

A young child in a blue school uniform is looking at a book with their hand to their chin, appearing thoughtful. The background is slightly blurred, showing a white shirt and a white collar.

# Informed Health Choices

*Learning resources for  
vaccinating children against  
unreliable claims and uninformed choices*

**Camilla Stoltenberg, NIPH**



# The problem

1. Unreliable health claims
2. Inability to assess claims
3. Uninformed health choices



What do people  
need to learn?



# That's a claim!

## Guides for students and teachers to think critically about health claims

**BEWARE**

*Faulty logic*

**"100% effective!"**

Most claims that a treatment will make you 100% better or that works for everyone turn out to be wrong.

**BEWARE**

*Faulty logic*

**"100% safe!"**

People often think about the benefits of treatments and ignore possible harms. But few treatments that work are 100% safe.

**BEWARE**

*Faulty logic*

**"100% certain!"**

We can rarely, if ever, be 100% certain about the effects of treatments.



**BEWARE**  
of claims



**THINK 'FAIR'**  
about the evidence



**TAKE CARE**  
when you decide

**BEWARE**

*Faulty logic*

**"Treatment needed!"**

People who are sick often get better without a treatment. Sometimes a treatment does not help and may even make things worse.

**BEWARE**

*Faulty logic*

**"No comparison needed!"**

Unless a treatment is compared to something else, it is not possible to know what would happen without it.

**BEWARE**

*Faulty logic*

**"It works like this!"**

Treatments that should work in theory often do not work in practice.

**THINK 'FAIR'**

*Unfair comparison*

**"Dissimilar comparison groups"**

Look out for treatment comparisons where the comparison groups were not alike.

**THINK 'FAIR'**

*Unfair comparison*

**"Dissimilar care"**

Look out for treatment comparisons where the comparison groups were cared for differently.

**THINK 'FAIR'**

*Unfair comparison*

**"Dissimilar expectations"**

Look out for treatment comparisons where people knew which treatment they received and knowing that could have changed how they felt or behaved.

**THINK 'FAIR'**

*Unfair comparison*

**"Dissimilar measurement"**

Look out for treatment comparisons where what happened was measured differently in the comparison groups.

**THINK 'FAIR'**

*Unfair comparison*

**"Lots of missing people"**

Look out for treatment comparisons where what happened was not measured in lots of people.

**TAKE CARE**

*Advantages and disadvantages*

**"Are the advantages better than the disadvantages?"**

Always ask yourself whether the possible advantages of a treatment are better than the disadvantages of the treatment.

**BEWARE**

*Faulty logic*

**"A study shows!"**

If one treatment comparison (study) shows that people who got one treatment did better or worse than people who got something else, it does not mean that is the final answer.

**BEWARE**

*Faulty logic*

**"Associated with!"**

Just because using a treatment is linked (associated) with people getting better or worse, that doesn't mean that the treatment made them better or worse.

**BEWARE**

*Faulty logic*

**"Old is better!"**

Just because a treatment has been used for a long time or by many people, it does not mean that it helps or that it is safe.

**BEWARE**

*Faulty logic*

**"New is better!"**

Just because a treatment is new, expensive, or brand-named does not mean that it is better or safer than other treatments.

**THINK 'FAIR'**

*Untrustworthy summary*

**"Uncareful summary"**

Look out for summaries of studies comparing treatments that were not done carefully.

**THINK 'FAIR'**

*Tricky description*

**"Just words"**

Look out for treatment effects that are described just using words.

**THINK 'FAIR'**

*Tricky description*

**"Few people or events"**

Look out for treatment effects that are based on small studies with few people.

**THINK 'FAIR'**

*Tricky description*

**"No evidence"**

Look out for a "lack of evidence" being described as evidence of "no difference".

**TAKE CARE**

*Advantages and disadvantages*

**"How sure are you?"**

Always ask yourself how sure you are that the possible advantages of a treatment are better than the possible disadvantages of the treatment.

**BEWARE**

*Faulty logic*

**"More is better!"**

Taking more of a treatment often increases harms without increasing how much it helps.

**BEWARE**

*Trust alone*

**"As advertised!"**

Someone with an interest in getting people to use a treatment, such as making money, may exaggerate benefits and ignore possible harmful effects.

**BEWARE**

*Trust alone*

**"It worked for me!"**

If someone got better after using a treatment it does not necessarily mean that the treatment made them better.

**BEWARE**

*Trust alone*

**"Recommended by experts!"**

Just because a treatment claim is made by an expert or authority, you cannot be sure that it is trustworthy.

### BEWARE of claims that have a bad basis

Many claims about the effects of treatments are not trustworthy. Often this is because the reason (the basis) for the claim is not trustworthy. You should be careful when you hear claims that are:

- Too good to be true
- Based on faulty logic
- Based on trust alone

### THINK 'FAIR'- and check the evidence from treatment comparisons

Evidence from comparisons of treatments can fool you. You should think carefully about the evidence that is used to support claims about the effects of treatments. Look out for:

- Unfair comparisons of treatments
- Uncareful summaries of comparisons
- How treatment effects are described

### TAKE CARE - and make good choices

Good treatment choices depend on thinking carefully about what to do. Think carefully about:

- What your problem is and what your options are
- Whether the evidence is relevant to your problem and options
- Whether the advantages are better than the disadvantages

**TAKE CARE**

*Right problem and options*

**"What is your problem and what are your options?"**

Make sure that you understand what the health problem is that you are thinking about treating, and that you know what your choices are works for everyone turn out to be wrong.

**TAKE CARE**

*Relevant evidence*

**"What outcomes matter to you?"**

Always ask yourself whether the treatment outcomes that are important to you have been checked in fair comparisons.

**TAKE CARE**

*Relevant evidence*

**"Are the people (or animals) very different?"**

Always ask yourself if the treatment comparisons included only people (or animals) that are very different from you.

### Introduction

What do you do when you burn your finger? Some people say "Cow poo will cure your burn." They say that because when they had a burn, they used cow poo and their burn got better. That was their personal experience. But is it possible that their burn would have got better without cow poo?

There are lots of **claims** like this about what is good for our health. A claim is something someone says that can be right or wrong.

A **treatment** is something you do for your health—for example, taking a medicine, exercising, or even putting your finger in cow poo. A treatment effect is something a treatment makes happen—like making you feel better or worse, making you stronger, or curing a burn.

People make lots of claims about **treatment effects**. How can we tell which claims are right or wrong? To do this, you need to look at what supports their claim - its basis. For example, someone's personal experience is not a good basis for a claim about what is good for your health. This is because we don't know what would have happened if that person had done something else.

To know if a treatment (like putting cow poo on a burn) causes an effect (like a burn getting better), the treatment has to be **compared** to something else (like not putting cow poo on a burn). That way we can see what would happen if people did something else. Researchers compare a treatment given to people in one group with something else given to people in another group. Those comparisons provide **evidence** - facts to support a conclusion about whether a claim about treatment effects is right or wrong. For those **comparisons to be fair**, the only important difference between the groups should be the treatments they receive.

[www.thatsclaim.org](http://www.thatsclaim.org)

**BEWARE**



Trust alone

**"It worked for me!"**

If someone got better after using a treatment it does not necessarily mean that the treatment made them better.

[READ MORE](#)

**THINK 'FAIR'**



Unfair comparison

**Dissimilar comparison groups**

Look out for treatment comparisons where the comparison groups were not alike.

[READ MORE](#)

**TAKE CARE**



Advantages and disadvantages

**Are the advantages better than the disadvantages?**

Always ask yourself whether the possible advantages of a treatment are better than the disadvantages of the treatment.

[READ MORE](#)

What can we do to  
help children learn?



A health science book for primary school children

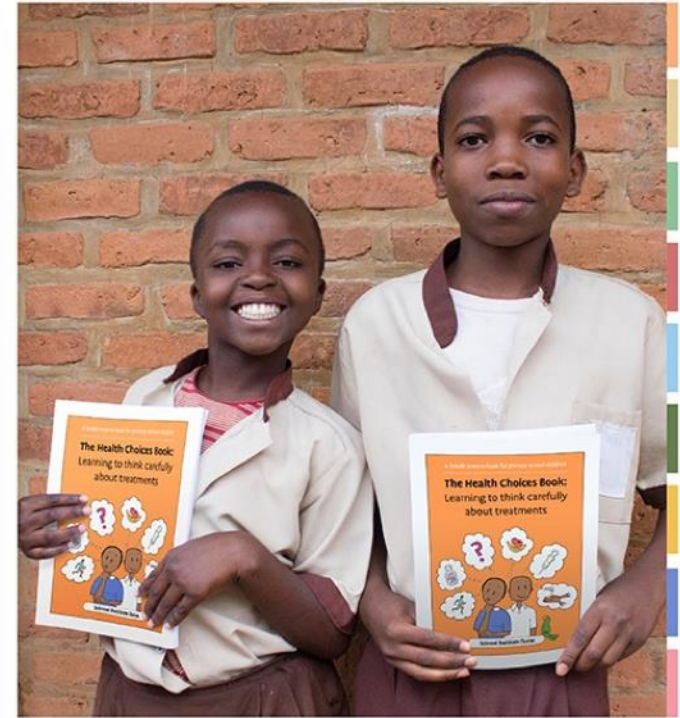
## The Health Choices Book: Learning to think carefully about treatments



This book belongs to:

## EXERCISE BOOK

### The Health Choices Book: Learning to think carefully about treatments



## TEACHERS' GUIDE for The Health Choices Book

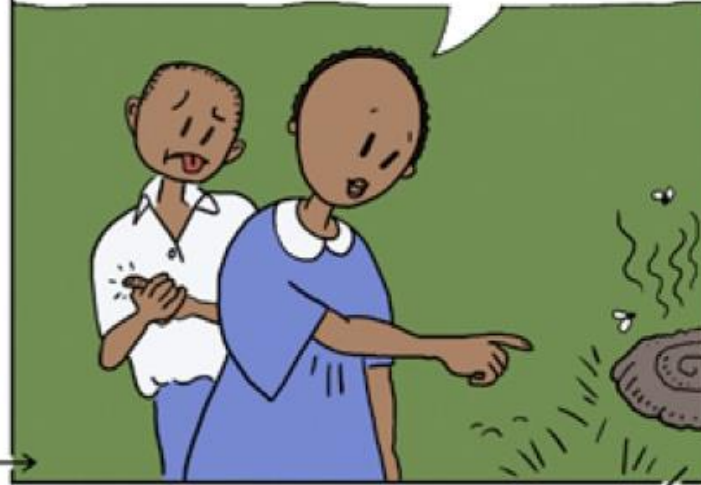
Informed Healthcare Choices



Sarah said she once put cow dung  
on her burn and her burn healed!  
So she says cow dung heals burns!

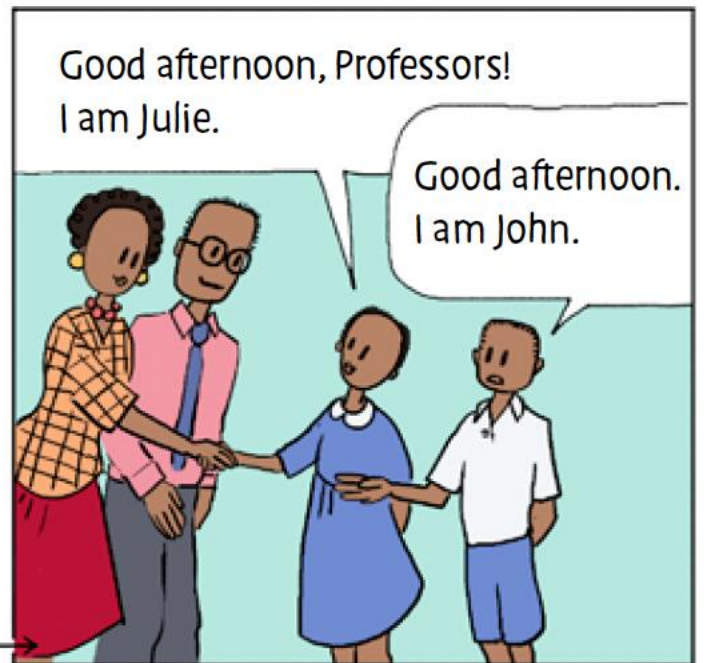
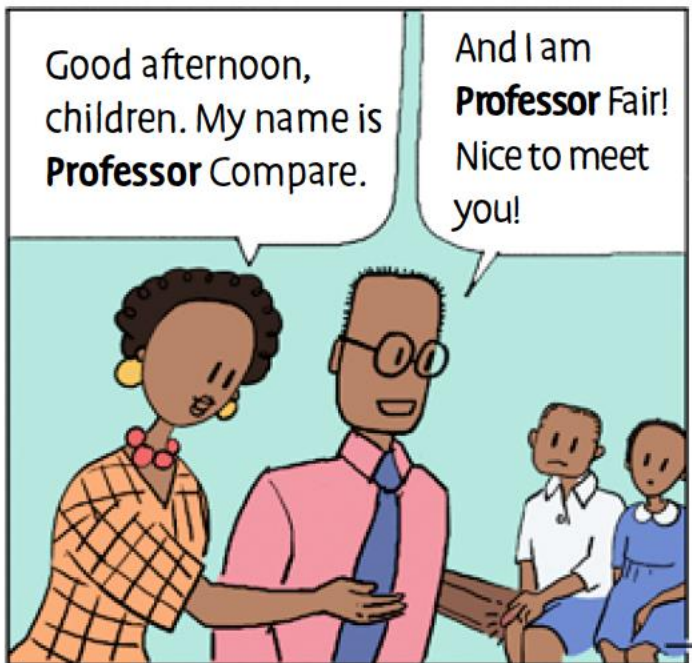


Look! There's some cow dung!  
Put some on your finger, John!

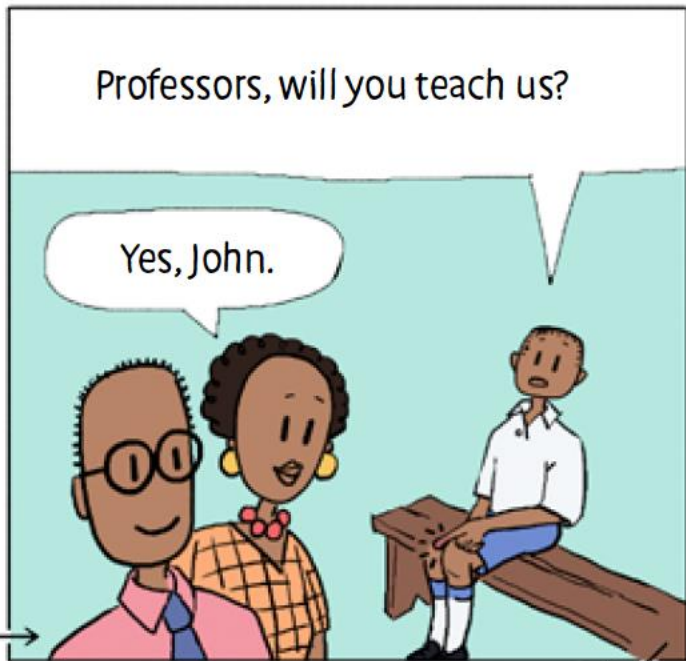
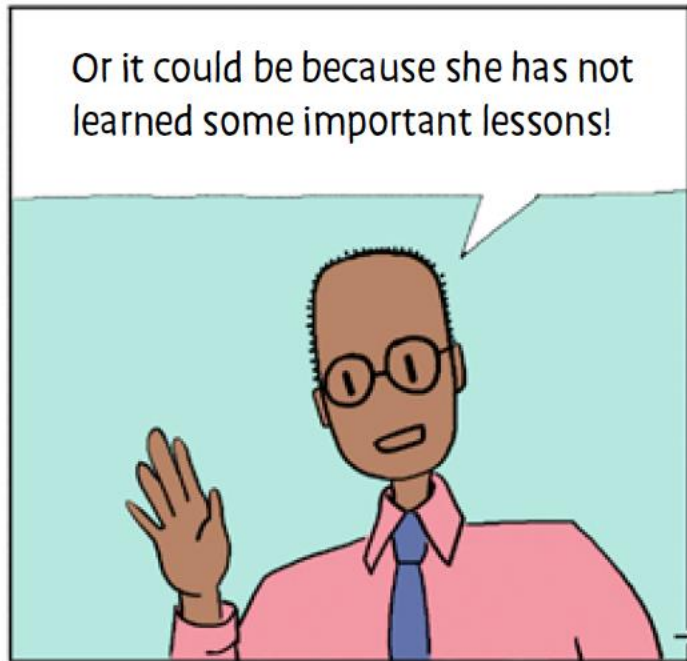
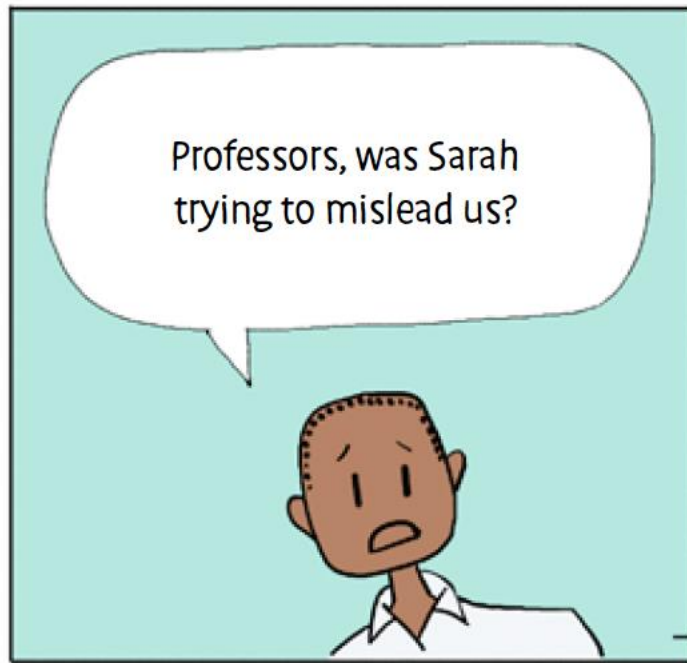


Ok...











How can we measure  
what they have learned?

Habibah has pain in her ear, and she asks her brother Hassan what to do about it. He says that once, when he had a pain like that, he rinsed his ear with hot water. The next day, his ear pain was gone. Based on his experience, he says rinsing with hot water is helpful for ear pain.



Do you agree with Hassan?

- A. Yes, because this is Hassan's experience, it is likely to be true.
- B. No, Hassan's experience is not enough to be sure.
- C. Yes, Hassan rinsed his ear with hot water, and the next day his ear pain was gone.





### Effects of the Informed Health Choices primary school intervention on the ability of children in Uganda to assess the reliability of claims about treatment effects: a cluster-randomised controlled trial



Allen Nsangi, Daniel Semakula, Andrew D Oxman, Astrid Austvoll-Dahlgren, Matt Oxman, Sarah Rosenbaum, Angela Morelli, Claire Glenton, Simon Lewin, Margaret Kasheje, Iain Chalmers, Atle Fretheim, Yunpeng Ding, Nelson K Sewankambo

#### Summary

**Background** Claims about what improves or harms our health are ubiquitous. People need to be able to assess the reliability of these claims. We aimed to evaluate an intervention designed to teach primary school children to assess claims about the effects of treatments (ie, any action intended to maintain or improve health).

**Methods** In this cluster-randomised controlled trial, we included primary schools in the central region of Uganda that taught year-5 children (aged 10–12 years). We excluded international schools, special needs schools for children with auditory and visual impairments, schools that had participated in user-testing and piloting of the resources, infant and nursery schools, adult education schools, and schools that were difficult for us to access in terms of travel time. We randomly allocated a representative sample of eligible schools to either an intervention or control group. Intervention schools received the Informed Health Choices primary school resources (textbooks, exercise books, and a teachers' guide). Teachers attended a 2 day introductory workshop and gave nine 80 min lessons during one school term. The lessons addressed 12 concepts essential to assessing claims about treatment effects and making informed health choices. We did not intervene in the control schools. The primary outcome, measured at the end of the school term, was the mean score on a test with two multiple-choice questions for each of the 12 concepts and the proportion of children with passing scores on the same test. This trial is registered with the Pan African Clinical Trial Registry, number PACTR201606001679337.

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≈ 2000 eligible schools

170 randomly selected

120 consented and randomised

60 intervention schools

≈ 6400 children

60 control schools

≈ 6300 children

	<b>Control schools</b> N schools = 60 N children = 4430	<b>Intervention schools</b> N schools = 60 N children = 5753	<b>Adjusted difference</b>	<b>Odds ratio</b>
<b>Primary outcome</b>				
<b>Average score</b>	43%	62%	<b>20%</b> (95% CI 17% to 23%) P < 0.00001	
<b>Passed</b> (≥ 13 out of 24 correct)	27 children per 100	69 children per 100	<b>50 more children per 100</b> (95% CI 44 to 55 more)	9 (95% CI 7 to 13) P < 0.00001
<b>Secondary outcome</b>				
<b>Mastery</b> (≥ 20 out of 24 correct)	1 child per 100	19 children per 100	<b>18 more children per 100</b> (95% CI 18 to 18 more)	35 (95% CI 21 to 61) P < 0.00001



“[This is about] things we might actually use instead  
of things we might use when we are all grown up.  
And by then we’ll forget.”

Child participant in development of primary school resources, Norway

[www.InformedHealthChoices.org](http://www.InformedHealthChoices.org)

