Cost Effective and Realistic Ways to Achieve Behaviour Change

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This talk

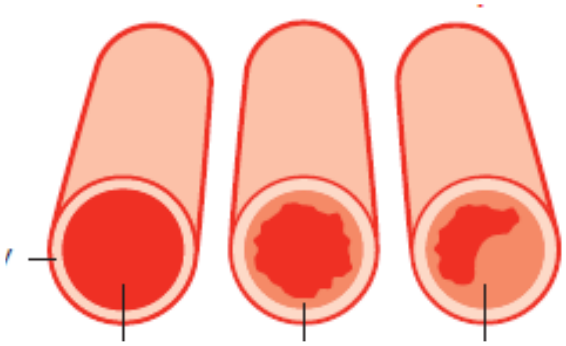
a) What works for (long-term) behaviour change

b) Discussion: What might be realistic in practice?

c) Can we do it cheaper (or more cost-effectively)?

A HEALTHY LIFESTYLE IS NOT NORMAL

- 65% of UK adults overweight or obese
- Only 35% get 150 minutes of physical activity (**10%** if you use objective measures)



“You are swimming against the current”

Chris Salisbury, 2013

It’s a tricky problem!

It is possible for people to change


BEFORE
AFTER

It is possible to support lifestyle change

EXAMPLES OF SUCCESS: WEIGHT LOSS AT 12 MONTHS

	N	Weight Loss (Kg)	Pop
Clinical trials			
Look – AHEAD [1]	5145	7.9	T2D
US DPP [2]	3234	6.7	IGT

1. Wadden et al, *Arch Int Med* 2010; 170:1566-75
2. Knowler et al, *NEJM*, 2001;346:393-403

But is it feasible?

EXAMPLES OF "REAL WORLD" SUCCESS: WEIGHT LOSS AT 12 MONTHS

	N	Weight Loss (Kg)	Pop
Real world trials			
Early ACTID [3]	345	2.4	T2D
Weight Watchers [4]	200	2.8	Obese /ow

3. Andrews et al, Lancet 2011;378:129-39

4. Jebb et al., *Lancet* 2011;378:1485-92

EXAMPLES OF REAL WORLD SUCCESS: PHYSICAL ACTIVITY

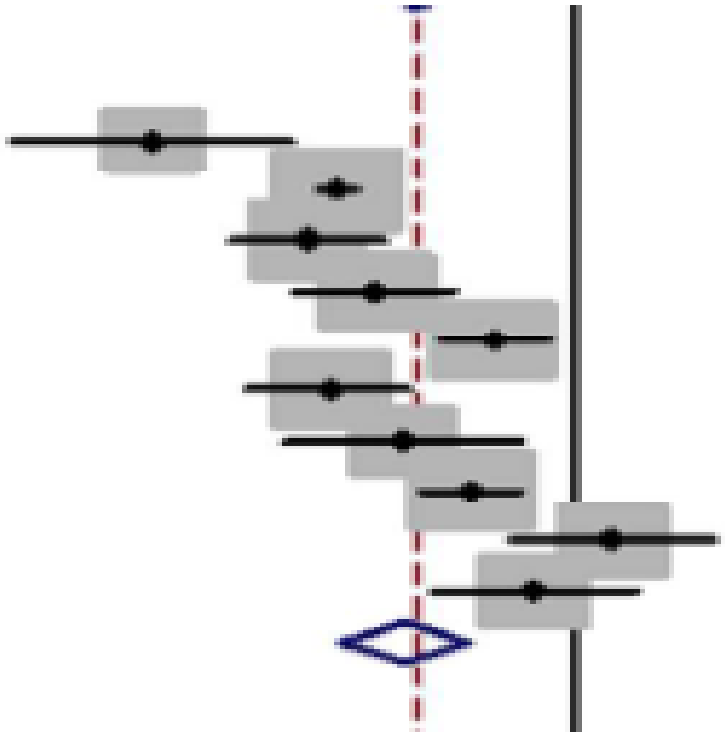
Based on objective measures at 12 months

	N	Change	Pop
Yates et al. [5]	57	1902 steps /day	IGT
Early-ACTID [6]	345	33 mins /wk mvpa	T2D

5. Diabetes Care, 2009

6. Lancet, 2011

BUT … There are huge variations in intervention effectiveness



-6Kg 0

RCTs of real world diabetes prevention programmes

Dunkley et al. *Diabetes Care* 2014

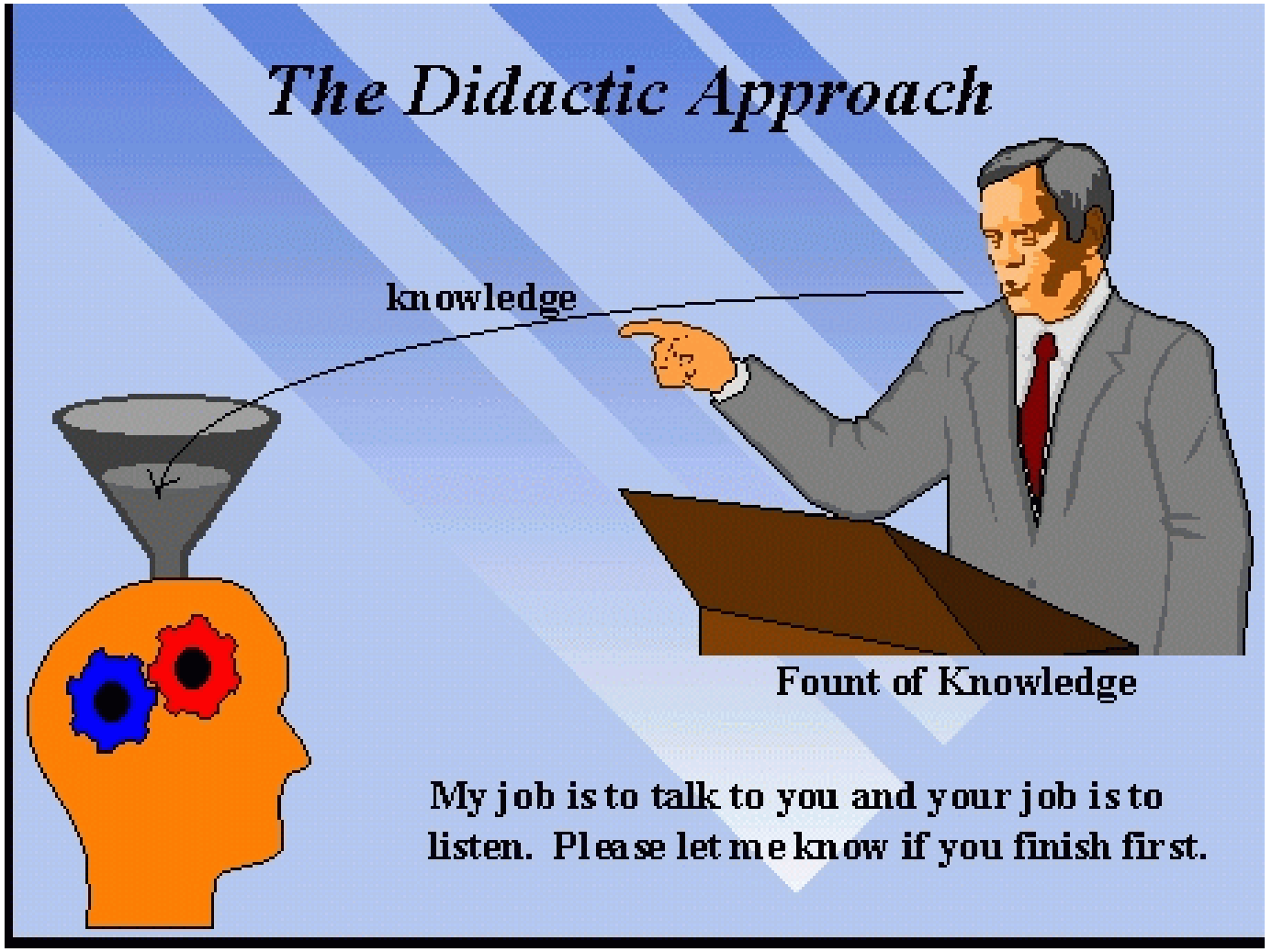
Why do results vary so dramatically?

- The content of the intervention may be important?
- The delivery might be important?

What content is important for real-world interventions?

- What does the evidence base say?

What doesn't work?



What doesn't work?

- Information-only /telling people what they need to do
  - 7% of people achieve 5% weight loss six months later (Greaves et al, BJGP, 2008)
- Brief advice from health professionals
  - 2-3% of smokers become long term abstainers (Srivastava et al, *BMJ* 2006, **332**;1324-1326)

So what does work?

Supporting change in diet and physical activity behaviour for adults at risk of type 2 diabetes: A systematic review of reviews

Colin Greaves, Kate Sheppard, Charles Abraham, Wendy Hardeman, Michael Roden, IMAGE Study Group, Peter Schwarz

Greaves et al. *BMC Public Health* 2011 (open access)

Aims of review

To identify intervention components which are associated with **a)** increased physical activity **b)** dietary change in populations at risk of type 2 diabetes (including overweight /obesity)

Behavioural targets

Interventions which promote **PA as well as dietary change** produce greater weight loss than those which promote diet change only at up to 24 mths	1+

Behaviour change techniques

Adding **social support** (usually family) increases weight loss at 12 months (+3Kg)	1+
The planned use of **established behaviour change techniques** (e.g. relapse prevention, goal setting) significantly increases weight loss (+ 4.5 Kg) at 6 months	1+

Behaviour change techniques

Prompting self-monitoring alongside other **self-regulation** or 'learning from experience' techniques doubled effect size* **Goal-setting, self-monitoring, review of progress, problem-solving /relapse management, review of goals**	2+

* Both diet & physical activity

Behaviour change techniques

Motivational interviewing is effective for short-term weight reduction (<= 6 mths)	1++
Using **pedometers** to promote walking produce modest weight loss and moderate increases in PA (<= 12 mths)	1+

Intensity

A **greater frequency** or number of meetings was associated with greater effectiveness in dietary and /or physical activity interventions at up to 15 months	2++

SUMMARY: WHAT WORKS FOR WEIGHT LOSS?

1. Target diet and PA
2. Use established behaviour change techniques
3. Engage social support (esp. family)
4. Maximise contact time or frequency /no of contacts
5. Use self-regulation techniques (Goal setting; Self-monitoring; Feedback on performance; Review of goals)
6. Exploring reasons for change and confidence about change (e.g. using motivational interviewing)

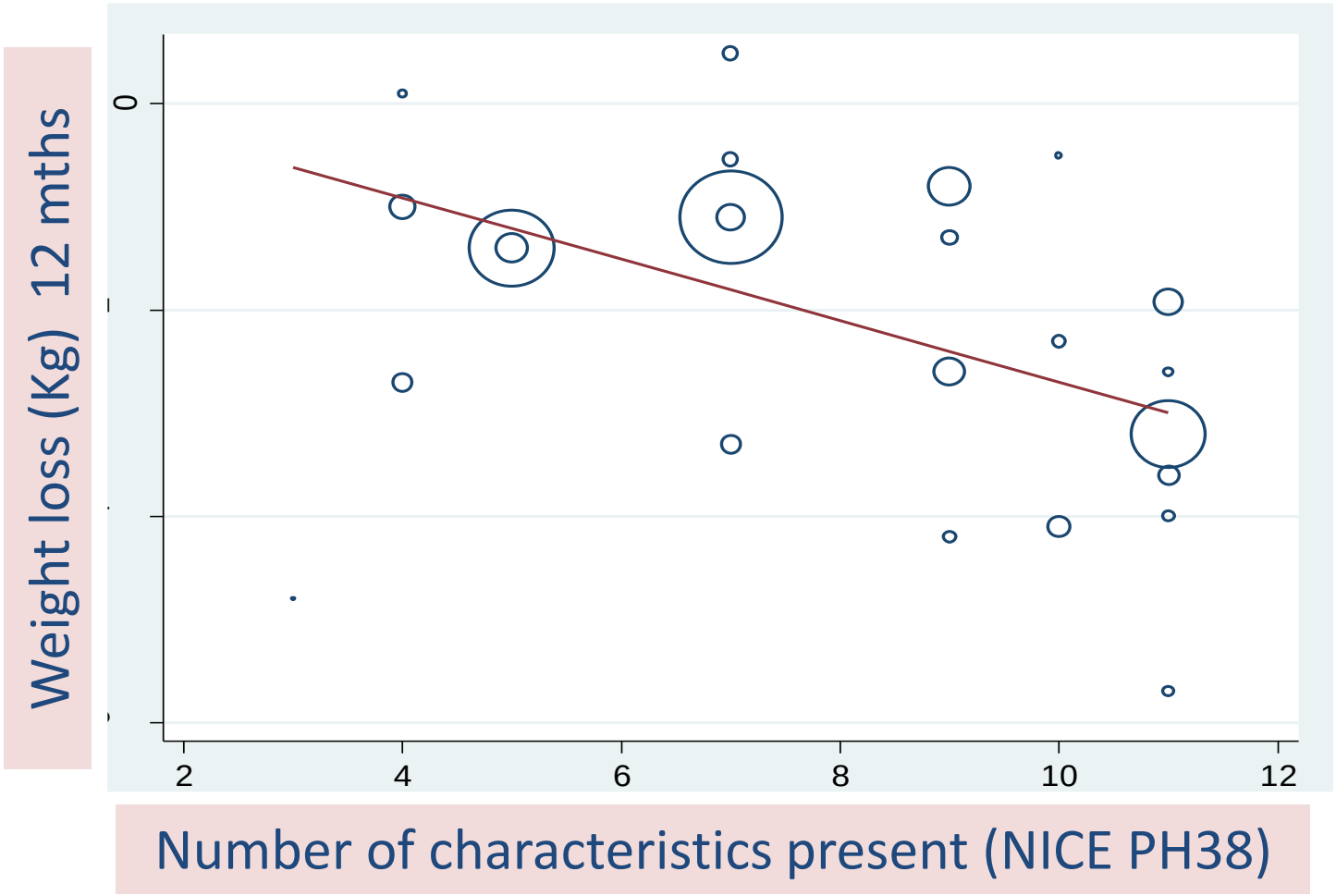
1. PaulWeber et al., 2010 (IMAGE guideline)

NICE GUIDANCE FOR DIABETES PREVENTION (PH38)

All the above, plus …

7. Use a group size of 10-15
8. Ensure programmes adopt a person-centred, **individually tailored**, empathy-building approach
9. Allow time between sessions, spreading them over a period of 9-18 months
10. Provide information to raise awareness of the benefits of and types of lifestyle changes needed
11. Gradual building of confidence (self-efficacy) by setting achievable and sustainable goals and graded progression

How much does it matter?

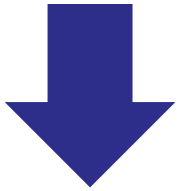


0.3 Kg extra weight loss per recommendation implemented

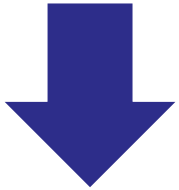
Dunkley et al. *Diabetes Care* 2014

NICE National Institute for Health and Care Excellence

- Diabetes prevention PH38 (2012)



- Behaviour change PH49 (2013)



- Managing overweight PH53 (2014)

Is delivery quality important?

- YES
- No evidence (but do we need it?)

The importance of delivery (and training)

1 trainer

100 trainees

10,000 patients

Invest Here!!

Who can deliver these techniques /how easy is it?

Quality of delivery following 2 days of training on behaviour change techniques

Quality checking of recordings of ~50 sessions across 3 studies using nurses and non-NHS lifestyle coaches*

- Providers use behaviour change techniques well although often miss opportunities
- Some excellent (around 40-50%), some don't get it at all (~30%). Most could benefit from further training

*MESH, NDPS, Waste the Waist

How can we improve delivery?

- More intensive training (typical 2 day)
- Formative feedback: Trainer and trainee listen to consultation recordings and discuss
- Involves more resource, but could be worth it?

Can we do it cheaper (or more cost-effectively)?

NB: these are two different questions!

Cost Effectiveness

Value for money (NICE CG 189, 2014)

- A programme costing £100 or less where 1 kg of weight is lost and *maintained for life* will be cost-effective
- For programmes costing £500 per head, it is estimated that an average 2 kg weight differential must be maintained for life to achieve cost-effectiveness

Value for money: SCHaRR /SPHR

- SCHaRR have developed a health economic model of diabetes screening and prevention which allows input and comparison of multiple scenarios
- Diabetes prevention programmes should save £15 to £23 per person, depending on subgroup targeted
- Screening and intervening with high risk individuals generated the greatest 10-year and lifetime benefits
- Soft drinks taxation and retail policy are more effective at distributing benefits to the least deprived socioeconomic groups

Breeze et al, *in preparation* 2015

Can we do it cheaper?

- Particularly important in this time of financial constraint.
- Most dietitians have a limited amount of time to see patients – 20-30 minutes for a new patient and 10 minutes for a follow up
- NICE guidelines suggest you need 16 hours of contact time over 18 months

- So how to square this circle?

Discussion

- How to minimise cost of delivery?
  - engage **social support**
  - planned use of **established behaviour change techniques**
  - **Goal-setting, self-monitoring, review of progress, problem-solving /relapse management, review of goals**
  - **Motivational interviewing /individual tailoring**
  - promote **PA as well as diet change**
  - **Maximise frequency /intensity of contact**

Possible ideas

- See people in groups
  - 1 hour of dietitian time x ten 90-min sessions = 15 hours.
  - For a group of 15 people, this is 1 hour of dietitian time per patient
- Dietitians support lower-cost staff to deliver
- Expert programme design (NICE-recommended techniques) to maximise effectiveness
- Ensure high quality training to maximise bang for your bucks (costs more, but more cost-effective?)

Other ideas

- Sign up to help deliver the National Diabetes Prevention Programme
  - Funded proper treatment for people with pre-diabetes
  - Will free up other resources to work on other population
  - Some interventions also include people with T2D
- Supplement with apps, mobile technology
- Work with voluntary sector
- Social Impact Bonds?

Ongoing research

- Maintenance research
  - Techniques available online in 2017
- Digital media interventions
- What makes groups work?

- Managing impulses /cravings

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SUMMARY

- We CAN change diet and physical activity
- Good design is important - intervention content and delivery quality mediate effectiveness
- We need innovative ways to drive down costs without compromising effectiveness
- We need better methods for supporting long term maintenance

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NO DIET - NO BATHS
NO EXERCISE!
NO DANGER
FAT
the ENEMY that is shortening Your Life
BANISHED!
HOW?
with
SANITIZED
TAPE
WORMS
Jar Packed
"FRIENDS FOR A FAIR FORM"
Easy To Swallow!
No Ill Effects!
Prepared By
W. T.
BRIDGE, Chemist
New York
SEND NO MONEY
PARTICULARS
MAILED
FREE
CASWELL'S
NATIONAL CREST
MUSTARD
CLUFF
OLIVE OIL
LESLIE
ALPA
PEOPLES
GLOBE MILLS
GLOBE AI
M & L
PRUNES
ROYAL MACARONI
PURITY
TOMATOES

Thank you!