

# A digital tool to screen and care for undernutrition in infants and children

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## Description of the initiative

**Background** – ref.: Disease-related undernutrition in hospitalized children in Belgium (thesis), Dr K. Huysentruyt – VUB, Brussels, May 2016

- Undernutrition occurs in one out of five admitted children. The risk for weight loss during hospitalisation is also increased in undernourished children
- Only one third of undernourished hospitalised children benefit from optimal nutritional care
- An algorithm to help paediatricians in identifying children at risk of undernutrition or of nutritional deterioration during hospitalisation is available
- Systematic and robust nutritional screening is not yet widely spread and show significant regional differences: in Belgium, 70% in WL vs 30% in FL
- Current screening is time consuming, z-score calculation is complex and nutritional needs vary according to the malnutrition score
- Need to increase healthcare practitioners' awareness and proper training on a screening- and nutritional management- tool
- Few tools are available, which are scientifically validated and endorsed by the local scientific societies and health authorities
- Project started in 2016: pilot screening of a new webservice tool is on going – link: [bespghan.be/FR/apyCare.php](https://bespghan.be/FR/apyCare.php)
- Electronic patient dossier (EPD)-incentivised by the ministry of health via public funding- will be deployed step by step by all hospitals from Q3 2019 but most lack adequate nutritional screening and management tools for child care

## Rationale for the initiative

- 1- to ensure that undernourished infants and children get a nutritional intervention adapted to their specific needs
- 2- to provide the same quality of care for infants and children in- and out- patients (webservice connected w/application)
- 3- to develop a user-friendly webservice which allows for optimal nutritional care for all children in need
- 4- to standardize ways of working and optimise hospital resources, workload and budgets
- 5- to allow for robust data on the benefits of nutritional intervention in hospitalised undernourished children to be published

**Objectives and scope:** to deploy a digital tool to support healthcare practitioners' decision making in providing customised nutritional care for hospitalised children first (webservice in 2019) and later out patients (application in 2020).

## Planned activities & deliverables

### Steps to be taken

In university hospitals and in partnership with key healthcare stakeholders:

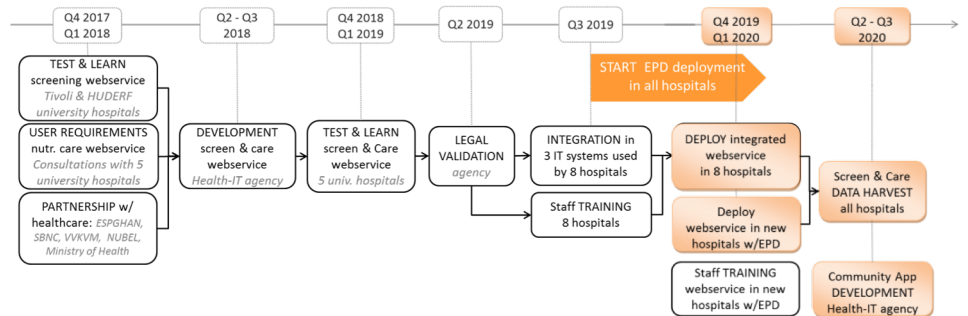
- step 1: webservice to screen**
- step 2: webservice to screen & care**

To prepare for EPD national deployment incentivised by public funding:

- step 3: integration in hospital softwares**
- step 4: step by step deployment in all hospitals**

To connect with out patients in the community:

- step 5: harvest data for sc. paper and cohort**
- step 6: screen & care app. for practitioners**



**Project deliverables:** a user-friendly digital nutritional screen and care webservice designed for all healthcare practitioners involved in paediatric care and integrated in the hospital's software as part of the future electronic patient file. A digital application for healthcare practitioners in the community to secure nutritional care for out patients after discharge.

**Possible achievements in the next 12 and 24 months** (ref. to orange boxes on the graph above)

- **12 months:** webservice up and running in the EPD of 8 hospitals and GO deploy from 80% of hospitals deploying the EPD in 2020
- **24 months:** application under development together with healthcare professionals from the community + continue webservice step by step deploy

## Resources & enablers

- **Personnel: 1 nutrition committee (operational team) per hospital and 1 steering committee (members from 3 university hospitals)**
- Nutrition committee composed of Paediatrician, dietician, nurse for each test hospital: HUDERF, Erasme, UZ Brussels, UZ Antwerpen and Tivoli
- Steering committee: head paediatrician and head of IT from ULB, UZ Brussels and Erasme university hospitals and Sr Medical Manager Nutricia
- Nutrition committee meets monthly whereas steering committee meets every 3 months to deploy and monitor project, respectively
- **Grant will be allocated to tool development: 10K€ for the webservice and 10K€ for the application and hospital implementation: 10 K€**

## Key success factors

- ✓ tool designed to provide nutritional care tailored to children's specific needs
- ✓ collaboration between five multi-disciplinary teams of paediatricians, dietitians, nurses and IT staff from five university hospitals
- ✓ web based design allows for a harmonized approach with outpatient paediatricians, who often lack the electronic resources for built-in nutritional care applications in their own systems
- ✓ first technical successes (SOA) observed, tool integrated in hospital's software to prepare for electronic patient file
- ✓ step-by-step deployment at national level, timeline aligned with hospital's implementation of electronic patient file
- ✓ endorsed by Belgian medical societies and health authorities (partnership with national food composition database) – compliant to local regulations
- ✓ governance: steering committee since 2016 – project management way of working via a Senior Manager from the industry since 2016

## Results/outcomes & expected impact

- **How will the findings be implemented?** Project relies on a test & learn and step by step implementation to deploy a tool that answers best the needs of health care practitioners in the field
- **How will this project advance patient care / contribute to optimal nutritional care?** Care will be tailored to infants' and children's specific needs and followed up in the community. Learnings from experience which allow to develop robust clinical practices and to update current guidelines

## What makes the project innovative?

- Field driven-, evidence based- digital tools designed by a multi-disciplinary team of paediatricians, dietitians & IT staff within and between five key university hospitals from each regional communities in Belgium
- Endorsed by local medical societies and health authorities

**Will the project be likely to influence national nutrition policy?** Yes, by:

- building awareness of the endorsing medical societies and health authorities as well as all hospitals where it is implemented
- reporting on robust undernutrition parameters by hospital staff to local health authorities to support health policy development
- building evidence to support the request for reimbursement of infants' and children's products when undernutrition is diagnosed. Undernutrition is a new indication for reimbursement since 2018.

**Is the project transferable to other settings / countries?** Yes, since the calculations are the same and only reference datasets vary. The latter can be selected via a scrolling menu. Project is transferable to:

1. the community via a digital application for independent dietitians
2. different target populations: adult and elderly people (pilots on going)
3. other countries to accelerate on going activities (French CLAN) or to easily start robust and tailored nutritional care

