Maximising the impact of medication in a mental health setting

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To maximise the impact of medication in mental health settings……..

We need to ensure people have **prompt access** to the most **effective** medication and **optimise adherence** with medication

Optimising adherence to maximise impact

- Improve the overall experience of taking medication
- Address misperceptions about harm about nicotine
- Finger tip control of NRT – prompt and regular supply
- Manage expectations about medicines
- Minimise side effects
- Minimise drug interactions with tobacco smoke
- Alongside behavioural support
- Prescribed and administered by a competent workforce

Which is more effective?

NRT	Bupropion	Varenicline

In meta-analyses of clinical trials – among the wider general population and in people with severe mental illness

Combination NRT better than single NRT better than bupropion Similar effectiveness as varenicline	Similar effectiveness as single NRT Less effective than combination NRT Less effective than varenicline	Varenicline as effective as combination NRT More effective than single NRT More effective than bupropion

Their potential to prevent and treat withdrawal symptoms and help people stop smoking is undermined by lack of prescribing (in the case of bupropion and varenicline) and underdosing and incorrect use of NRT or misperception of nicotine

Taylor et al (2021) the Maudsley Prescribing Guidelines in Psychiatry. Roberts et al (2016) Addiction 111, 4, 599-612; Siskind et al Lancet Psychiatry 7, 9, 762-774

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RESEARCH REPORT

ADDICTION SSA

Harm perceptions of nicotine-containing products and associated sources of information in UK adults with and without mental ill health: A cross-sectional survey

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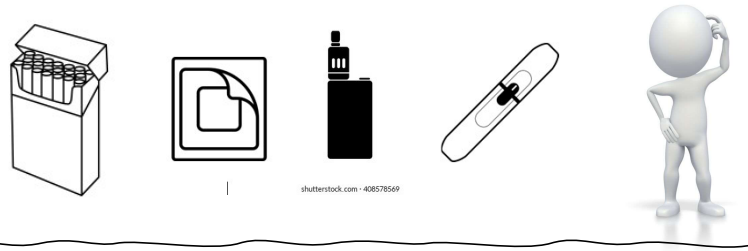
Online cross-sectional survey
N=3, 400 past-year smokers
- 51% female
- Mean age 46.2

Past month mental health status was measured using the K6 psychological distress scale

- No/low mental distress 45.3% (n=1541)
- Moderate mental distress 37.5% (n=1274)
- Serious mental distress 17.2% (n=585)



Among people with serious mental distress:
11% knew that nicotine use did not cause cancer

Compared with smoking tobacco cigarettes
- 53% thought that NRT were less harmful,
- 42% that e-cigarettes were less harmful

People **with** serious mental distress compared to people with low/no distress, were more likely to hold less accurate views about the relative harm of cigarettes compared with NRT & e-cigarettes – therefore such beliefs will lead to not trying NRT (or e-cigarettes) in the first place or not adhering to them)

Better education to inform service users (and clinicians) that nicotine is different to tobacco smoke in terms of the harm it causes

"Smokers smoke for the nicotine, but die from the tar"
Professor Mike Russell, Maudsley Smokers Clinic, 1979

Frequently confused with the effects and dangers of smoking

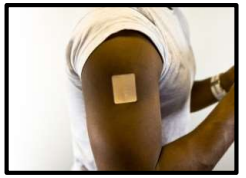
Switching to less harmful nicotine delivery devices has been the mainstay of smoking cessation treatment since 1970's

MOST HARMFUL
NICOTINE DELIVERY SYSTEM

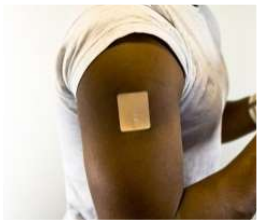
LEAST HARMFUL
NICOTINE DELIVERY SYSTEM

Combustible tobacco products

Non-Combustible nicotine products



Need to give people access to the full range of NRT products



Skin patch

Gum

Lozenges

Inhalator

- Quick
- Sufficient (at least 2 products)
- Regular
- Long term – whole admission and post discharge

Microtabs

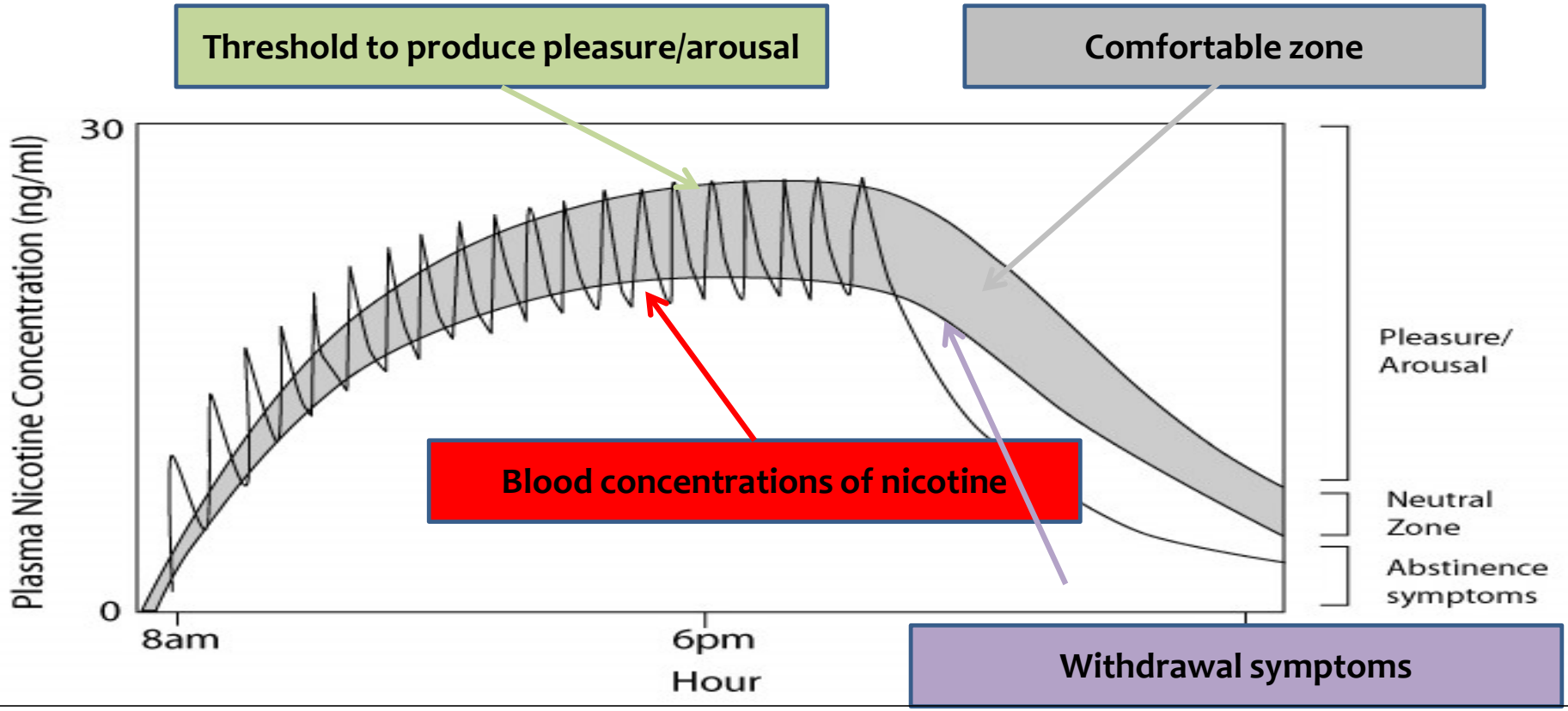
Mouth spray

Nasal spray

HOMELY REMEDY POLICY (part of Medicines Management Policy)
A nurse can administer a medicine as directed for up to 24 hours without a prescription – add NRT to your homely remedy policy

In a survey by ASH in 2019, – 40% of psychiatrists said they had never received training on NRT

Regular nicotine replacement



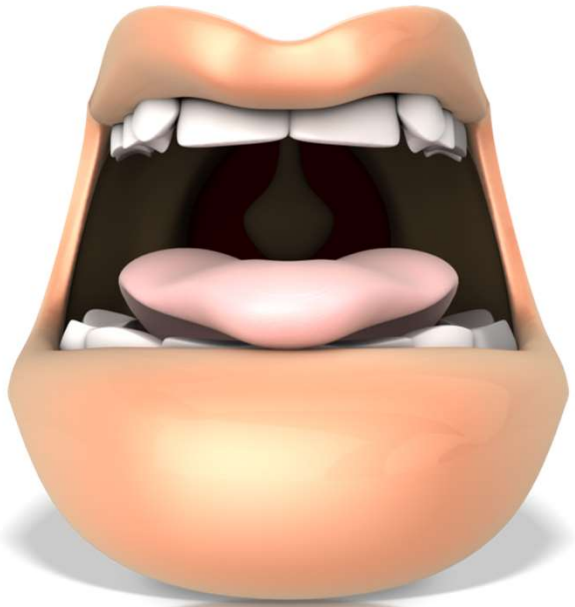
When not restricted from smoking, a smoker has fingertip control over their nicotine intake and self titrates their dose on a daily basis. Approx 1-3mgs of nicotine is extracted from each cigarette

Service users need finger tip control over their NRT – whether for temporary abstinence or a quit attempt. Not helpful just to administer one dose 4 times a day at drug rounds. With appropriate risk assessment can give a strip of lozenges/ a bottle of mouth spray to last a morning/ day

Benowitz (2010) New Eng J Med 362;24

Correct administration

Repeatedly remind service users of the correct technique of oral NRT products



Gum
Lozenge
Sublingual tablets
Inhalater
Mouth spray

All need to be absorbed through the lips, cheeks and tongue. Avoid swallowing

Gum – chew, rest, chew
Lozenge – suck, rest, suck
Spray – into the inside of cheeks, not back of throat

Better absorbed in an alkaline environment - avoid fizzy drinks, coffee, spicy food

Consequences of incorrect technique

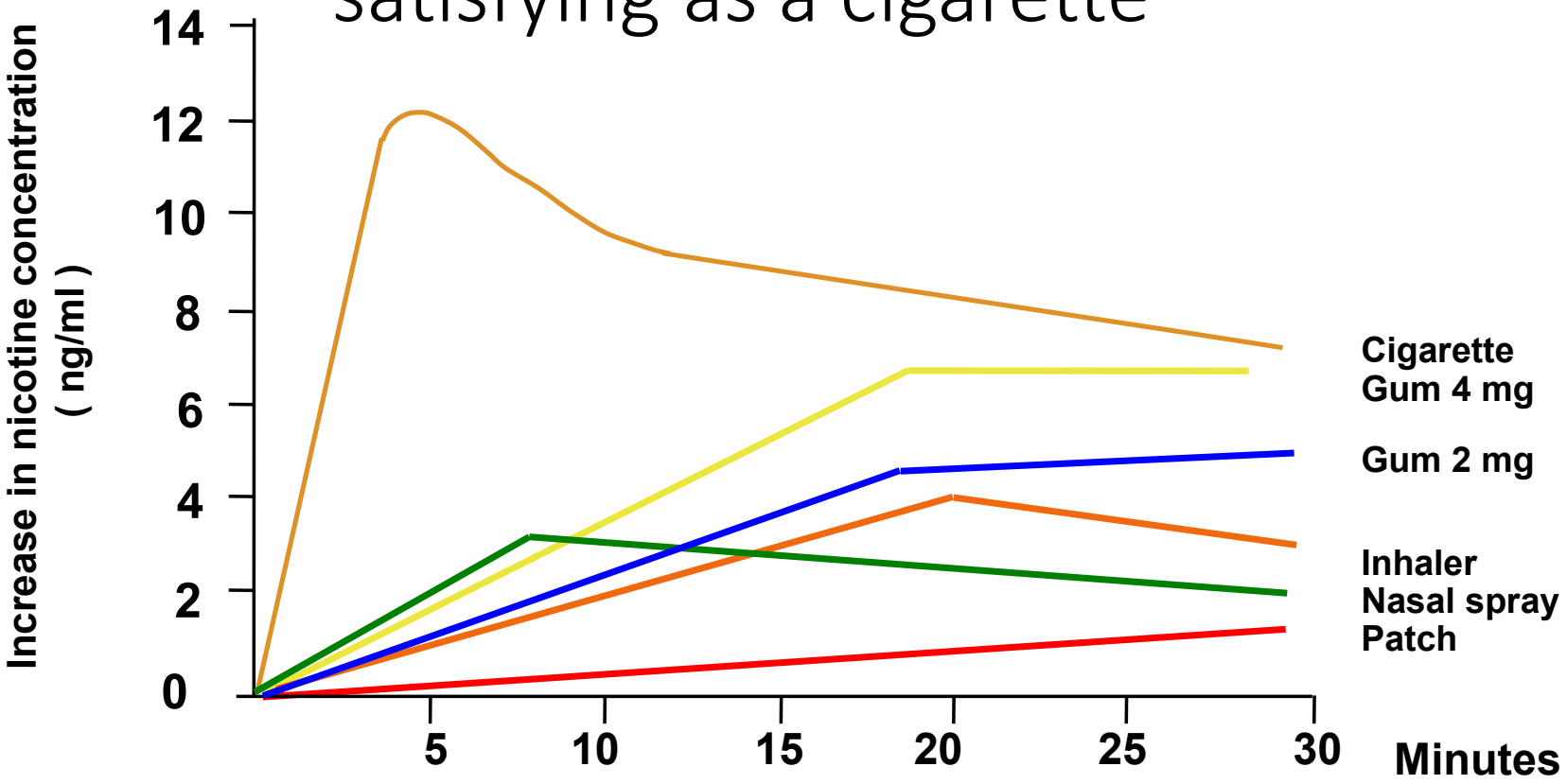
Ineffective

The user won’t get the full dose of nicotine.
Experience the discomfort of withdrawal symptoms

Side effects

Upset stomach
Sore mouth

Manage expectations – NRT will never be as satisfying as a cigarette



Source: Balfour DJ & Fagerström KO. *Pharmacol Ther.* 1996; **72**: 51-81.

NRT delivers nicotine more slowly and at lower levels (e.g., 30–75% of those achieved by smoking)

NRTs are far less likely to be associated with dependence when compared to tobacco-based products.

Blood nicotine levels (smoking and NRT)

Minimise drug interactions between pxd meds and tobacco smoke

- Tobacco smoke stimulates a liver enzyme responsible for metabolising some drugs in the body
- This is irrespective of the stop smoking medicine used

Effect is not caused by nicotine but is secondary to the polycyclic aromatic hydrocarbons from tar in tobacco smoke

Why does this happen with some medicines & not others?

Tobacco smoke (tar not nicotine) induces (stimulates) the production of the enzyme CYP1A2 – increasing the rate of metabolism of drugs metabolised by this enzyme (tobacco smoke speeds up the metabolism of some drugs)

CYP 1A2
Clozapine
Olanzapine
Haloperidol
Perphenazine
Fluphenazine
Amitriptyline
Imipramine
Mirtazipine
Duloxetine
Caffeine

CYP 2C19
Phenytoin
Amitriptyline
Clomipramine
Citalopram
Escitalopram
Fluoxetine
Sertraline

CYP 2D6
Clozapine
Olanzapine
Haloperidol
Risperidone
Aripiprazole
Clopixol

CYP 3A4
Clozapine · Risperidone
Aripiprazole · Haloperidol
Quetiapine · Venlafaxine
Carbamazipine · Diazepam

The clinical effect of speeding up the metabolism of these drugs? – may make the drug (eg clozapine) less effective because it's not been in the body long enough to have its desired effect. In the case of clozapine and olanzapine – smokers need higher doses

When a person stops smoking completely – the metabolism of the drug (eg clozapine) slows down and the drug stays in the body longer – the clinical effect – it might work better – but may cause toxicity.

Check plasma levels of clozapine and monitor side effects – reduce by up to 25% in week 1

Changes may be seen for up to 6 months

Problems occur when pts stop, start, stop start smoking

Summary - to maximise impact

- Improve the experience of being in a smokefree mental health setting
- Address misperceptions about harm about nicotine
- Finger tip control of NRT – prompt and regular supply
- Manage expectations
- Minimise side effects
- Minimise drug interactions with tobacco smoke
- Prescribed and administered by a competent workforce

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