Communicating about Randomization with Research Participants

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Ethical Review and Oversight Issues in Research Involving Standard of Care Interventions: An IOM Workshop
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Today’s Topic

How can we better communicate to patients “what it means to be randomized”? 
Three Questions

• How is randomization described?
  – *Should be* versus *is* described

• What do study participants understand?

• How might this understanding be improved?
How *Should* Randomization be Described?

WORLD HEALTH ORGANIZATION

In a clinical trial involving randomization, participants should be told what randomization means and what chance they have of getting which drug.

• “We will put people taking part in this research into two groups. The groups are selected by chance, as if by tossing a coin.”
A computer will by chance assign you to treatment groups in the study. This is called randomization.

This is done by chance because no one knows if one study group is better or worse than the other.
Randomization should be described as a study procedure.

- Terms not familiar to the average layperson should be defined
  - “assigned by chance” rather than “randomized”
  - "group" rather than "arm"

- Indicate the probability of assignment to each treatment: “You have a 50/50 chance of being assigned to either group.”
How *is* Randomization Described?

At the end of the interview, **you will be randomly assigned** to one of two groups.

Each group will have a different approach to educating you about...

No mention of chance, no description of the chance, did use “group” rather than “arm.”
Other Examples

• You will be randomly assigned to a group and you cannot choose your group.

• Randomization means that you are put into a group by chance.

• A computer program will place you in one of the study groups. Neither you nor your study doctor can choose the group you will be in. You will have an equal chance of being placed in either group.
Standard of Care Example

- Recent studies have found two medications that are effective.
- Both of these medications are commonly used and are standard of care at our institution.
- Limited studies comparing these two medications directly.
SOC Example, Randomization

• You will be **assigned to a study group by chance (like a coin flip)** rather than by a medical decision made by the researchers.

No mention numerical chance of being randomized to each group.
What do Participants Understand?

- Extensive literature documenting concerns about lack of understanding of informed consent
  - Risk of intervention
  - Voluntary nature of participation
  - Reasons for refusal of participation
  - Less focus on randomization
What Does the Public Understand?

• Survey of general public - 22% knew the word “randomly”
• Interpretation of “at random” to mean “without purpose”

Ellis, Health Expect 1999.
Understanding and Acceptability of Randomization

130 students/adult learners in North Staffordshire

- **87%** Computer with no information about participant
- **76%** Coin toss
- **83%** Printed slips in a hat
- **15%** Ask each person what they prefer
- **50%** Allocate as they arrive

“I wouldn’t want to think that my doctor had decided what to do by flipping a coin . . . and yet I have no problem with a computer doing it.”

Kerr, Randomization in trials: do potential trial participants understand it and find it acceptable? J Med Ethics 2004
What do Participants Understand?

• Outpatients in a medical oncology clinic
  – 31% did not realize participants are allocated by chance in a randomized trial
  – 74% thought the doctor would ensure they received the best treatment for them

• Physicians explanations and parents understanding of randomization in RCT’s of pediatric leukemia patients
  – 83% physicians mentioned randomization (ICC mean length 79 mins)
  – 50% of parents understood; lower SES less likely
  – Those who did not understand randomization were more likely to enroll

Featherstone, Soc Sci Med, 2002; Kodish et al., 2004
Lower Literacy Populations

- Not such a “special” case
  - 21% US adults functionally illiterate
  - 27% marginal literacy skills
- Comparison of LSU consent form to standard form
  - Mean REALM score 50 (7th/8th grade); 25% marginally literate
  - 70% of marginally literate group preferred LSU to standard form - easier to read
  - No difference in comprehension

Kirsch, National Adult Literacy Survey First Look (1993); Davis, JNCI, 1998
Participant Comprehension of Research for Which they Volunteer

• Systematic review of published research on informed consent.
  – 176 studies identified; 27 met inclusion criteria
  – Continued lack of understanding of randomization among research participants
  – “Even when consent form language was simplified, three aspects of informed consent were particularly difficult for participants to understand:
    • Blinding, Randomization, Placebo”

Montalvo, J of Nursing Scholarship, 2014.
How Can we Improve Understanding?

• Systematic review of interventions to improve understanding in informed consent
  • 12 trials of multimedia interventions
    – Most failed to improve understanding
    – One found improvement (patients with psychotic disorders)
  • 15 trials of enhanced consent forms
    – 6 showed significant gains in understanding
    – 9 did not (including 4/5 most rigorously designed)
• Person-to-person contact may be more effective

Visuals: Pictograph

Accuracy of Screening Tests

False Positive Rate = 5%

Prenatal Tests | Screening Tests
Visuals: CISNET

http://cisncancer.org/research/how_cancer_is_studied/clinical/ct_background_issues_03.html
Clinical Research Participants (100 people)

Random placement into each group (like a coin toss)

Experimental Group (50 people)
Receive new medication or therapy

Control Group (50 people)
Receive a standard treatment with known effects

Other ideas

Group information sessions?
More in depth counseling?
Other?
Implications for SoC Studies?