If treatment for tobacco addiction was evidence-based, what would it look like?

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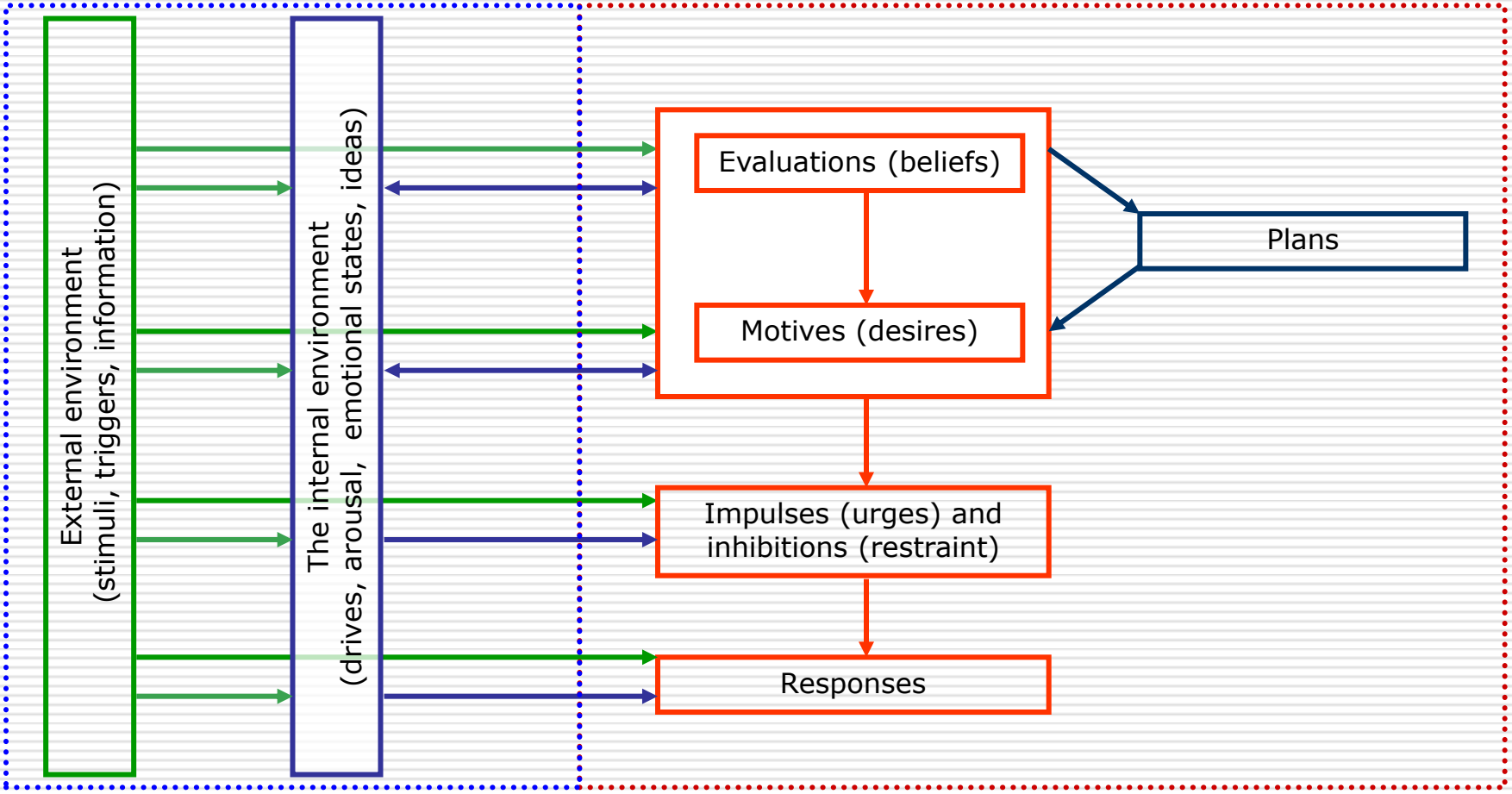
Outline

- What is tobacco addiction and what is the goal of treatment?
- The optimum model using known treatment options
- New treatment options
- Seven-point plan for improving smoking cessation treatment in the UK

Tobacco addiction

- Smokers who want to stop find that they experience desires and urges to smoke, sometimes accompanied by mood disturbance; these overwhelm their resolve abstain
- The desire and urges derive from parasitic action of nicotine on the motivational system leading to:
  - an acquired drive to smoke
  - acute urges to smoke associated with smoking-related cues and reminders
  - emotional attachment to smoking
  - beliefs that make tobacco use attractive

The motivational system (see www.primetheory.com)



Note: The internal environment acts as a stimulus and a filter through which external stimuli are modulated

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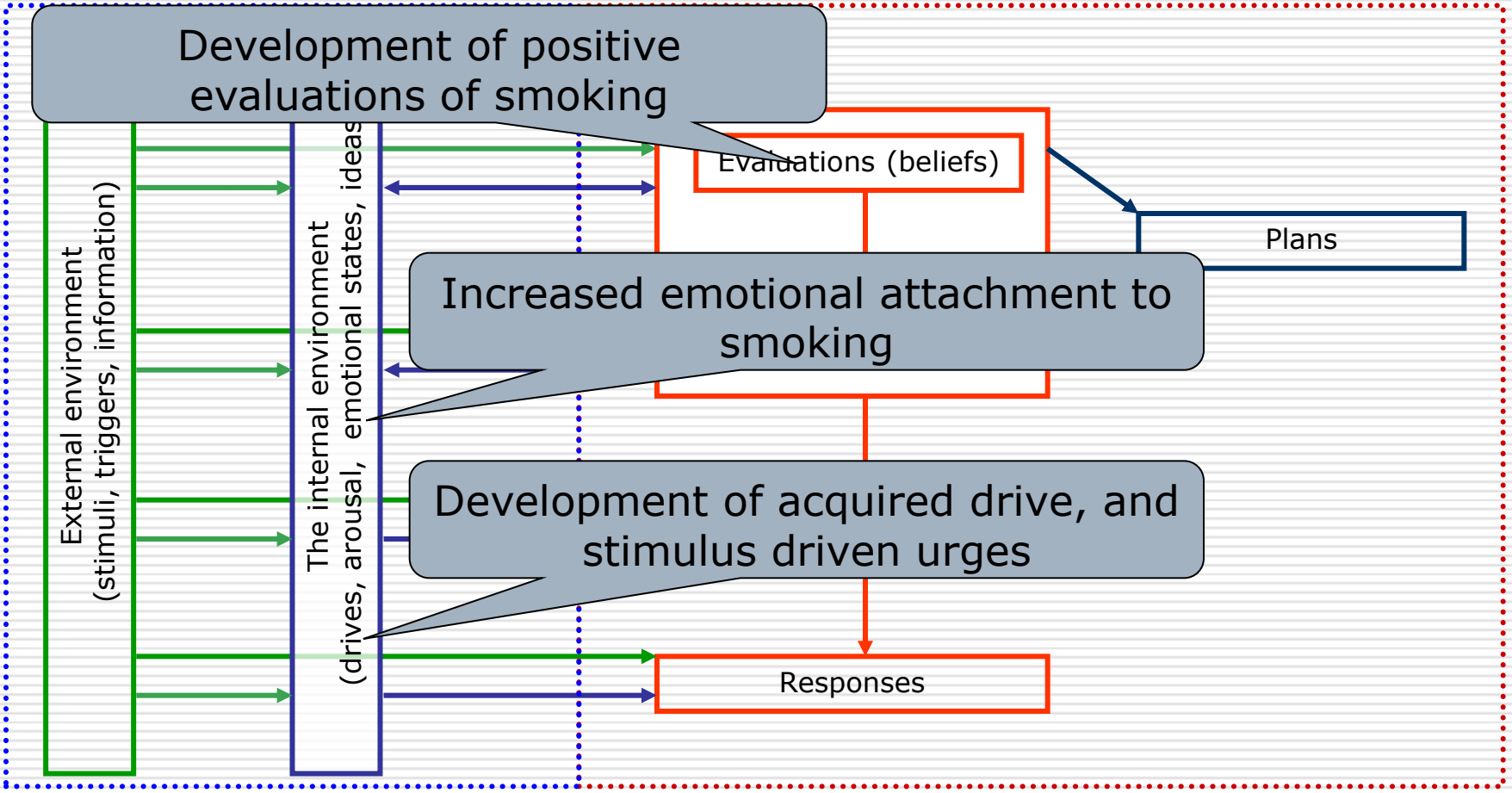

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The goal of treatment

- Primary goal
  - To enable smokers to remain totally abstinent indefinitely and so reduce their future risk of tobacco-related disease
- Assumptions
  - Short-term abstinence is of little benefit
  - Partial abstinence is unlikely to be sustainable

Primary outcome measure

- Russell Standard (West et al, 2005)
  - RCT, double-blind, placebo controlled where possible
  - at least 6 months' continuous self-reported abstinence
  - no more than 5 cigarettes in total during that time
  - confirmed by expired-air carbon monoxide of <10ppm at follow up
  - smokers not able to be contacted are counted as having resumed smoking
- Provides best practicable marker of indefinite abstinence

Primary source of evidence

- 29 Cochrane reviews
- For a full list of links: www.scsrn.org
- Not all use Russell Standard but these are the most rigorous collection of systematic reviews and meta-analyses available

Probably ineffective treatments

- Acupuncture
- Hypnosis
- Anxiolytics
- Lobeline
- Opioid antagonists
- Silver acetate
- SSRIs

Insufficient evidence

- Clonidine
- Mecamylamine
- Exercise
- Social support
- Relapse prevention techniques
- Mobilising partner support
- Reactive telephone counselling

Evidence of efficacy: NRT

- Nicotine replacement therapy for 8-12 weeks increases RS outcome odds by about 1.8 (1.7-1.9); risk difference 6% (6%-7%)
  - Combinations of patch plus an acute form are probably more effective than one alone
  - Starting use prior to quit day probably more effective than starting on quit date
  - In context of behavioural support, nasal spray may be more effective than patch; risk difference 12% (7%-17%) versus 6% (5%-7%)
  - No evidence for serious AEs in any patient group
  - Some smokers seek to use it longer than 12 weeks
  - Slight increase in relapse rate at the end of NRT treatment

Evidence of efficacy: bupropion

- Bupropion SR (300mg/day) for 8-12 weeks increases RS outcome odds by about 2.1 (1.8-2.4); Risk difference: 9% (7%-11%)
  - 150mg/day may be as effective
  - Not safe to use in patients with reduced seizure threshold
  - Common AEs are sleep disturbance
  - Seizure and allergic reaction are infrequent AEs

Evidence of efficacy: nortriptyline

- Nortriptyline (75-100mg/day) for 6-12 weeks increases RS outcome odds by about 2.1 (1.5-3.1); Risk difference: 9% (5%-14%)
  - Common AEs are dry mouth, drowsiness, light-headedness, constipation
  - Lethal in overdose

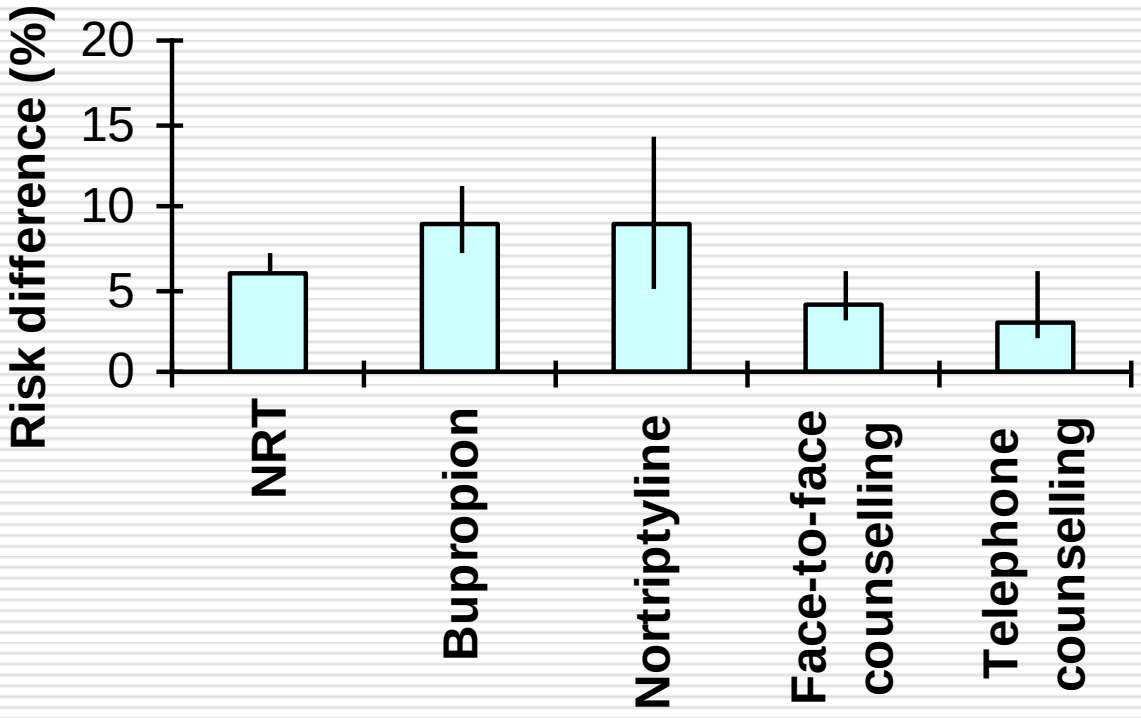
Evidence of efficacy: face-to-face counselling

- Face-to-face counselling increases RS outcome odds by about 1.6 (1.3-1.8); Risk difference: 4% (3%-6%)
  - Not clear what is the active ingredient
  - Group treatment may be more effective than individual treatment (McEwen 2005)
  - No clear evidence for better results with different professional groups (e.g. nurses, psychologists, pharmacists)
  - Effect was present in community and hospitalised samples
  - There appears to be a minimum threshold duration
  - Not clear whether there is benefit continuing counselling beyond about 4 weeks

Evidence of efficacy: telephone counselling

- Pro-active telephone counselling increases RS outcome odds by about 1.6 (1.4-1.8); Risk difference: 3% (2%-4%)
  - Not clear what is the active ingredient
  - No evidence that telephone support adds to effect of face-to-face counselling

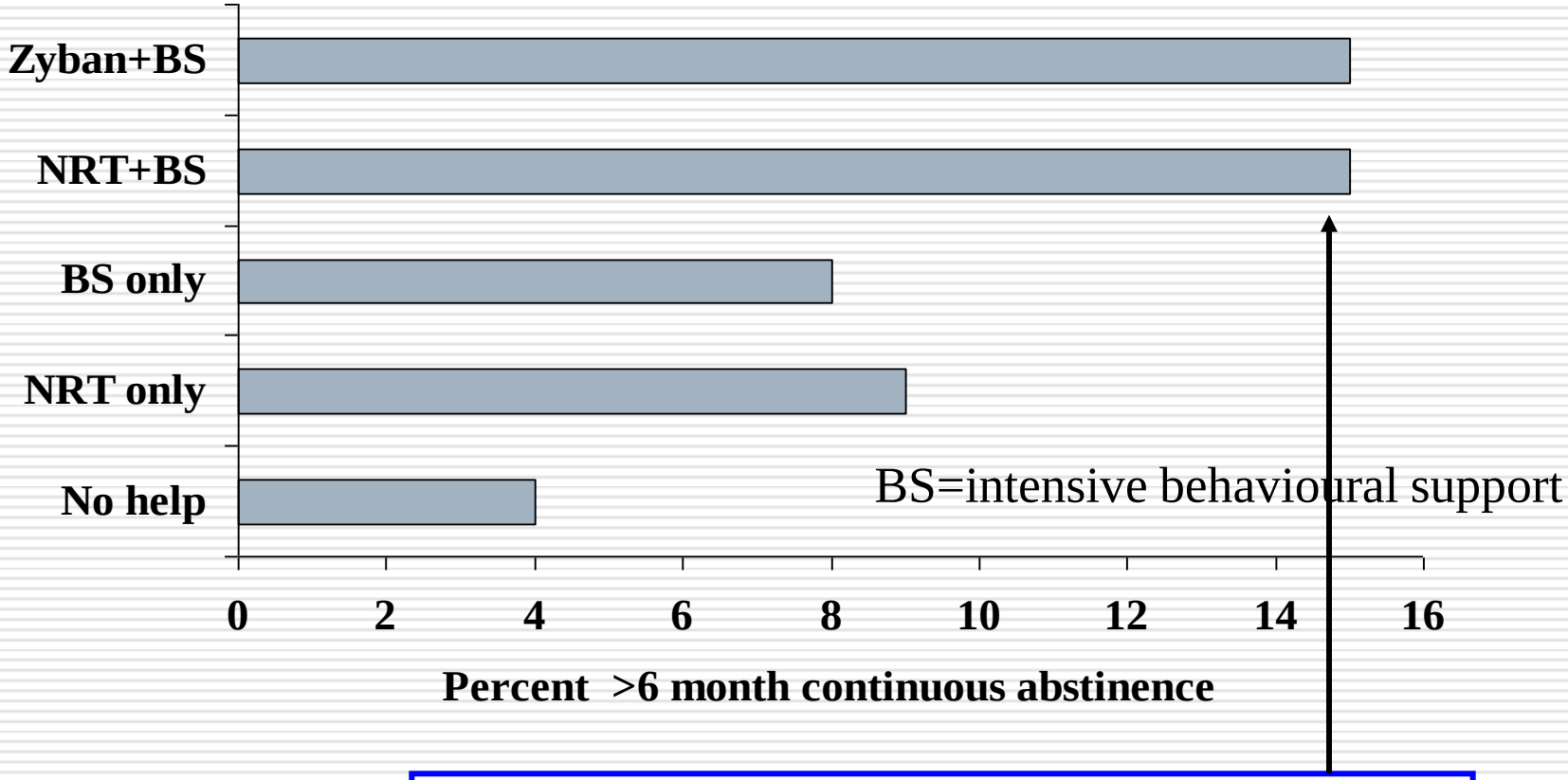
Summary of evidence



Presumptions

- Comparisons across studies and failure to find medication-counselling interaction suggest that the combination is more effective than either alone

Expected abstinence rates



National evaluation study (Ferguson 2005):
RS 12-month outcome 14.7%

Cost effectiveness of treatments to aid smoking cessation

Treatment	Cost	Years of non-smoking added	Life-years added	Cost per life-year
NRT alone	£80	0.5 years	0.10	£800
Counselling plus NRT/Zyban	£200	1.0 year	0.20	£1000

What treatment model?

- Offer medication plus face-to-face counselling to all smokers
- Explain costs and benefits of different medications and, subject to contra-indications, leave the choice to the patient
- Offer pro-active telephone counselling if patients prefer it
- Consider combinations of NRT products
- Do not terminate NRT use while there is evidence that smokers still require it
- Do not invest in relapse prevention interventions or prolong counselling beyond about 4 weeks

New treatment options

- Varenicline
  - Nicotinic Ach receptor partial agonist based on cytisine ('False tobacco')
  - More effective than bupropion
  - No evidence yet of serious side effects
  - Potential blockbuster
- Rimonabant
  - CB1 (cannabinoid) antagonist
  - More effective than placebo
  - May be more effective than other medications at limiting weight gain
  - May have more general cardiovascular risk reduction properties

Stop smoking treatment in the NHS

- Most smokers want to stop but do not want or feel they need treatment to help them do so
- However, awareness of the availability of stop smoking treatment is still low
- Smokers who attend the services because of a GP referral are more successful than those who self-refer
- Most GPs are not promoting their local stop smoking service
- The NHS needs to act in a coordinated manner to encourage smokers to use the help that is available

Conclusions

- Seven-point plan for improving the UK smoking cessation treatment model:
  1. promote combination NRT treatment and permit longer use of NRT if needed
  2. promote nicotine nasal spray to those who can tolerate it
  3. widen the patients groups who are offered NRT
  4. make more use of bupropion and nortriptyline
  5. abandon relapse prevention interventions
  6. make more use of pro-active telephone counselling for smokers who do not want face-to-face counselling
  7. devise systems so that all NHS contacts in primary and secondary care involve encouragement to use the help that is available