

# What constitutes a best buy?



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Oxford Health Alliance 2008



The Oxford Centre  
for Diabetes, Endocrinology and Metabolism

# Best buys

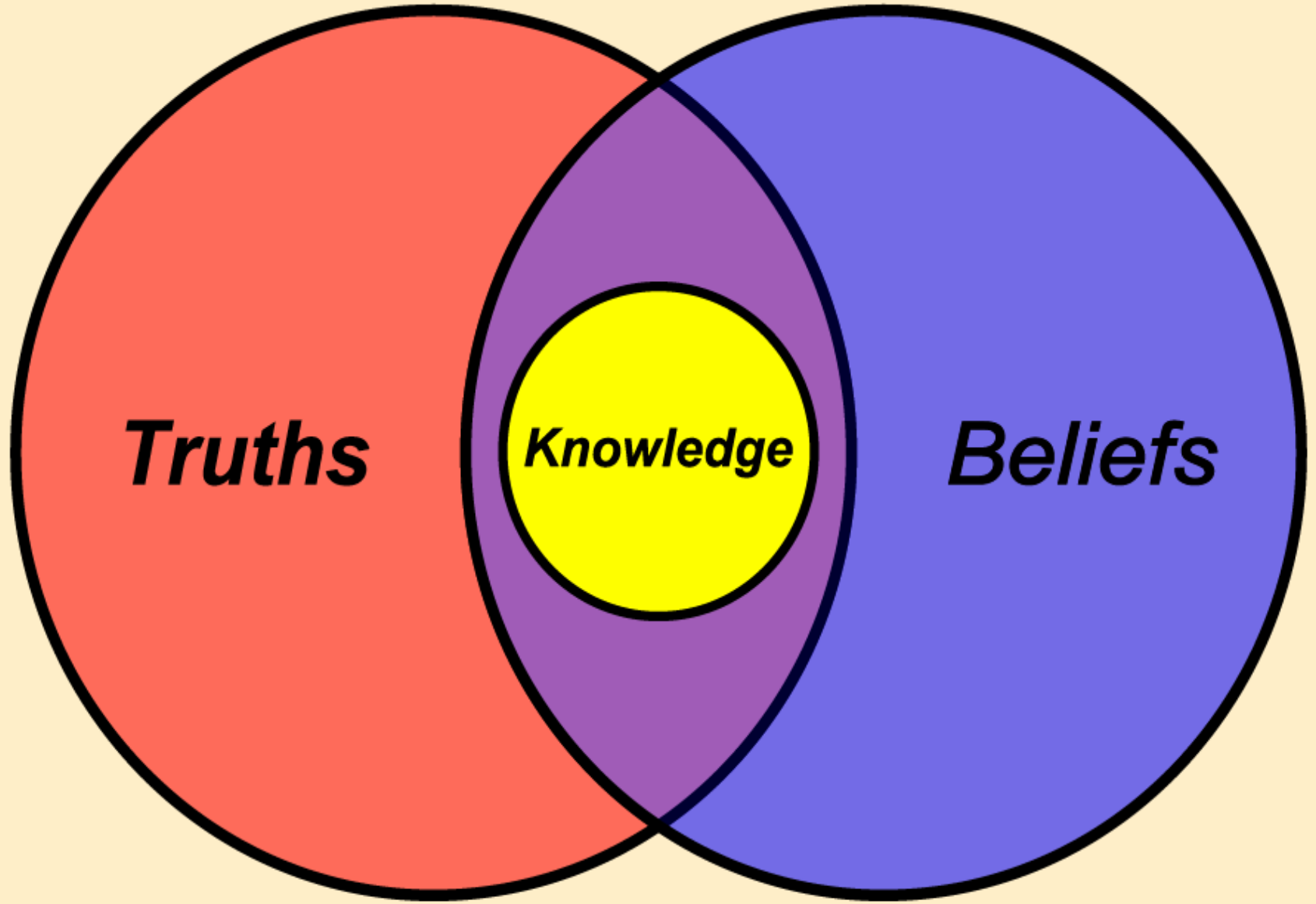
- Cost and effectiveness
- Easy to assess with dishwashers
- Difficult to assess in complex situations



# Epistemology

is a branch of philosophy concerned with the nature and scope of knowledge

"What is knowledge?", "How is knowledge acquired?", and "What do people know?"



*Truths*

*Knowledge*

*Beliefs*

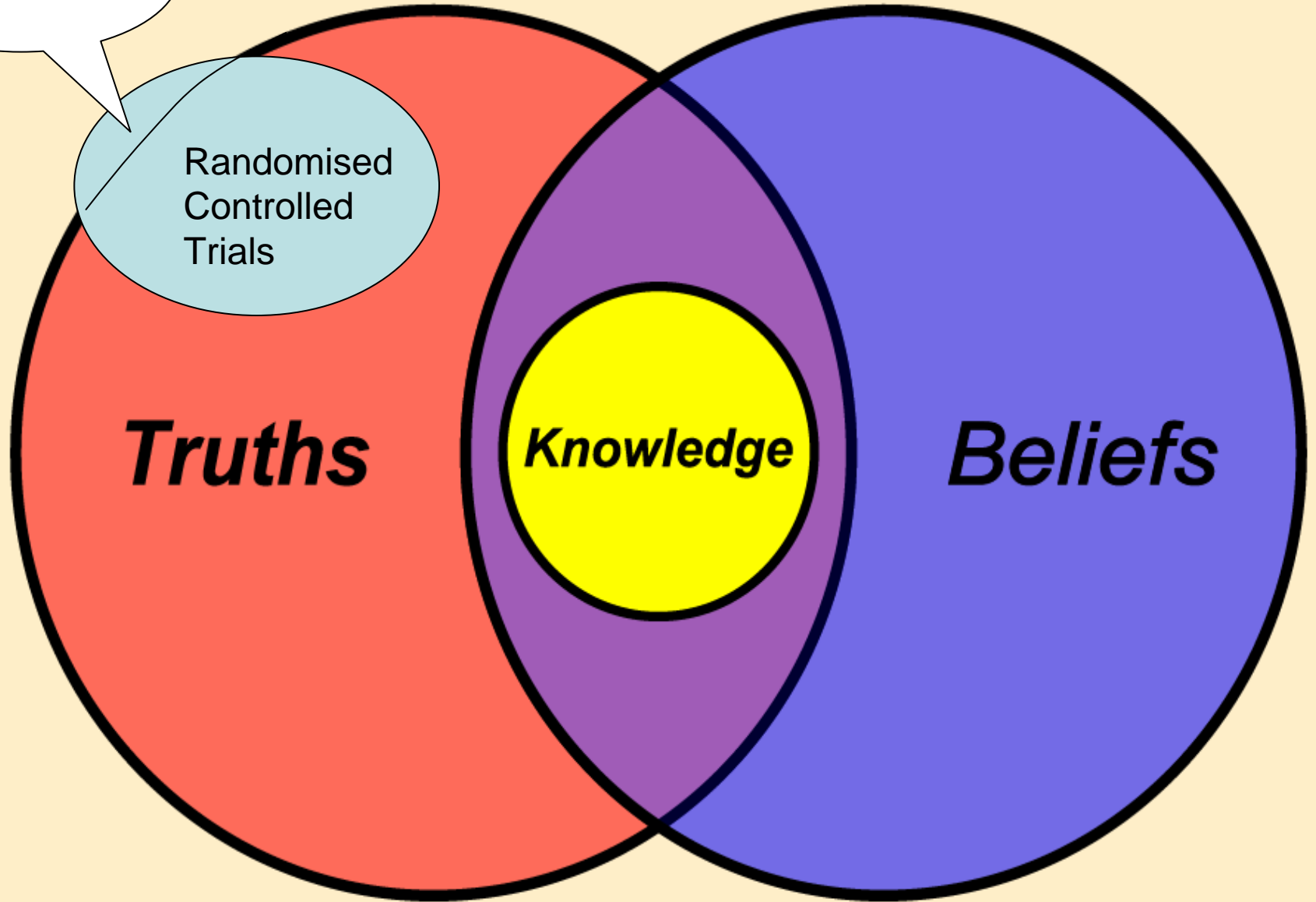
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Randomised  
Controlled  
Trials

*Truths*

*Knowledge*

*Beliefs*



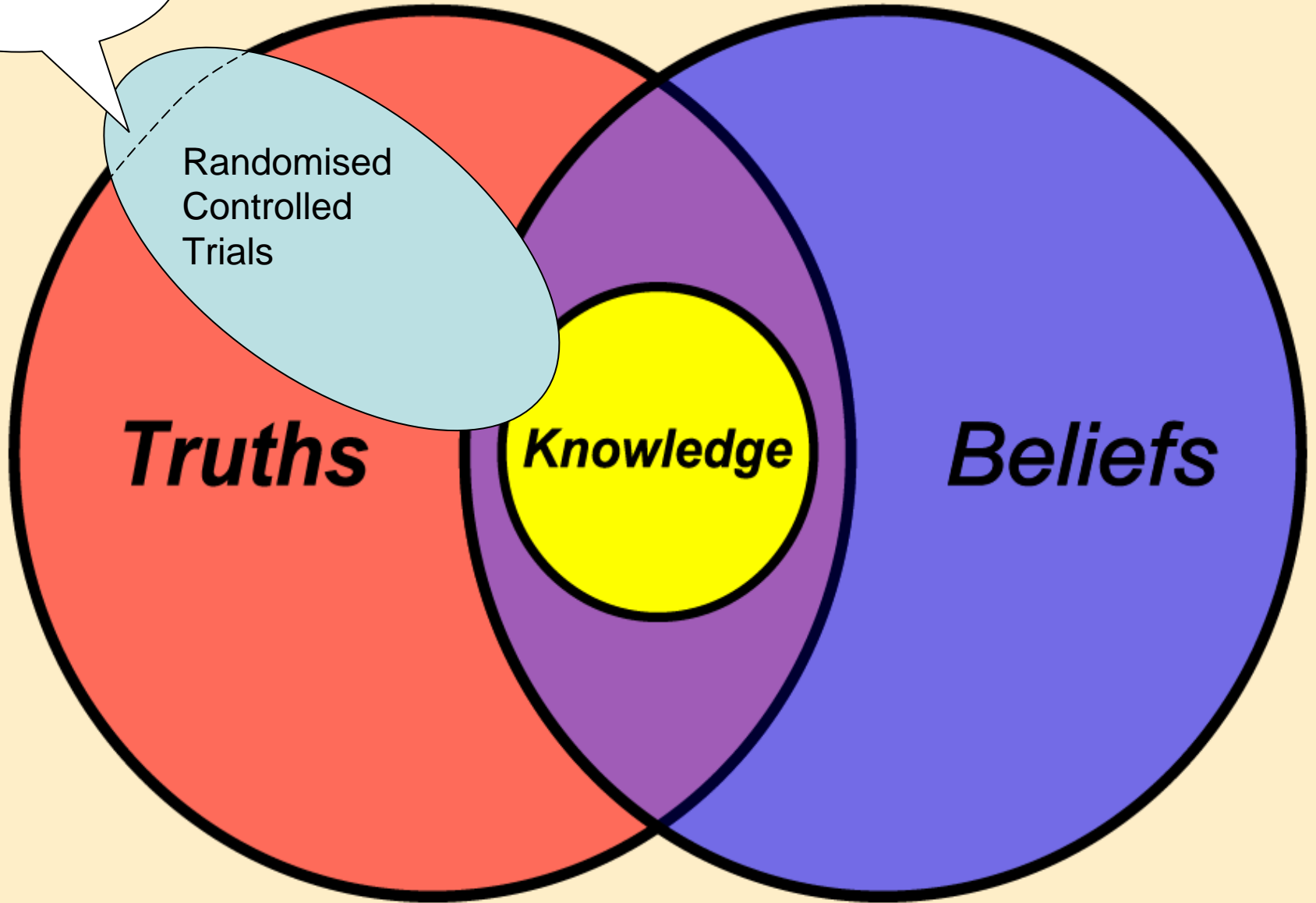
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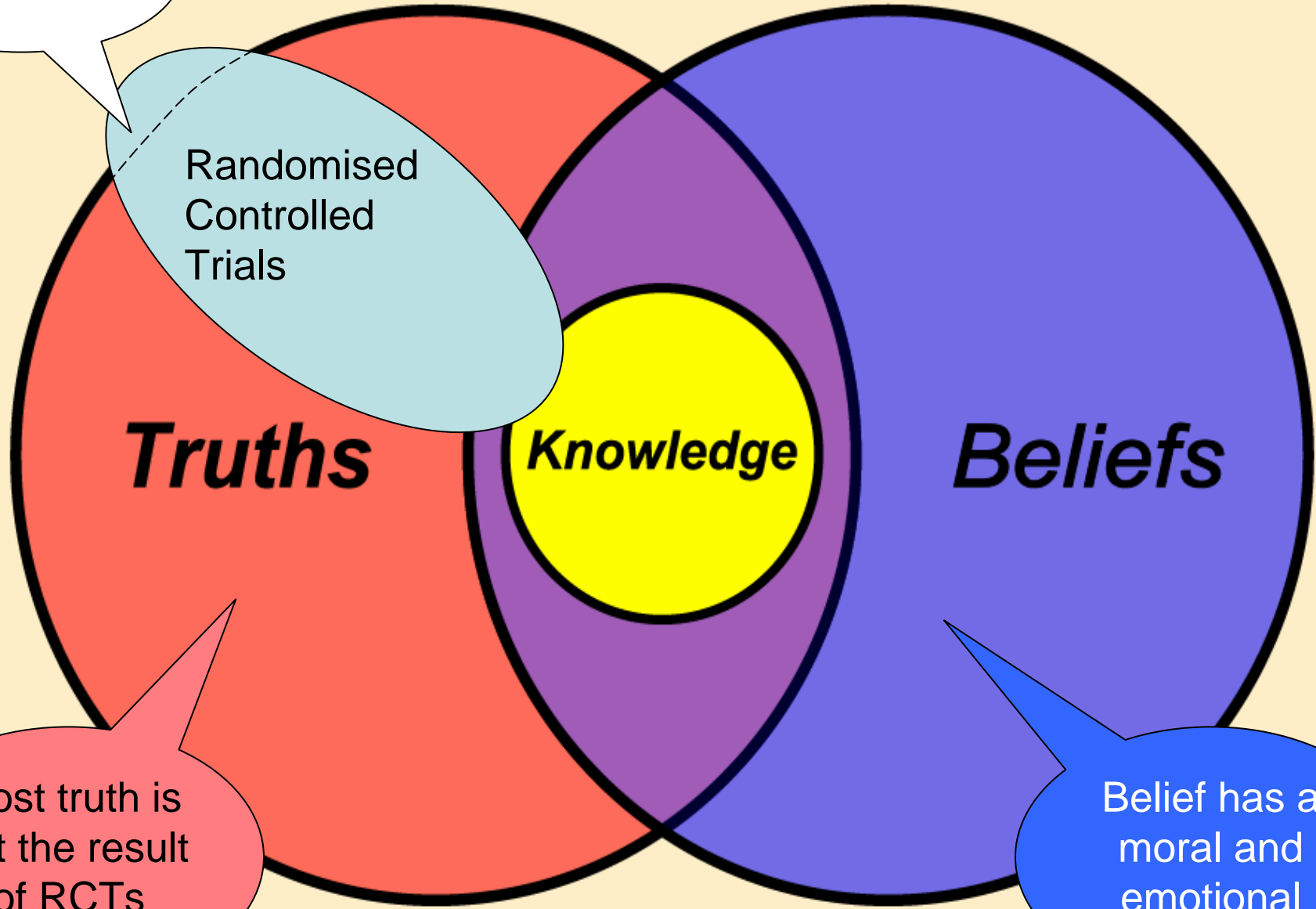
***Truths***

***Knowledge***

***Beliefs***

Most truth is  
not the result  
of RCTs

Belief has a  
moral and  
emotional  
basis.



# Epistemology of smoking



- Richard Doll gave up smoking early in his study. He believed lung cancer was caused by smoking.
- The facts were that on average smoking took ten years off a smoker's life, or it doubled mortality.
- If we believe this fact to be generalisable we have new knowledge.
- This was not a randomised controlled trial.

# Cost-effectiveness approach

## Problem: cost

- In drug therapies cost is known
- In multiple and complex intervention cost is often just estimated
  - delivery of intervention cost, but this may be indirect (e.g. getting others to do something)
  - discount of losses (e.g. cost of diabetes not incurred)
- Requires a cost value to be attributed to a life or a QALY

# Cost-effectiveness approach

- Problem: effectiveness
  - In drug therapies outcomes are morbidity and mortality or biochemical and other surrogates
  - In successful prevention nothing happens!
  - So effectiveness has to be judged against what might have happened.
  - Comparative effectiveness is very difficult to estimate in complex interventions as the interventions cannot easily be circumscribed.

# Evidence for intervention

- WHO/FAO Diet, Nutrition and the Prevention of Chronic diseases (TRS-916, 2003)
- WHO Global Strategy for Diet and Physical Activity (2004)
- WHO Preventing Chronic Disease: A Vital Investment (2005)
- IDF Diabetes Atlas (3rd edition, 2006)
- World Bank Disease Control Priorities in Developing Countries (2006)
- OxHA Chronic disease: an economic perspective (2006)
- World Bank The public policy challenge of chronic non-communicable diseases (2007)
- WCRF Diet, Nutrition and Cancer Prevention (Nov 2007)

Denise Stevens, Karen Seigel, Fiona Wong

BMJ 2002

BMJ 2005

5 October 2002

11 June 2005

BMJ

BMJ

3251725-724 No 7367 5 OCTOBER 2002 Clinical research ISSN 0959-8138

3201339-1398 No 7304 11 JUNE 2005 Clinical research ISSN 0959-8138



# Obesity: an epidemic without treatment

*The need for prevention is urgent* p728

- Screening for prostate cancer may not work p725, p737, p740
- Blood transfusions may kill the critically ill p735
- Flexible, intensive treatment in diabetes p746
- Decision time on the consultants' contract p729
- Should deaf parents be able to choose deaf children? p771

[bmj.com](http://bmj.com)

# Move a little more, eat a little less

*Both sides of the energy equation must be tackled* p1339, p1354, p1357, p1360

- COX 2 inhibitors, traditional NSAIDs, and heart disease p1342, p1366, p1370
- No change in average waiting list times p1352
- Pregnancy and breast cancer p1375
- Self regulation must be made to work p1385
- Evidence based boy racers p1397

[bmj.com](http://bmj.com)

# Community intervention approaches

Convincing/probable decrease/increase in risk

Dietary and lifestyle factors	CVD	Type 2 diabetes	Cancer	Obesity	Metabolic syndrome
Avoid smoking	CDR ↓	CDR ↓	CDR ↓	CIR ↑	
Pursue physical activity	CDR ↓	CDR ↓	CDR ↓	CDR ↓	CDR ↓
Avoid overweight	CDR ↓	CDR ↓	CDR ↓		CDR ↓
<i>Diet</i>					
Consume healthy types of fats	CDR ↓	CDR ↓			PDR ↓
Eat plenty of fruits and vegetables	CDR ↓		PDR ↓	PDR ↓	
Replace refined grains with whole grains	PDR ↓	PDR ↓		CDR ↓	CDR ↓
Limit sugar intake	PDR ↓	PDR ↓		PDR ↓	CDR ↓
Limit excessive calories				PDR ↓	CDR ↓
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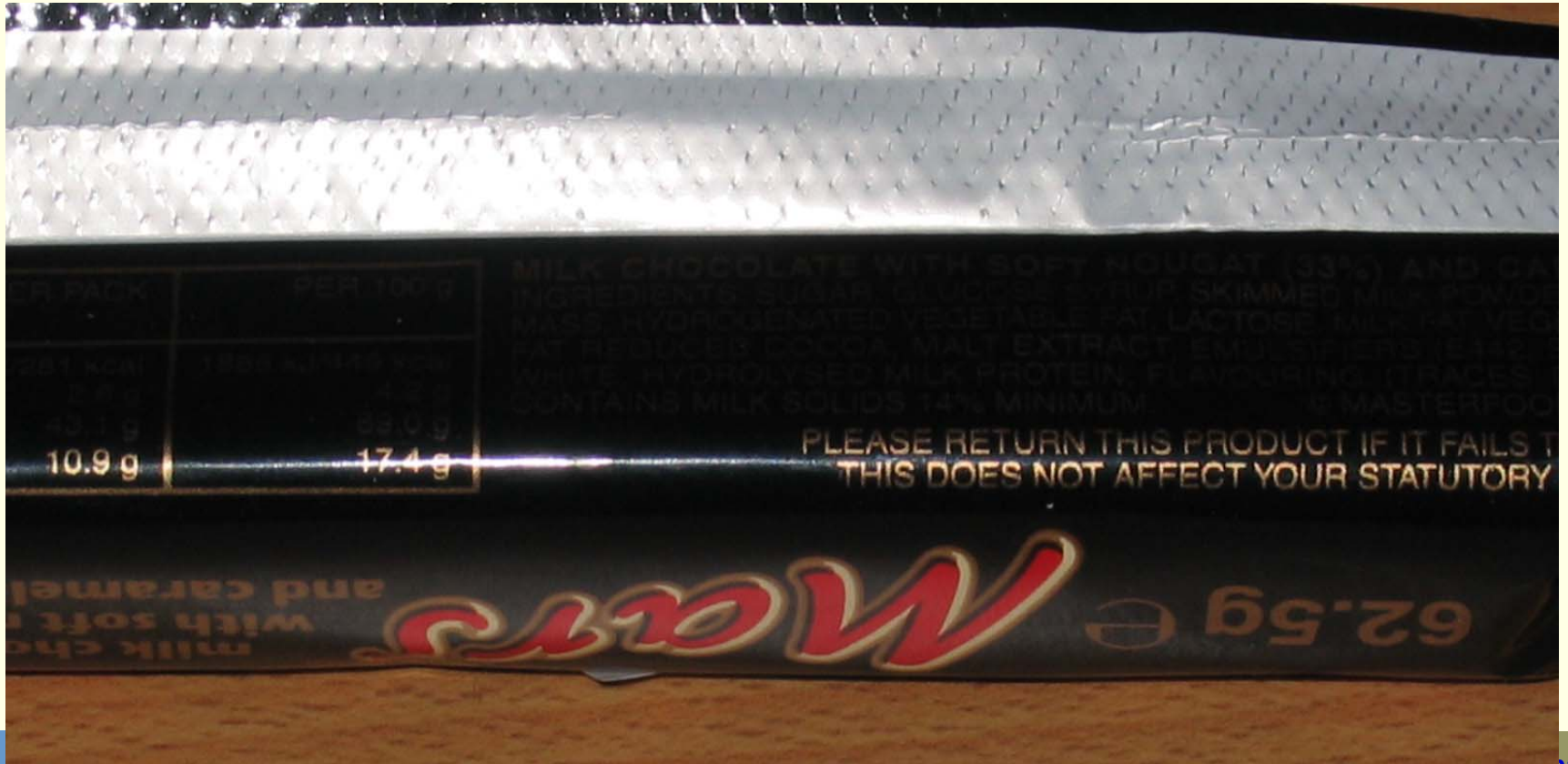
# Lessons from tobacco: reducing youth exposure

Medical health advocates	Warnings on packets
Behaviour scientists	“Smoking kills”
Regulators	Restrict sales & machines
Edgy anti-tobacco lobby	“Tobacco companies lie”
Socially conscious	Second hand smoke
Safety conscious	Smoke bans in transport
Governments	Smoke bans in public places
Treasuries	Taxation on cigarettes
Law enforcers	Prevent smuggling
Litigious	Prosecute tobacco companies

# Cost-time-effectiveness

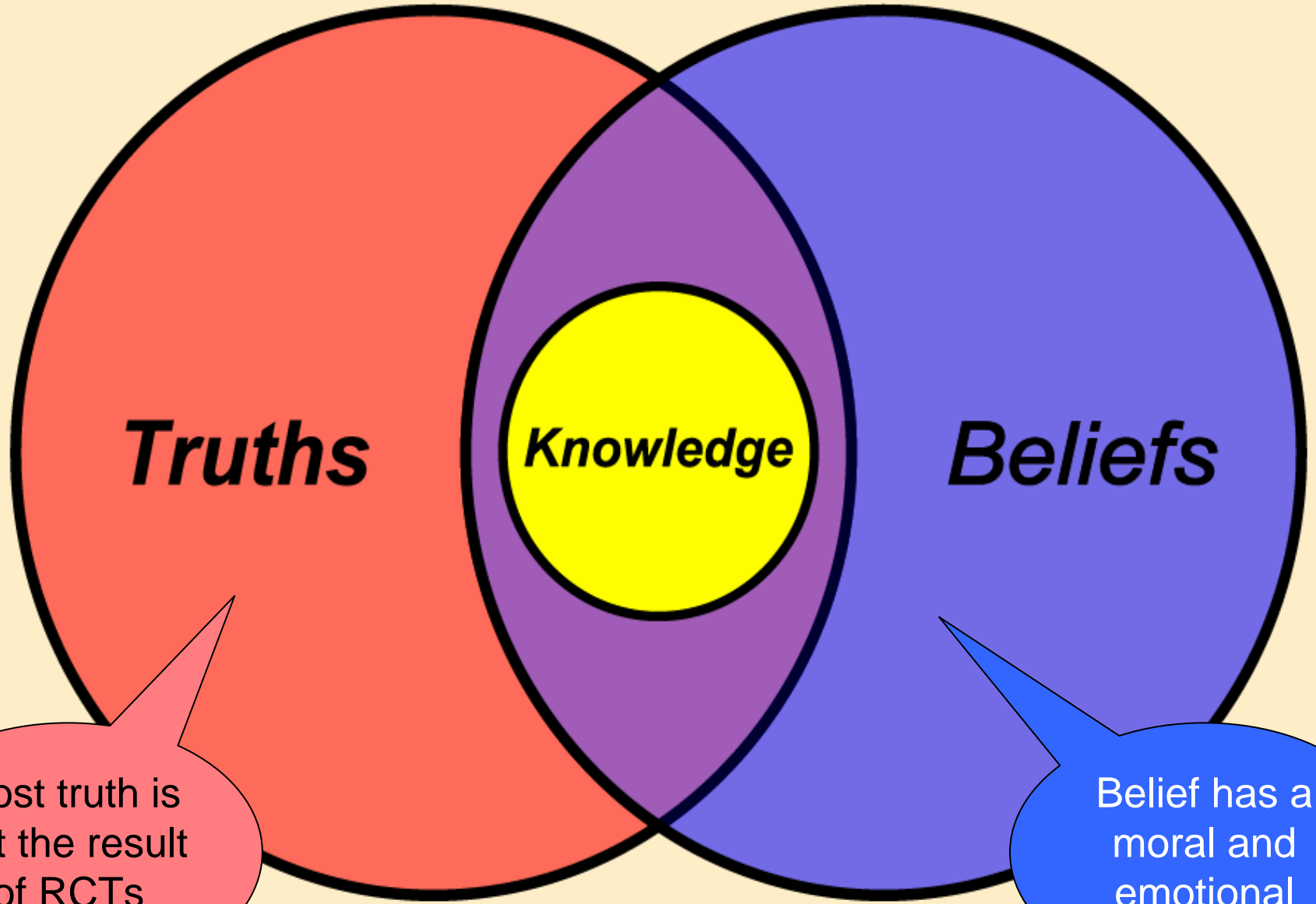
- Some interventions can happen quickly and cheaply; food labelling legislation can be fast and cheap
- Costs almost nothing for a government
- Would cost industry something
- Would require a powerful food lobby to be convinced or over-ruled.







**One Mars bar is 1/8 of an average person's daily calorie requirement**



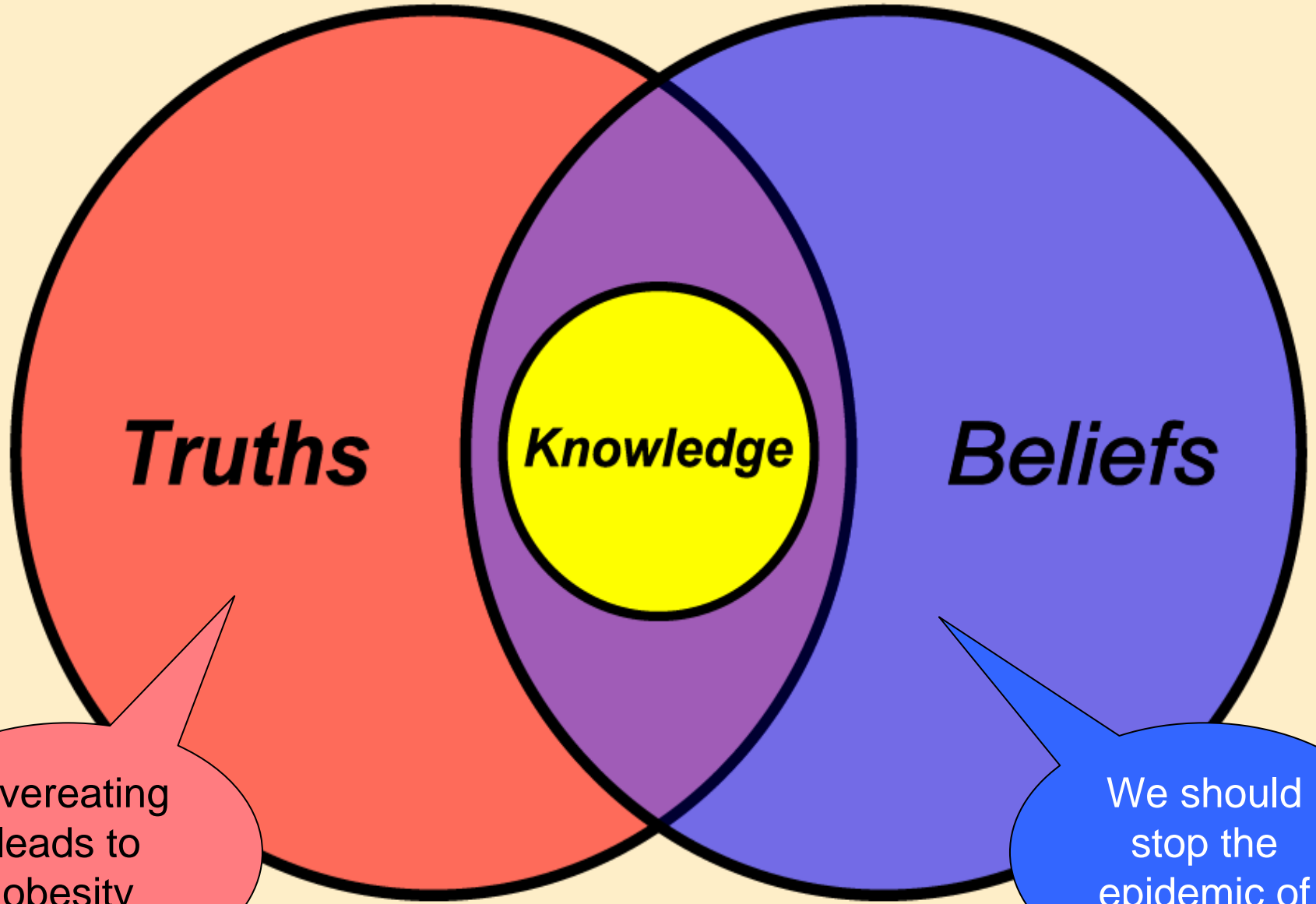
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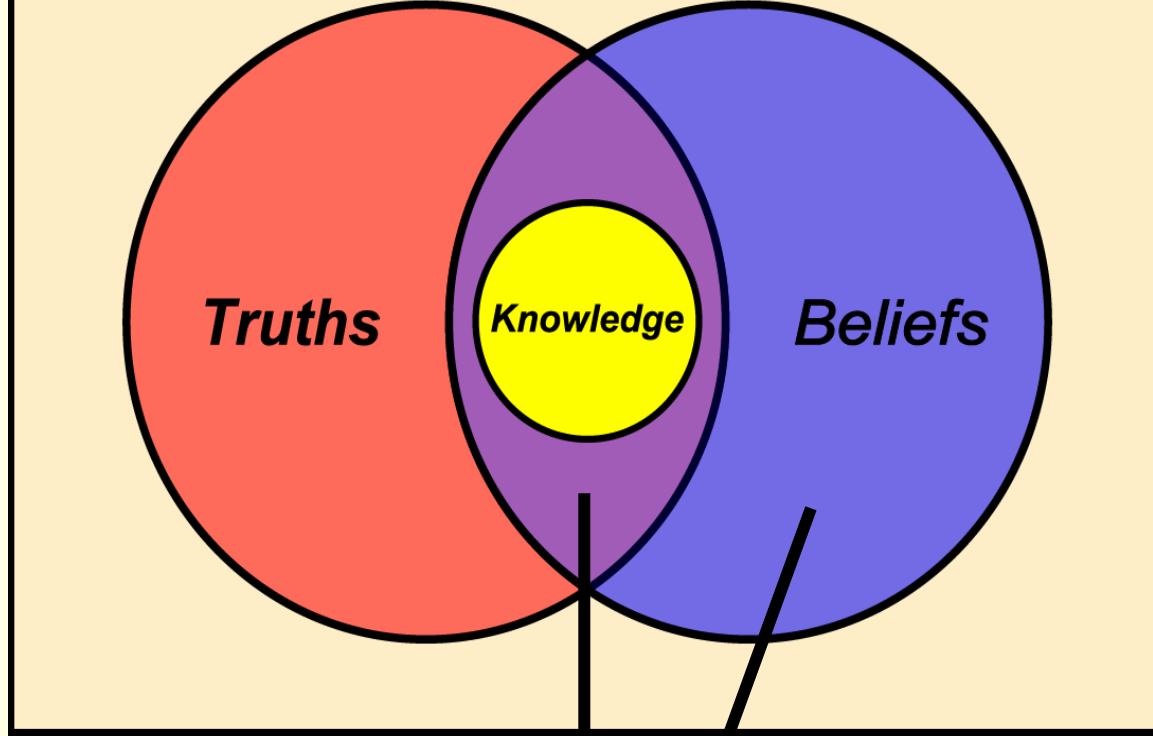
Most truth is not the result of RCTs

Belief has a moral and emotional basis.



Overeating  
leads to  
obesity

We should  
stop the  
epidemic of  
obesity



**Pragmatism**  
**Peer pressure**  
**Costs (£\$)/time**  
**Allies**  
**Energy**  
**Motivation**

**Opposition**  
**Entrenched behaviour**  
**Physical constraints**  
**Subversion**

**Actions**

# Complexity is going to be inherent



## FEATURE

# Grand challenges in chronic non-communicable diseases

The top 20 policy and research priorities for conditions such as diabetes, stroke and heart disease.

**Abdallah S. Daar<sup>1</sup>, Peter A. Singer<sup>1</sup>, Deepa Leah Persad<sup>1</sup>, Stig K. Prammings<sup>2</sup>, David R. Matthews<sup>3</sup>, Robert Beaglehole<sup>4</sup>, Alan Bernstein<sup>5</sup>, Leszek K. Borysiewicz<sup>6</sup>, Stephen Colagiuri<sup>7</sup>, Nirmal Ganguly<sup>8</sup>, Roger I. Glass<sup>9</sup>, Diane T. Finegood<sup>10</sup>, Jeffrey Koplan<sup>11</sup>, Elizabeth G. Nabel<sup>12</sup>, George Sarna<sup>6</sup>, Nizal Sarrafzadegan<sup>13</sup>, Richard Smith<sup>14</sup>, Derek Yach<sup>15</sup> and John Bell<sup>16</sup>**

Chronic non-communicable diseases (CNCDs) are reaching epidemic proportions worldwide<sup>1-3</sup>. These diseases — which include cardiovascular conditions (mainly heart disease and stroke), some cancers, chronic respiratory conditions and type 2 diabetes — affect people of all ages, nationalities and classes.

The conditions cause the greatest global share of death and disability, accounting for around 60% of all deaths worldwide. Some 80% of chronic-disease deaths occur in low- and middle-income countries. They account for 44% of premature deaths worldwide. The number of deaths from these diseases



Poor diet and smoking are two factors that contribute to the millions of preventable deaths that occur each year.

R. CANDIA/AP

P. PARKS/AFP/GETTY

# And finally

- Value might be measured in the effect, rather than in the process
- The effect should be enduring rather than transient
- Unanimity of action and voice is the most cost effective process

- [At this point, Prof. Matthews played an advertisement from the UK that demonstrates the impact of unanimity:

<http://uk.youtube.com/watch?v=iewSJ6nTEv4> ]

What constitutes a Good buy?

if you have been...

...thank you for listening

Good bye!