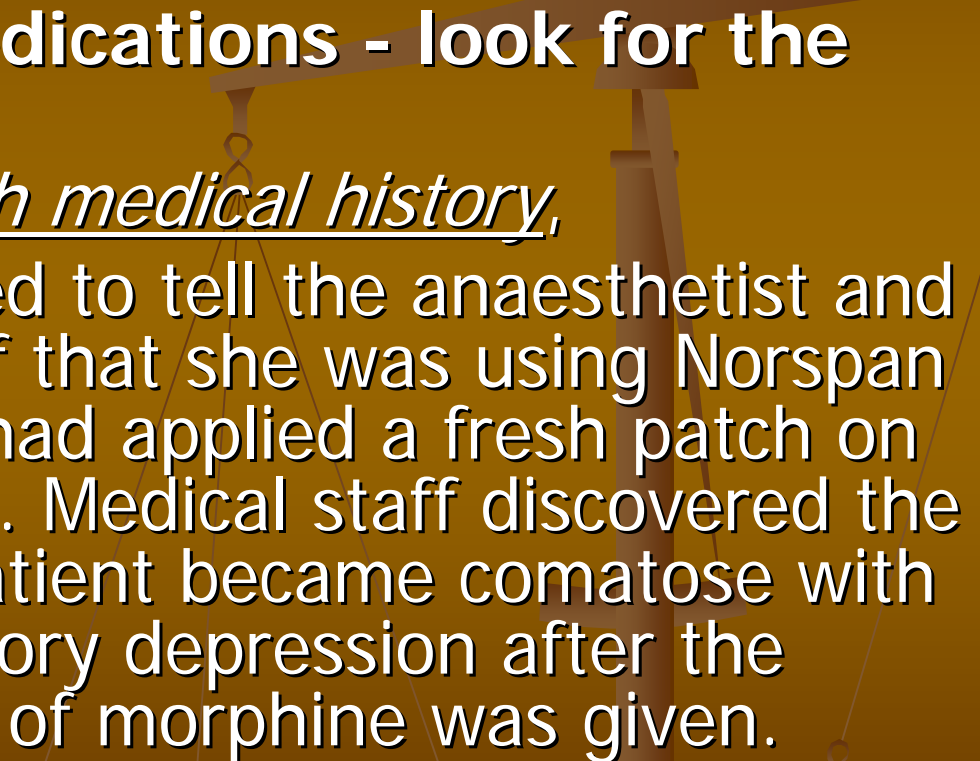
Update 12/21/2007: This update highlights important information on appropriate prescribing, dose selection, and the safe use of the fentanyl transdermal system.

Did the Alert make a difference?

- Despite these efforts FDA has continued to receive reports of death and life-threatening adverse events .. when the fentanyl patch was:
 - used to treat pain in opioid-naïve patients
 - opioid-tolerant patients have applied more patches than prescribed,
 - changed the patch too frequently,
 - and exposed the patch to a heat source.
- 

Australian Adverse Drug Reactions Bulletin

Volume 26, Number 6, December 2007

- **Transdermal medications - look for the patch**
 - *Despite a thorough medical history,*
 - the patient omitted to tell the anaesthetist and other medical staff that she was using Norspan patches, and she had applied a fresh patch on the day of surgery. Medical staff discovered the patch when the patient became comatose with significant respiratory depression after the conventional dose of morphine was given.
- 

Warnings at Home

NSW HEALTH



Safety Notice

SN: 005/06

23 October 2006

Safe Use of Fentanyl Skin Patches

Fentanyl skin patches are very strong narcotic (opioid) painkillers.

Distributed to:

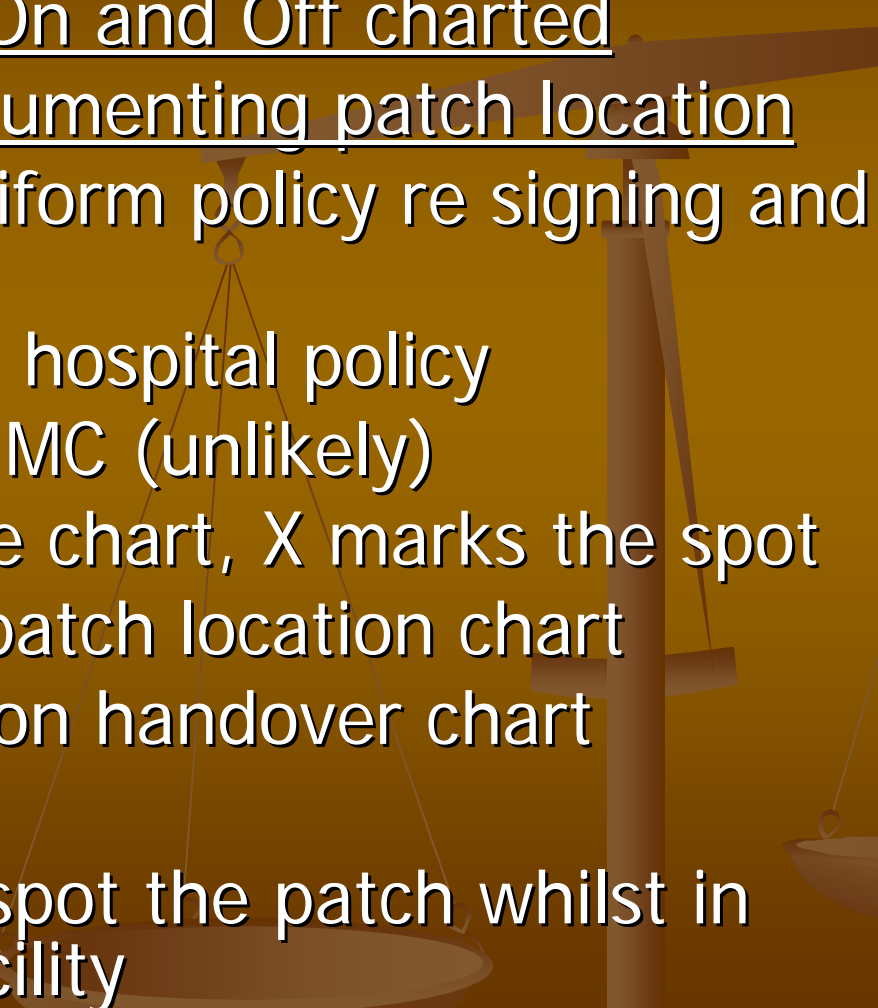
- Chief Executives
- Directors of Clinical Governance
- Directors of Clinical Operations

Background

In July 2006 a NSW Therapeutic Advisory Group (TAG), Safer Medicines Group publication alerted health services to a number of safety warnings issued overseas following reports of deaths and serious side effects in patients using fentanyl skin patches. Reports include:

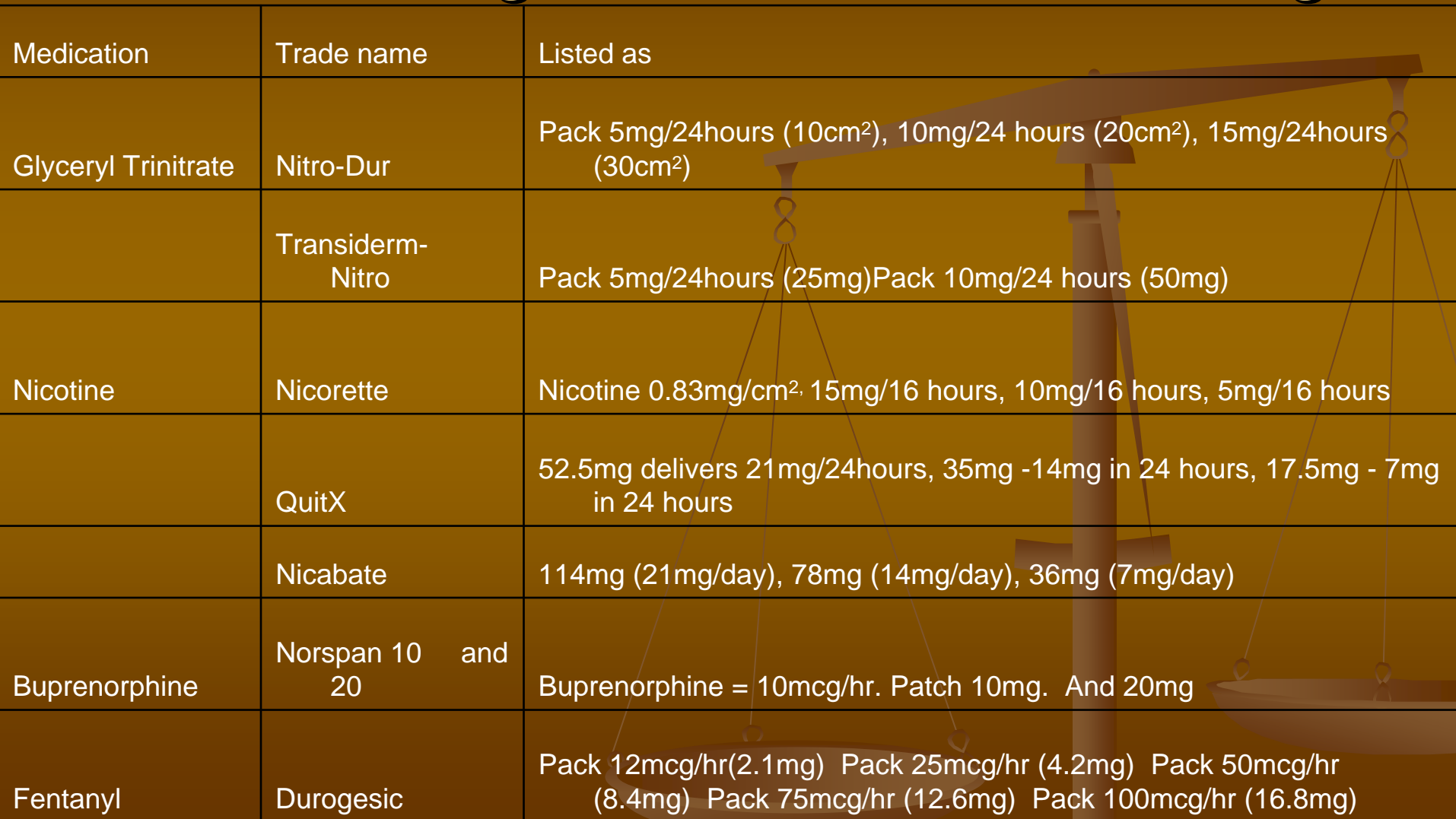
- Death of an elderly patient following application of a heat pack over the patch to relieve pain at the site causing increased fentanyl absorption and the suspected application of a second patch without removing the first.
- Death of a child who applied one of his mother's patches to his body.
- Children escaping near misses following self-application of a patch.

Problems and potential solutions - Operational

- Medication needs On and Off charted
 - No process for documenting patch location
 - Solution: - Have uniform policy re signing and dating patch
 - Solution: - Work on hospital policy
 - Solution: - Patch NIMC (unlikely)
 - Solution: - Wipeable chart, X marks the spot
 - Solution: - Have a patch location chart
 - Solution: - Include on handover chart
 - Patch too small
 - Solution: - Colour spot the patch whilst in hospital or care facility
- 

Other issue identified

Prescribing information confusing



Medication	Trade name	Listed as
Glyceryl Trinitrate	Nitro-Dur	Pack 5mg/24hours (10cm ²), 10mg/24 hours (20cm ²), 15mg/24hours (30cm ²)
	Transiderm-Nitro	Pack 5mg/24hours (25mg) Pack 10mg/24 hours (50mg)
Nicotine	Nicorette	Nicotine 0.83mg/cm ² . 15mg/16 hours, 10mg/16 hours, 5mg/16 hours
	QuitX	52.5mg delivers 21mg/24hours, 35mg -14mg in 24 hours, 17.5mg - 7mg in 24 hours
	Nicabate	114mg (21mg/day), 78mg (14mg/day), 36mg (7mg/day)
Buprenorphine	Norspan 10 and 20	Buprenorphine = 10mcg/hr. Patch 10mg. And 20mg
Fentanyl	Durogesic	Pack 12mcg/hr(2.1mg) Pack 25mcg/hr (4.2mg) Pack 50mcg/hr (8.4mg) Pack 75mcg/hr (12.6mg) Pack 100mcg/hr (16.8mg)

Problems and solutions - educational

- Education of doctors

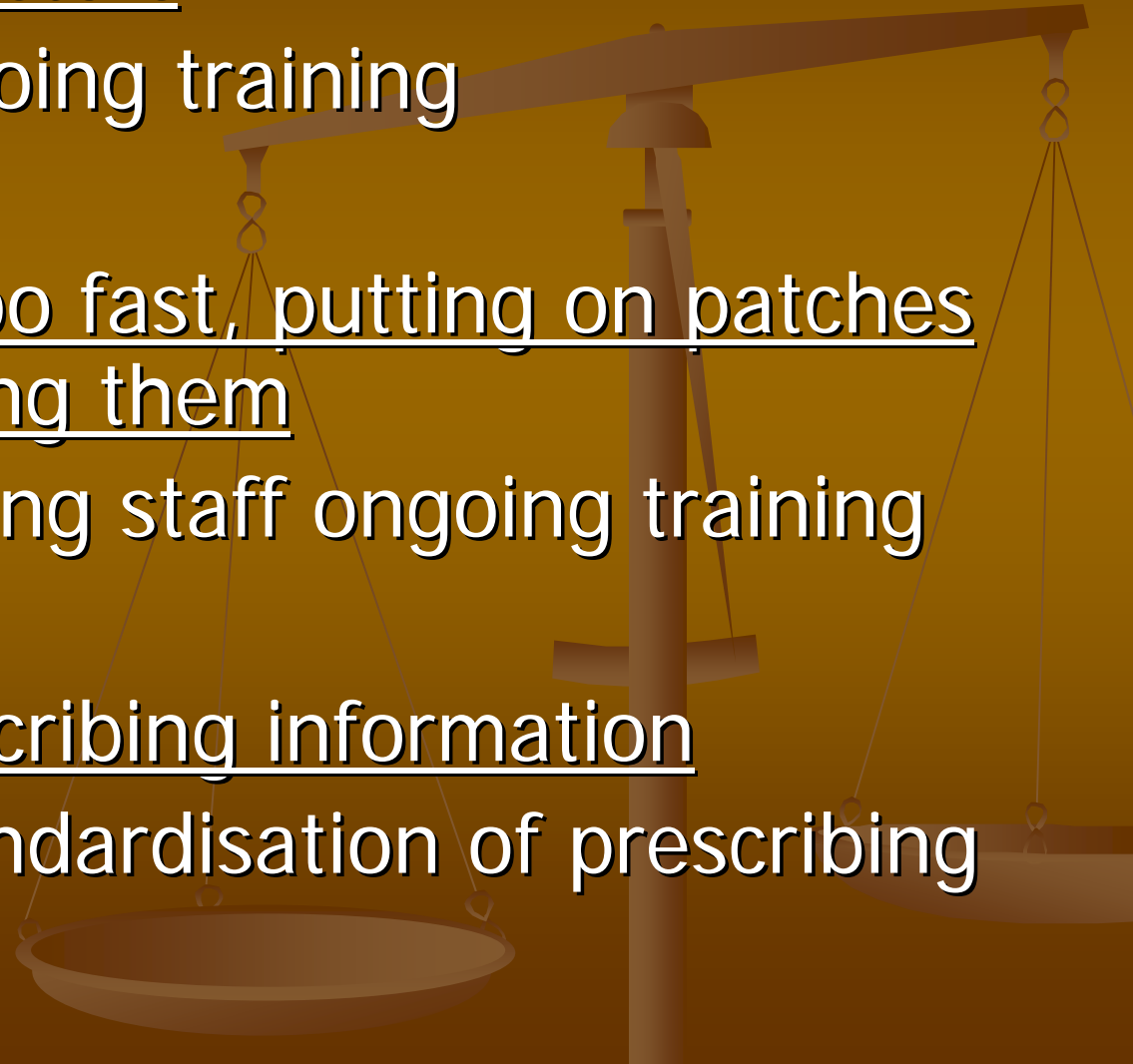
Solution: - Ongoing training

- Staff working too fast, putting on patches and not removing them

Solution: -Nursing staff ongoing training

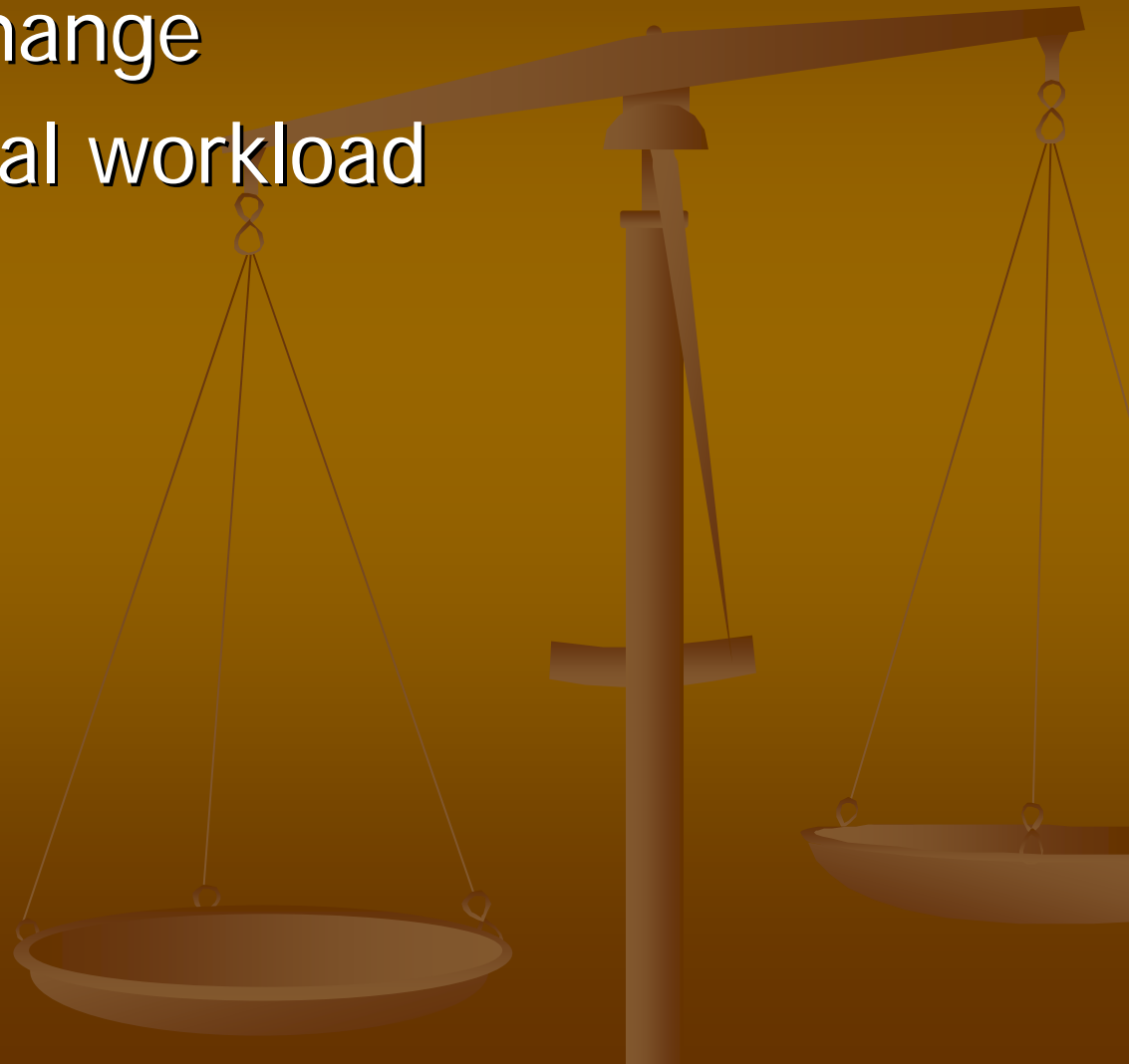
- Conflicting prescribing information

Solution: - Standardisation of prescribing information

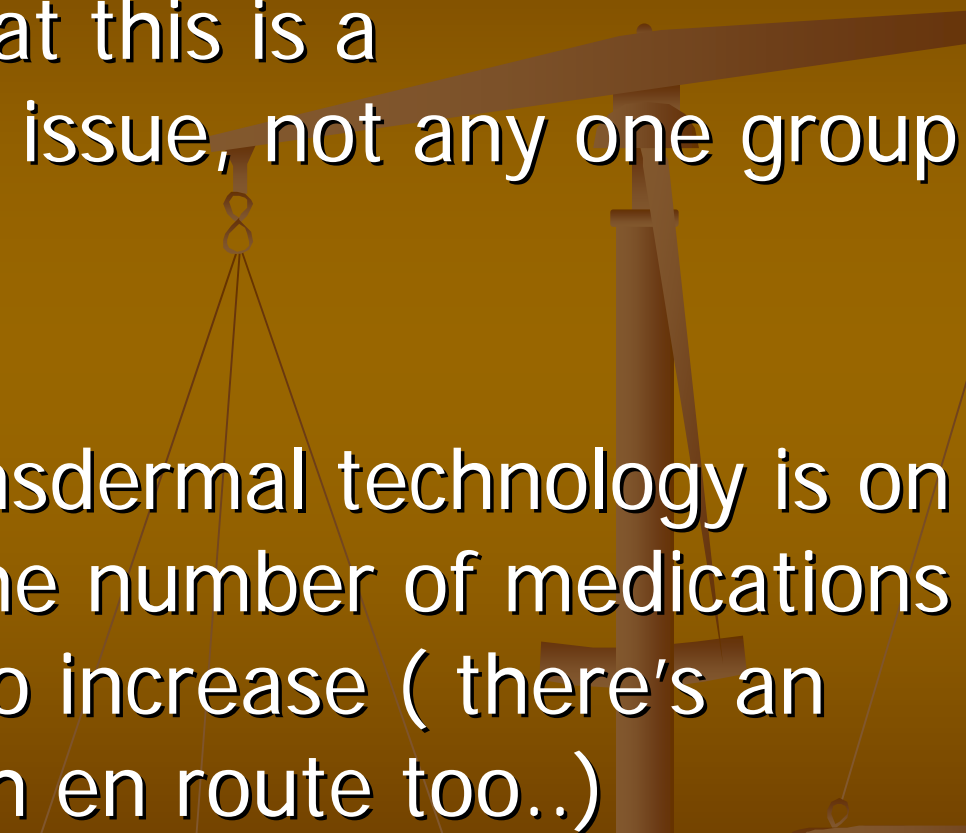


Barriers to solutions

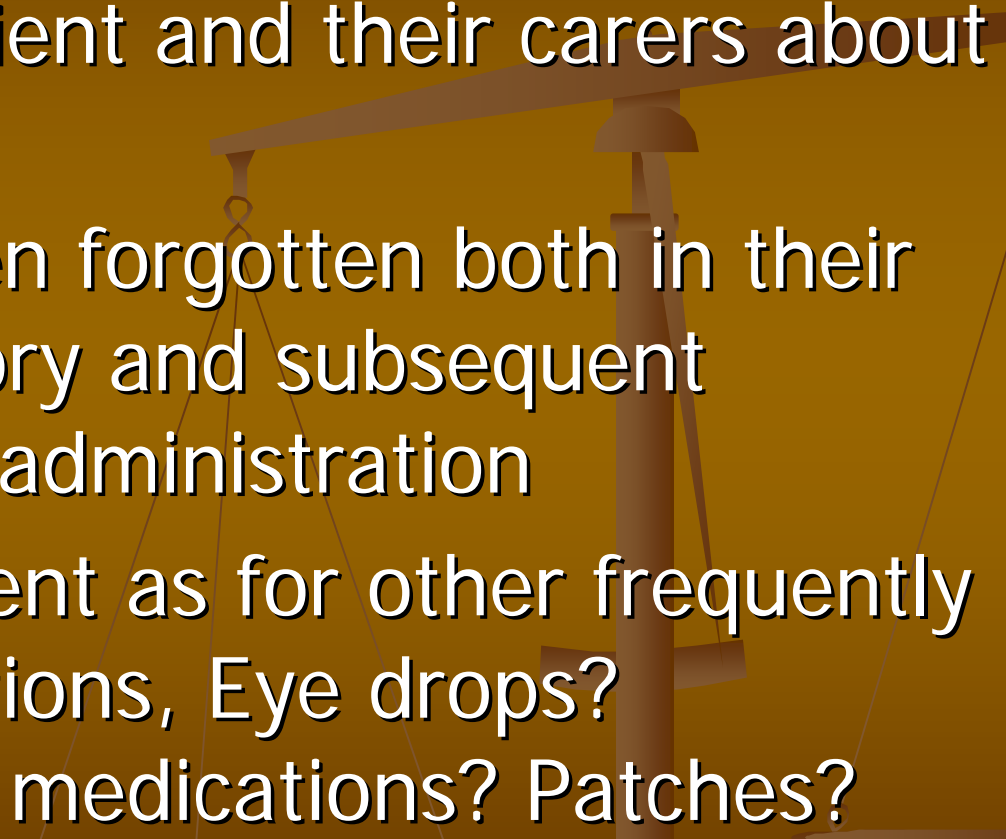
- Resistance to change
- Fear of additional workload



The Way Forward

- Acknowledge that this is a multidisciplinary issue, not any one group of staff
 - Realise that transdermal technology is on the move and the number of medications are only going to increase (there's an oxycodone patch en route too..)
- 

Don't forget the patient

- Educate the patient and their carers about their patches.
 - Patches are often forgotten both in their medication history and subsequent prescribing and administration
 - Prompt the patient as for other frequently omitted medications, Eye drops?
Complementary medications? Patches?
- 

It's all about communication - 2



**"When I said apply the patch to deaden the pain,
I meant your leg, not your wife."**