

# IMPROVING PATIENT'S NUTRITIONAL INTAKE USING A TABLET APPLICATION

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# RESEARCH

- Problem: 40% of patients in hospital malnourished
- Goal: improve nutritional intake
- Solution directed to hospital vs. patient
- How and what to measure?

# PERSUASION

- Goal is to change behaviour or attitude (persuasion, sociology)
- Used in marketing, diabetes, sporting
- Cognitive dissonance
  - I want to recover fast vs. I don't like to eat
  - Person has to believe it, high reward won't work
- Ability, motivation and trigger

# IPAD APPLICATION

- Technical background -> iPad application
- Patient will enter expected nutrition intake before meal and actual consumption after meal
- Application will give advice
- Incorporating persuasion elements





iPad 7:31 PM 41%

**Nutrition** < Lunch intake >

Not in this list? +

Search

- Apple
- Bread
- Cheese
- Egg
- Liquids
  - Milk
  - Orange juice
  - Pepsi
  - Water

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

**Apple**  
kCal: 46 Protein: ★☆☆☆☆ Vitamins: ★★★★★  
2 pieces

**Bread**  
kCal: 78 Protein: ★★☆☆☆ Vitamins: ★★☆☆☆  
3 slices

**Pepsi**  
kCal: 23 Protein: ☆☆☆☆☆ Vitamins: ☆☆☆☆☆  
1 glass

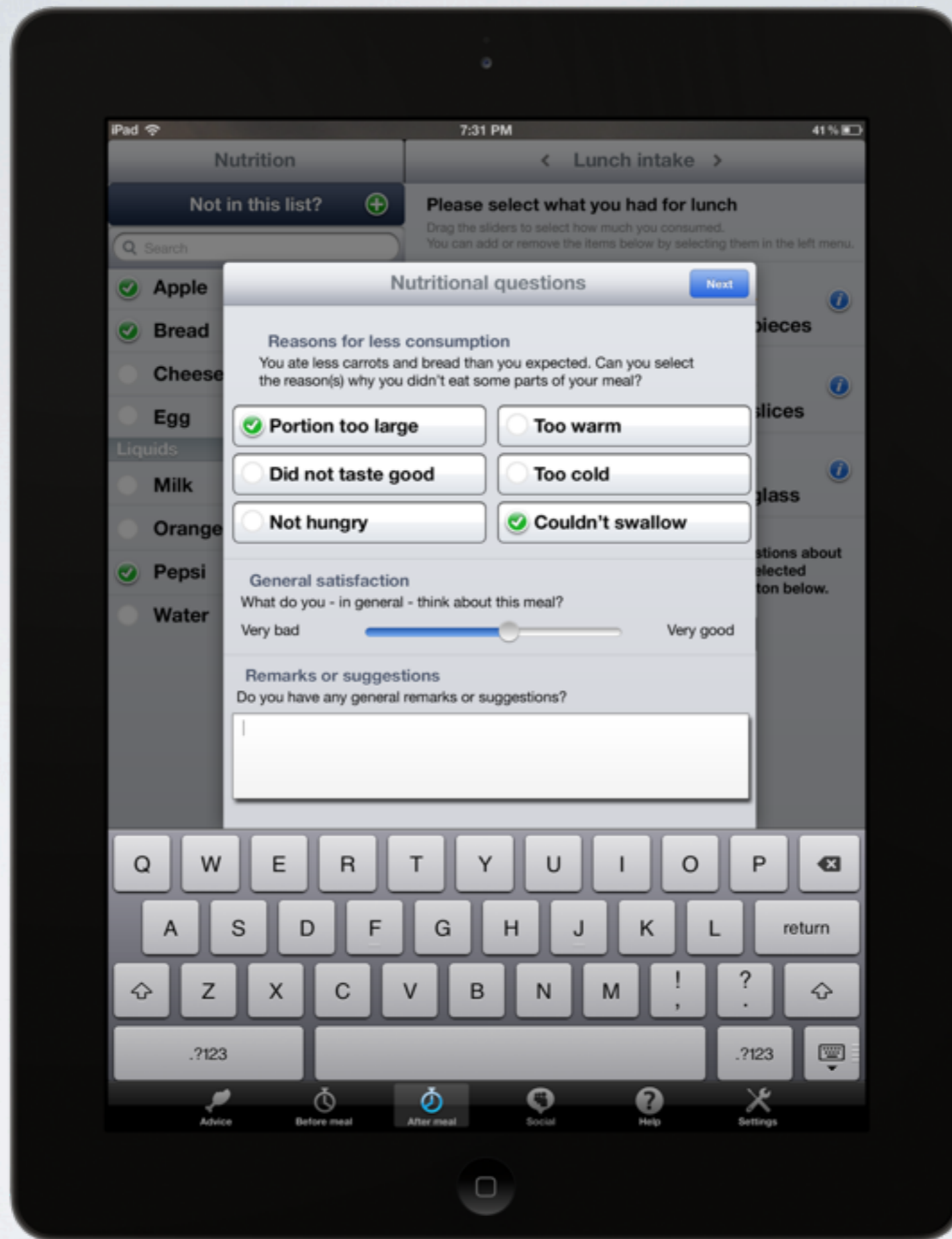
Dear John,  
You don't have a lot of carbohydrates in your meal.  
Maybe you should try to do some fruit jam on your bread.  
Or what do you think of the suggestions below? Press a button to add it to your menu.

Egg Cheese  
Orange juice Milk

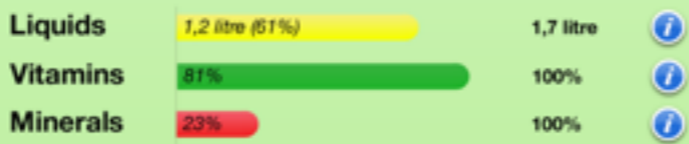
**Nutrition report** Recommended

	Current Intake	Recommended
<b>Energy</b>	481 kCal (74%) for lunch 709 kCal (41%) for total day	651 kCal 1727 kCal
<b>Protein</b>	4 grams (22%) for lunch 20 grams (35%) for total day	18 grams 56 grams
<b>Fats</b>	3 grams (15%) for lunch 13 grams (34%) for total day	15 grams 38 grams
<b>Liquids</b>	360 mL (45%) for lunch 950 mL (56%) for total day	800 mL 1700 mL

Advice Before meal After meal Social Help Settings



All Morning Afternoon Evening



You now have a nutrition intake that is 259 kCal too low. Every 4.500 kCal amounts to 1 kilograms of weight loss. Do you know how much weight you would loose if you have every day a shortage of 259 kCal? N.B. It is not advised to loose weight if you have overweight. Loosing weight namely first results in loss of muscle strength and a weakened immune system.



Dear John,

Nutrition is important. Scientific research has showed that undernourishment leads to longer recovery times and more complications. Based on your information, we would like to give you some tips and advice for your nutrition, so you can have a speedy recovery.

- Your intake of carbohydrates is low. Maybe you can try to take something with fibres, brown (not white) bread, beans, potatoes or cookies.
- Your calorie intake is too low. Try to eat a bit more. Or if you have trouble eating, ask the nurse for fortified nutrition options.
- Did you know that fruits as apples, bananas and pears are high on carbohydrates and healthy vitamins? You can always ask the nurse for fruits and extra food if you feel like it.





QUESTIONS?