

## Presenting Risk Information: Helping Your Patients with Health Numeracy



Excerpted from Know Your Chances: Understanding Health Statistics  
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## Helping patients interpret risk information

An important aspect of decision support is helping patient weigh the pros and cons of the options. This often requires an understanding of the likelihood that a bad thing will happen or a good thing will be achieved. As part of the realignment of unrealistic expectations and the understanding of personal values, you may want to coach your patients in how to understand risk information.

### □ **Questions to ask when interpreting risks and benefits:**

#### *Risk of what?*

Understand what the outcome is (getting disease, dying from disease, developing a symptom) and consider how bad it is.

#### *How big is the risk?*

Understand the chance that you will experience the outcome. When you hear about the number of people with the disease (or whatever outcome you are discussing), always ask, “Out of how many?” so you can learn the chance of the disease. Also determine the time period of the risk (over the next year, 10 years, a lifetime).

#### *Does the risk information reasonably apply to you?*

Understand whether the information, message, advertisement is based on people like you (people of your age and sex, people whose health is like yours).

#### *How big is the change in risk?*

Whenever you hear about changing risk (e.g., “42% lower”), ask “Lower than what?” Learn what your risks are if you do something (e.g., take a drug, change your lifestyle) versus if you don’t.

#### *Does the change in risk information reasonably apply to you?*

Understand whether the people the message is based on are like you (people of your age and sex, people whose health is like yours).

#### *How does this risk compare to other risks?*

Ask for some context so you can develop a sense of just how big (or small) the risk really is.

□ **Things you should do to better understand (patient) or frame (counselor) risks and benefits.**

*Get the risk information into a user-friendly format.*

Make the numbers as easy as you can by translating “I in \_\_\_” to “\_\_\_out of 1000.”

(See attached number translator)

*Try framing the risk in different ways.*

If they tell you the chance of dying, rewrite it as the chance of living to see if this changes how the information makes you feel.

*Get the bottom line.*

Learn what your overall chance of dying is if you do something versus if you don't.

*Learn the downsides (e.g. possible side effects) that come with the benefit.*

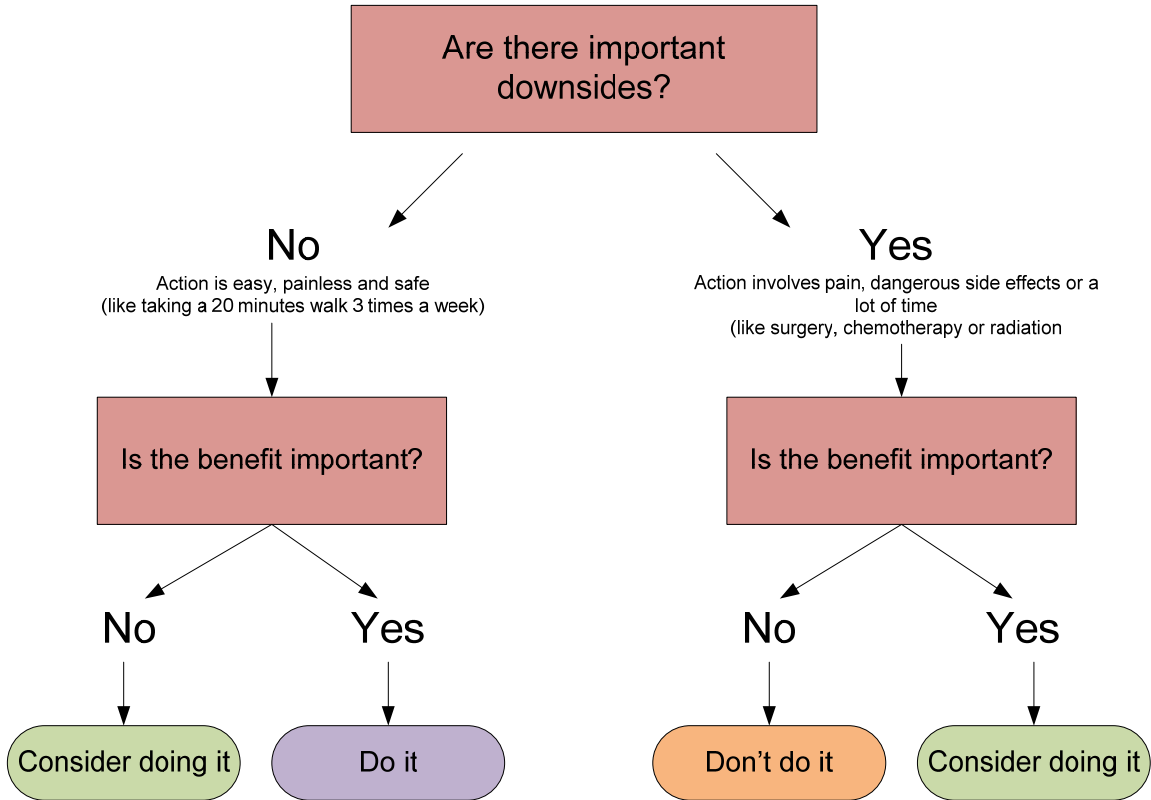
Understand what the side effects are, how often they happen, and how bad they are.

*Find out the source of information, the kind of research, and what is being measured.*

Be wary of information from scientific meetings, from sources with other interests besides your health (like money), from animal research or studies that just describe what happens to people.

## NUMBER TRANSLATOR

1 in _____	_____ out of 1000	Percent
1 in 1	1000	100%
1 in 2	500	50%
1 in 3	333	33%
1 in 4	250	25%
1 in 5	200	20%
1 in 6	167	17%
1 in 7	143	14%
1 in 8	125	13%
1 in 9	111	11%
1 in 10	100	10%
1 in 20	50	5.0%
1 in 25	40	4.0%
1 in 50	20	2.0%
1 in 100	10	1.0%
1 in 200	5	0.50%
1 in 250	4	0.40%
1 in 300	3.3	0.33%
1 in 400	2.5	0.25%
1 in 500	2.0	0.20%
1 in 600	1.7	0.17%
1 in 700	1.4	0.14%
1 in 800	1.3	0.13%
1 in 900	1.1	0.11%
1 in 1000	1.0	0.10%
1 in 2000	0.5	0.05%
1 in 3000	0.3	0.03%
1 in 4000	0.25	0.025%
1 in 5000	0.2	0.020%
1 in 10,000	0.1	0.010%
1 in 25,000	0.040	0.004%
1 in 50,000	0.020	0.002%
1 in 100,000	0.010	0.001%
1 in 1,000,000	0.001	0.0001%



**Definition of Important Benefit**  
Small change in risk of an important outcome  
(e.g. death, outcome you care about)  
OR  
Large change in risk of less important outcome  
(e.g. lab test, outcome you don't really care about)