

# “Mon Alimentation Sur-Mesure”, a tailored nutrition counselling web application based on mathematical diet optimization

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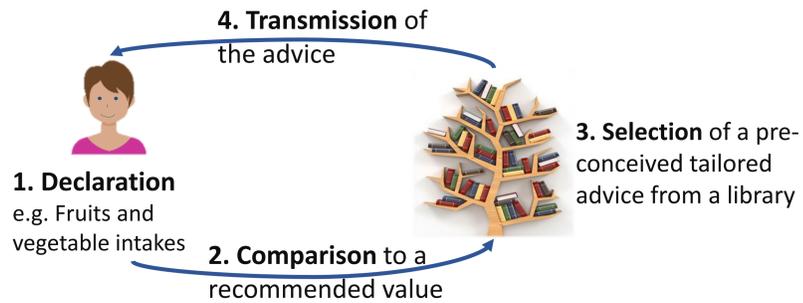
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## Context:

### Tailored approaches



“any combination of information or change strategies intended to reach one specific person, based on characteristics that are unique to that person [...] and have been derived from an individual assessment.” [Kreuter, Ann Behav Med, 1999]

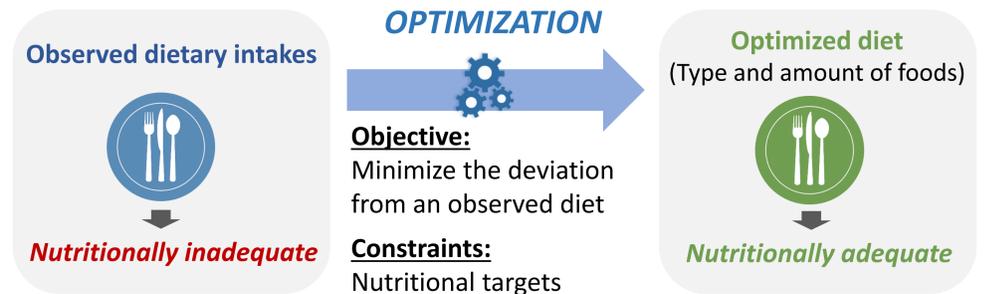


→ Tailored dietary behavior change interventions: small and significant effect on dietary behavior change, but usually target a few food groups or nutrients, without evaluating the overall diet

### Individual diet optimization



The use of “linear programming to translate nutrient recommendations into realistic and individual-specific food choices.” [Maillot, AJCN, 2010]



→ Method increasingly used in the fields of public health and diet sustainability, but without testing the practicability of the optimized diets in real life

## Objective:

The aim of this work was to combine *tailored approaches* and *individual diet optimization* in a web application of tailored nutrition counselling.

## Method and result:



### Development of “Mon Alimentation Sur-Mesure”

→ A web application to improve the nutritional quality of the whole diet of adults without major disease

Web application based on behavior change techniques (BCT) [Michie, Psych.&Health, 2011] • BCT

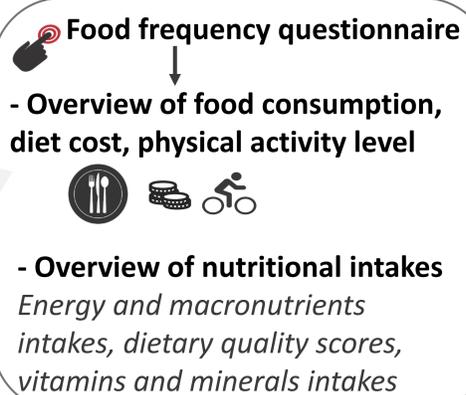
### Functionalities of “Mon Alimentation Sur-Mesure”

**Functionality 0:** Creation of a personal account and login

#### Functionality 1: « My Profil »

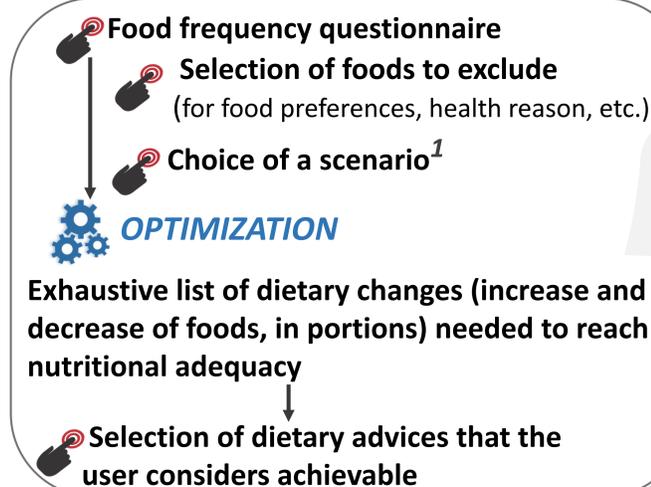


#### Functionality 2: « My current diet »



Legend: User action is required

#### Functionality 3: « My dietary advices »



- Credible Source
- Techniques of binding communication

- Self-monitoring of behavior

- Feedback on dietary behavior
- Goal setting

- Graded tasks
- Incentive to substitute foods
- Tailored advices

<sup>1</sup> Three diet optimization scenarios were implemented, adapted to different ways to change food consumption such as: “I prefer to improve the nutritional quality of my diet:

- Scenario 1: ...by privileging **small variations** on some foods that I already consume, and agreeing to consume new foods if necessary.”
- Scenario 2: ...**without changing the type of food** I consume but favoring variations on the amount of these foods”.
- Scenario 3: ...by **changing the amounts** of what I already eat, and adding **new foods** if necessary.”

## Conclusion:

Using “Mon Alimentation Sur-Mesure”, the user is actor to his/her dietary changes.

The web application could be a future online health promotion tool:

- to help individuals to improve their diet,
- to serve as a decision-support tool for health professionals.

*The evaluation of the tool is warranted before use in the field of health promotion.*

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