EU4Nutrition LIVE

CONTINUITY OF NUTRITION CARE

optimal nutritional care for all

THE POWER OF CONCERTED EFFORTS AGAINST MALNUTRITION

The European Nutrition for Health Alliance

NESPEN clinical nutrition and metabolism

kenniscentrum ondervoeding

Nederlandse Vereniging van Diëtisten

Nutrition & Healthcare Alliance

How can we utilize ESPEN nutritionDay data to advocate for better nutritional care throughout Europe?

nutritionDay WORLDWIDE

optimal nutritional care for all

M.Hiesmayr, Medical University Vienna

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Disclosures

nutritionDay
WORLDWIDE

Unrestricted grants for analysis from Abbott, Baxter, Fresenius-Kabi
To Medical University Vienna

Speaker fee Fresenius Kabi, Baxter, Baxter, SSPC, Cosmed

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healthcare institutions

nDay is performed in hospitals and nursing homes

nutritionDay
WORLDWIDE

1-day audit

Data collection takes place every year in November on one scheduled day (nDay) worldwide + **OUTCOME**

09 NOV nDay 2023

free and easy

All documents are downloadable for nDay website
No special knowledge is needed for the implementation of the project

Unit report

with unit data compared to a worldwide reference for benchmarking and monitoring over time

Anonymity

Name and details of the participating centers and units are encoded.

nDay key elements

No language barrier

questionnaires are available
+35 languages thus enabling inclusion of minority groups of patients

Patient centered

Patients are directly involved in responding to one questionnaire

Caregiver feedback

On patient's nutritional status, disease and **outcome**
Unit structure/process

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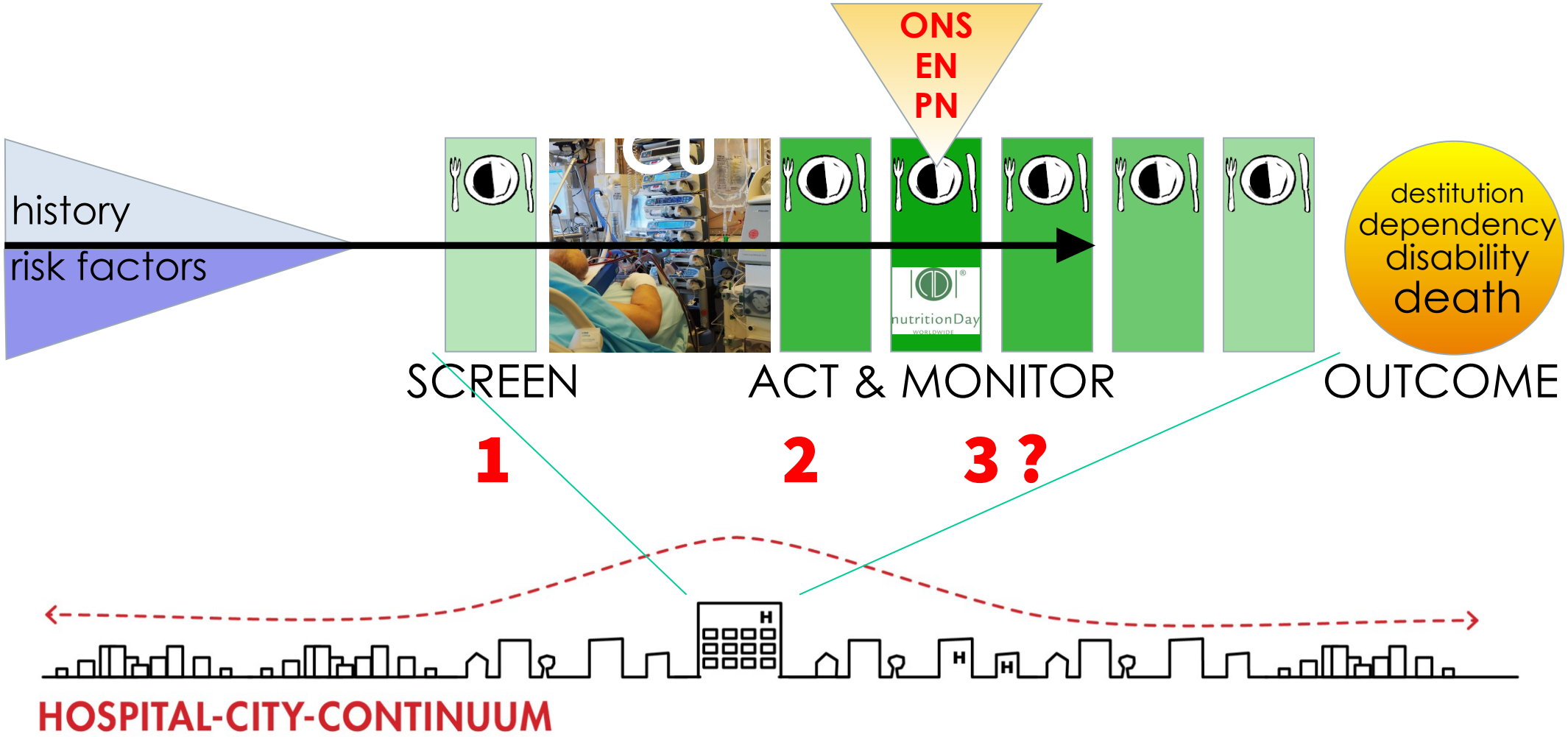
Where are gaps in nutrition care?



Hiesmayr & nutritionDay 2023

worldwide participation

nutritionDay WORLDWIDE

63 countries- 35 languages

>15 000 units:

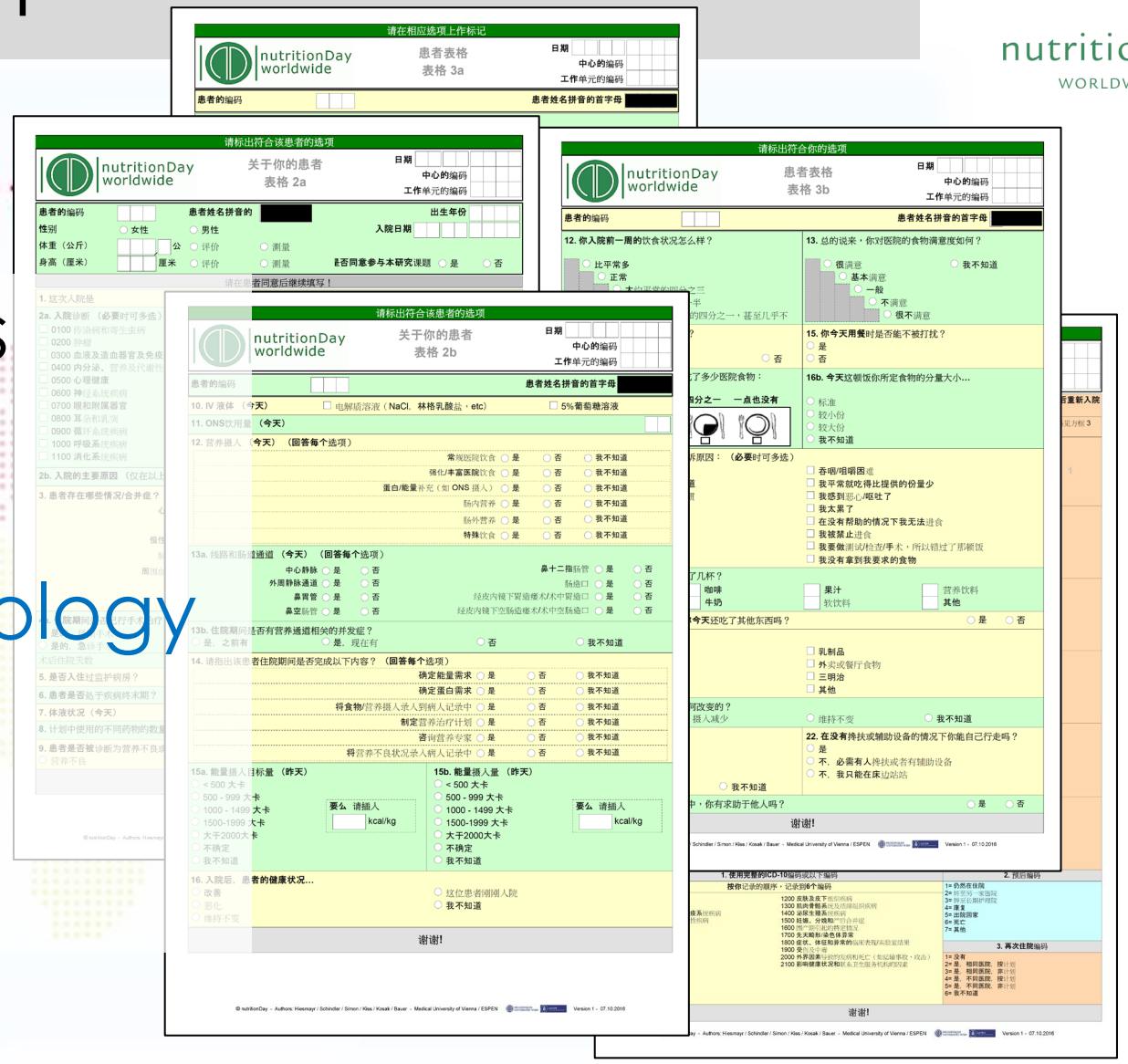
>300 000 patients

hospital wards … oncology

intensive care

nursing homes

(primary care)



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nDay in European hospitals: demographics

nutritionDay WORLDWIDE

	Cohort 1 2006-2015	Cohort 2 2016-2021
median [Q1;Q3] or n(%)	n: 103971	n: 22393
Age (a)	68 [54;79]	71 [51; 81]
Sex (F/M/?) (%)	51/49 %	51.4/47.7/0.9 %
ICU stay n(%)	9.9%	9.8%
LOS before nutritionDay (days)	6 [3;14]	7 [3;15]
PANDORA score Predicted hospital mortality (%)	3.3% SD 4.8%	3.7% SD 5.0%
Observed hospital **mortality** n(%)	3.8%	3.1%

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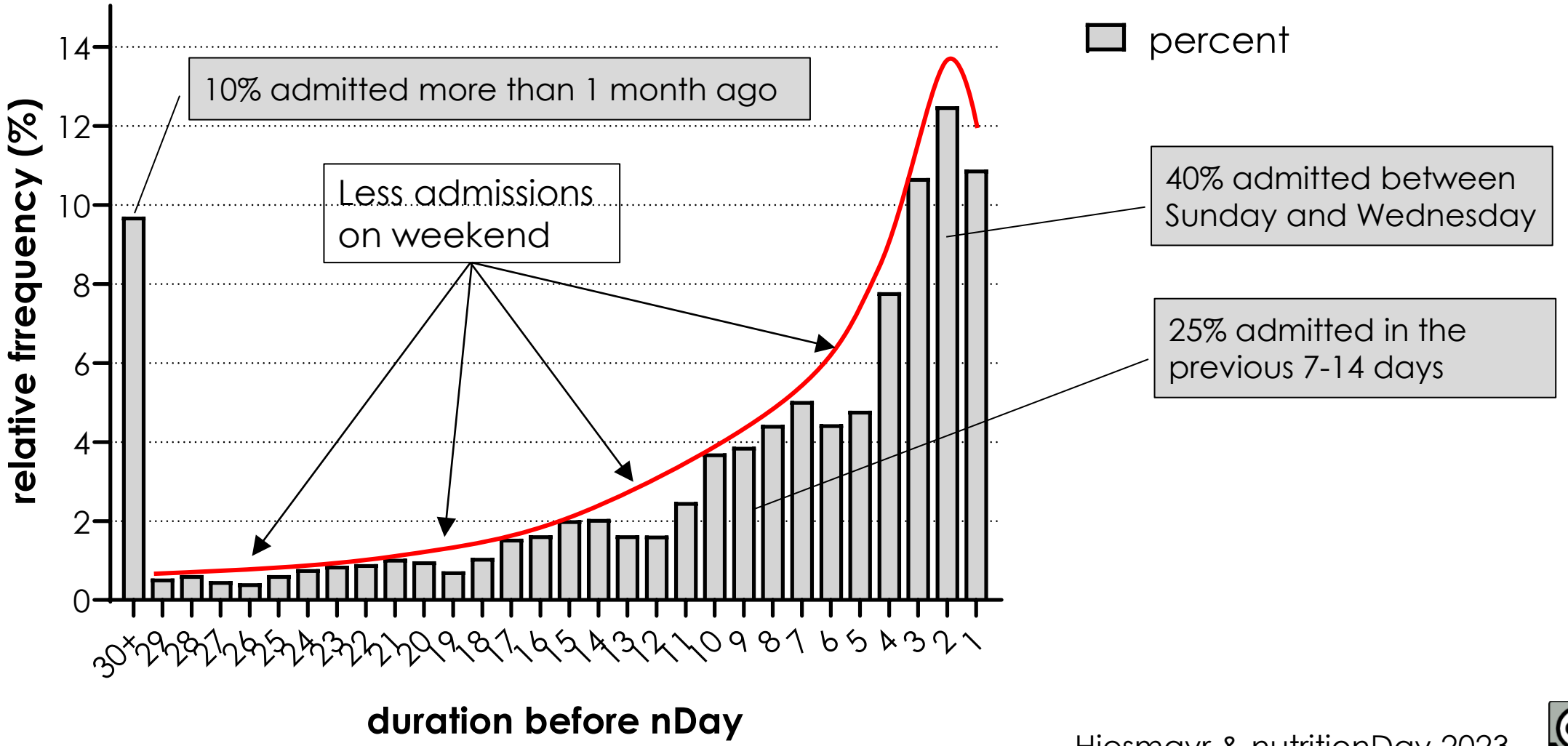
LOS before nutritionDay: cohort 2006-2015

≈ 60 % are already for > 1 week in hospital



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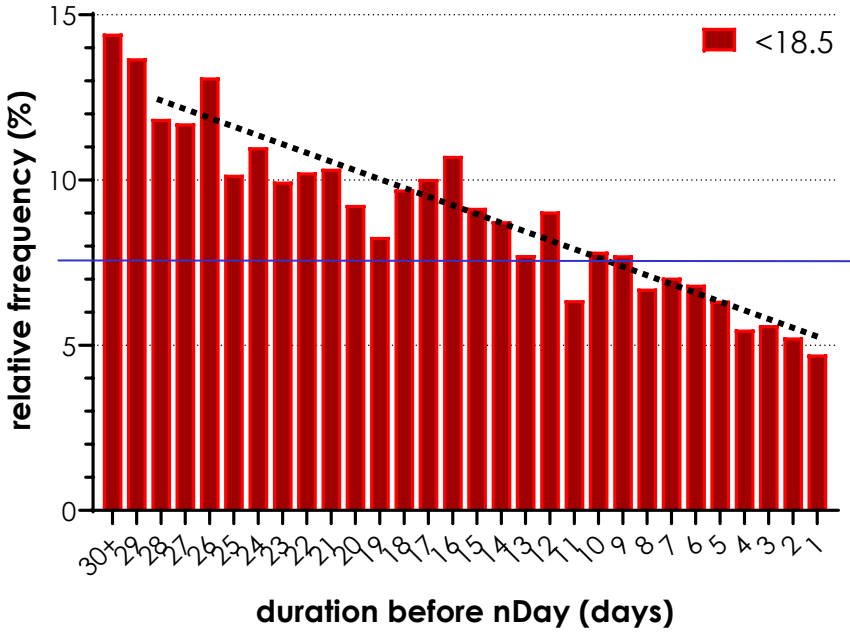
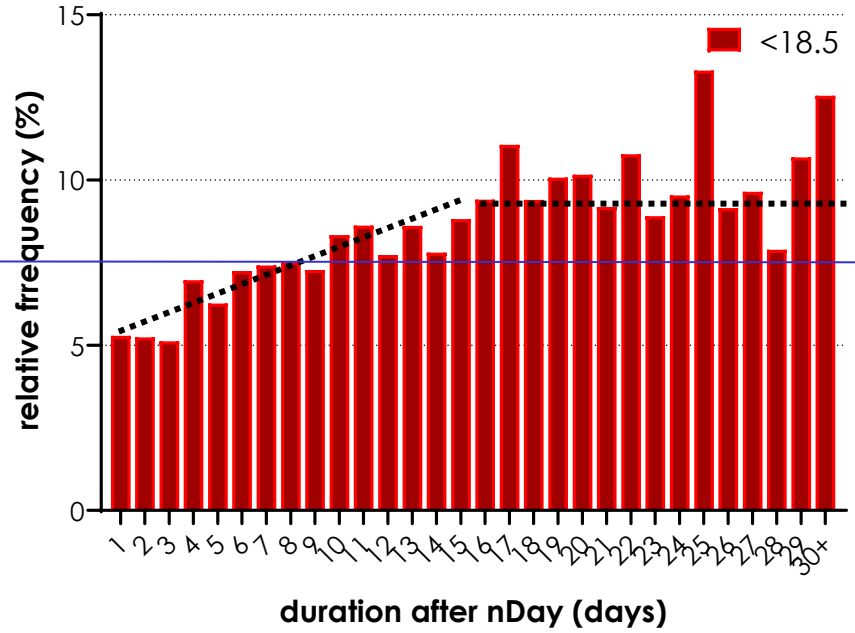
Longer LOS before & after nutritionDay* associated with **higher** proportion with **low BMI**:





Average 7.6% with BMI<18.5

Comment: patients already longer in hospital at nutritionDay report more frequently weight loss.
After nutritionDay weight loss appears to be associated with a later discharge, but the increase is low after 2 week

* After nutritionDay category >4 weeks includes also patients that remained in hospital at day 30 after nutritionDay

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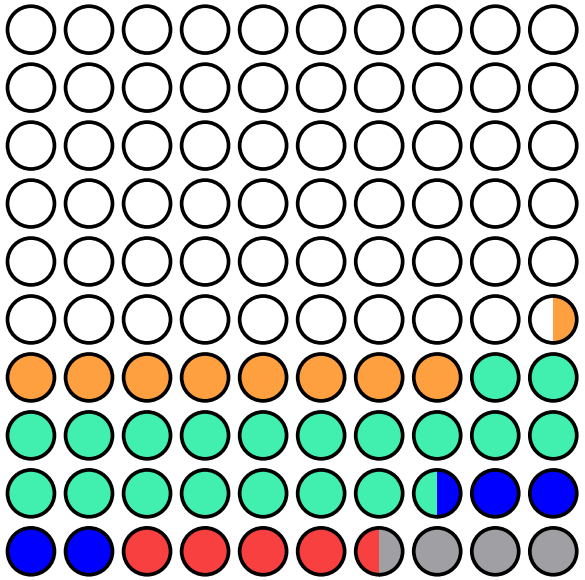
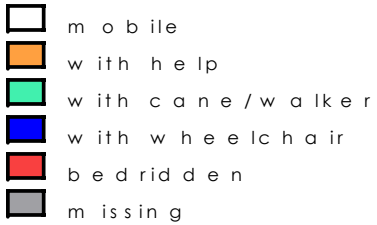
Usual mobility (before admission) & outcome

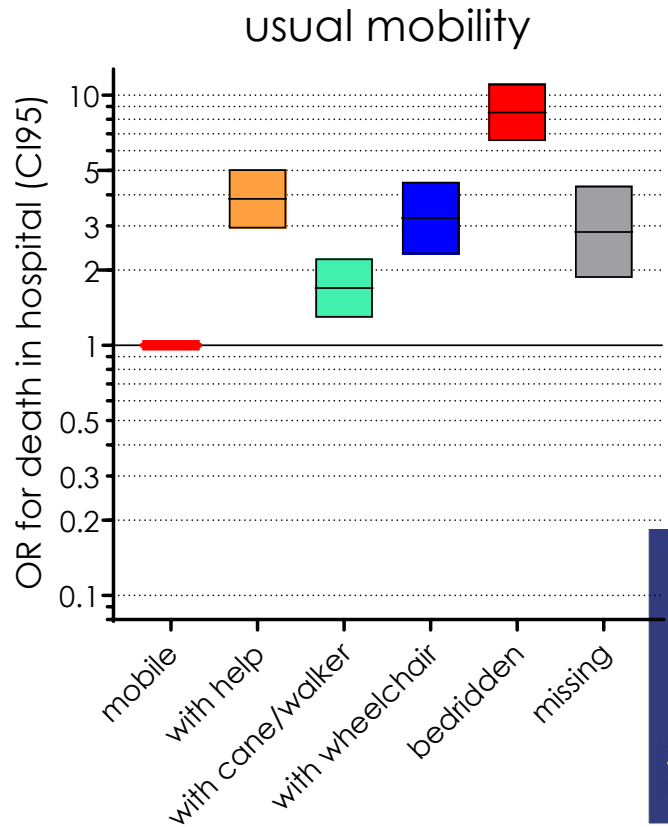
nutritionDay WORLDWIDE

Usual mobility	mortality in hospital (D30)	Logistic regression adj. Age & sex





1.5%
6.5%
3.1%
5.2%
13.5%
4.5%



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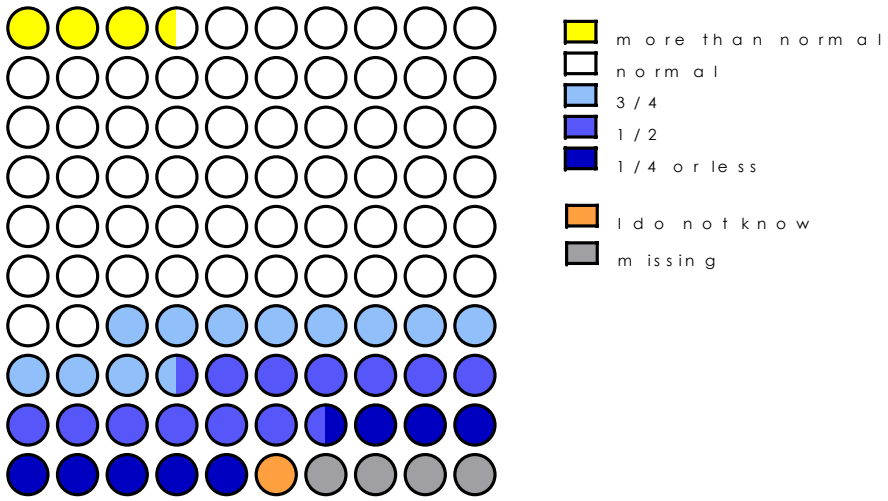
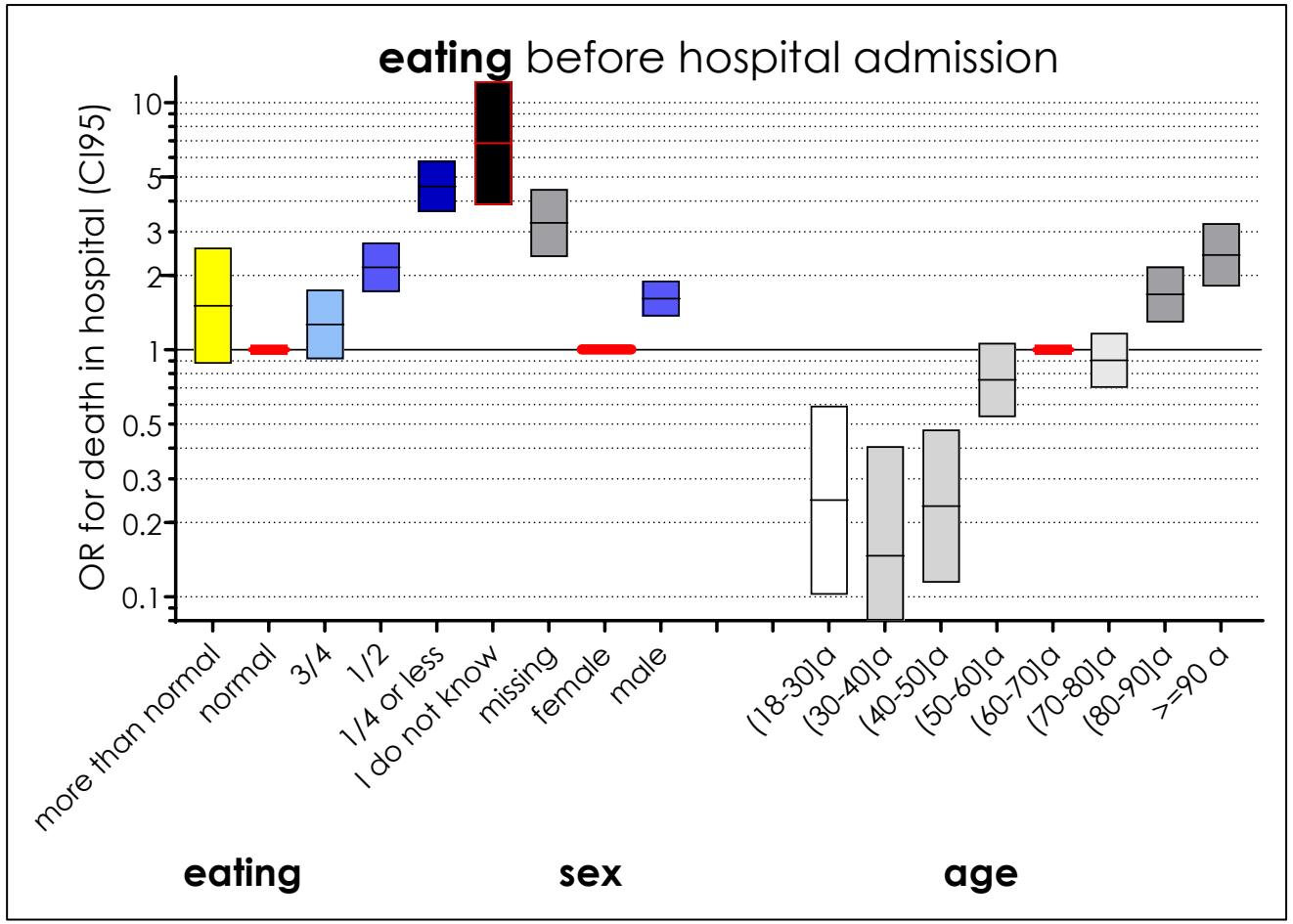
Eating before admission in Europe





85% admitted from home

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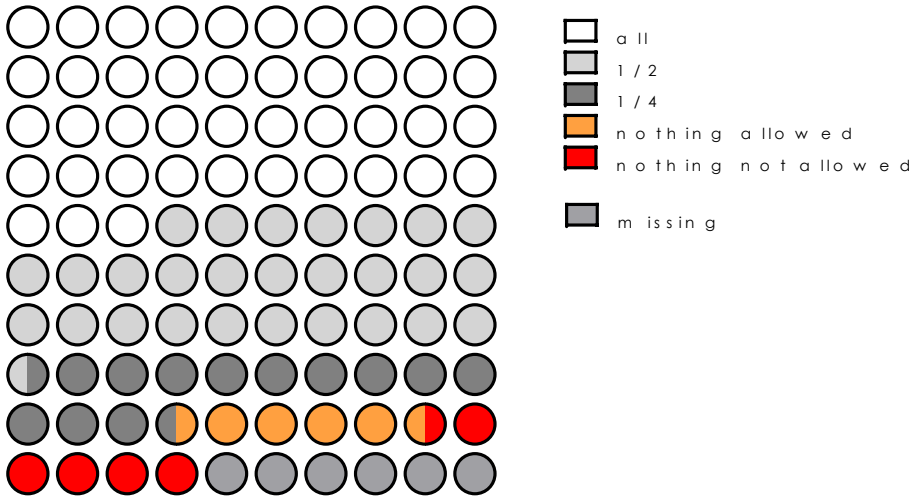
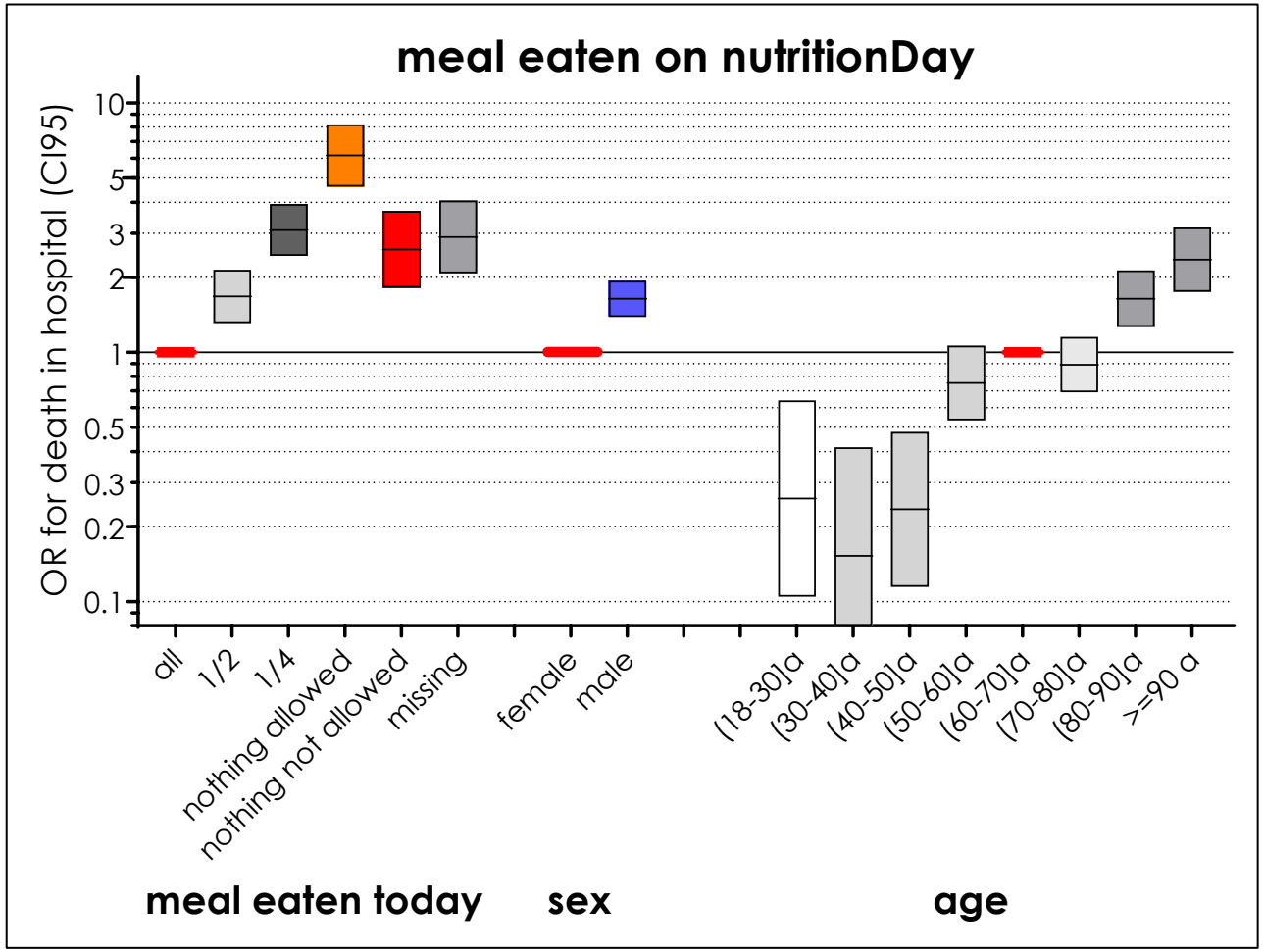
Eating on nutritionDay in European hospitals

nutritionDay
WORLDWIDE





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Variable	Groups	Score
Age	<40	0
	40–50	6
	50–60	8
	60–70	10
	70–80	11
	80–90	14
	> = 90	17
Body Mass Index (BMI)	<18.5	9
	18.5–25	6
	25–30	2
	30–35	0
	35–40	0
	>40	3
Can you walk?	Walk without assistance	0
	Only with assistance	6
	I stay in bed	11
What did you eat today?	All	0
	Half	3
	Quarter	9
	Nothing, Allowed	12
	Nothing, Not allowed	7
Main patient group admitted	Internal	7
	Surgery	0
	Geriatrics	5
	Neurology	3
	Others	6
Diseased Organ	Cancer	9
Fluid status	Dehydrated	7
	Normal	0
	Overload	10
PANDORA score	**sum**	

* The relationship between the PANDORA score and hospital mortality within 30 days is given by the equation: logit = -6.72 + 0.1058 x PANDORA score. The probability of death is given by the equation: Probability of death = e^{logit} / (1+e^{logit}).

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PANDORA score:

short term risk for hospitalized patients:
7 clinical items
(**3 nutrition & mobility factors**)!

PLOS ONE

Hiesmayr M et al. (2015) The Patient-And Nutrition-Derived Outcome Risk Assessment Score PANDORA): doi/10.1371/journal.pone.0127316

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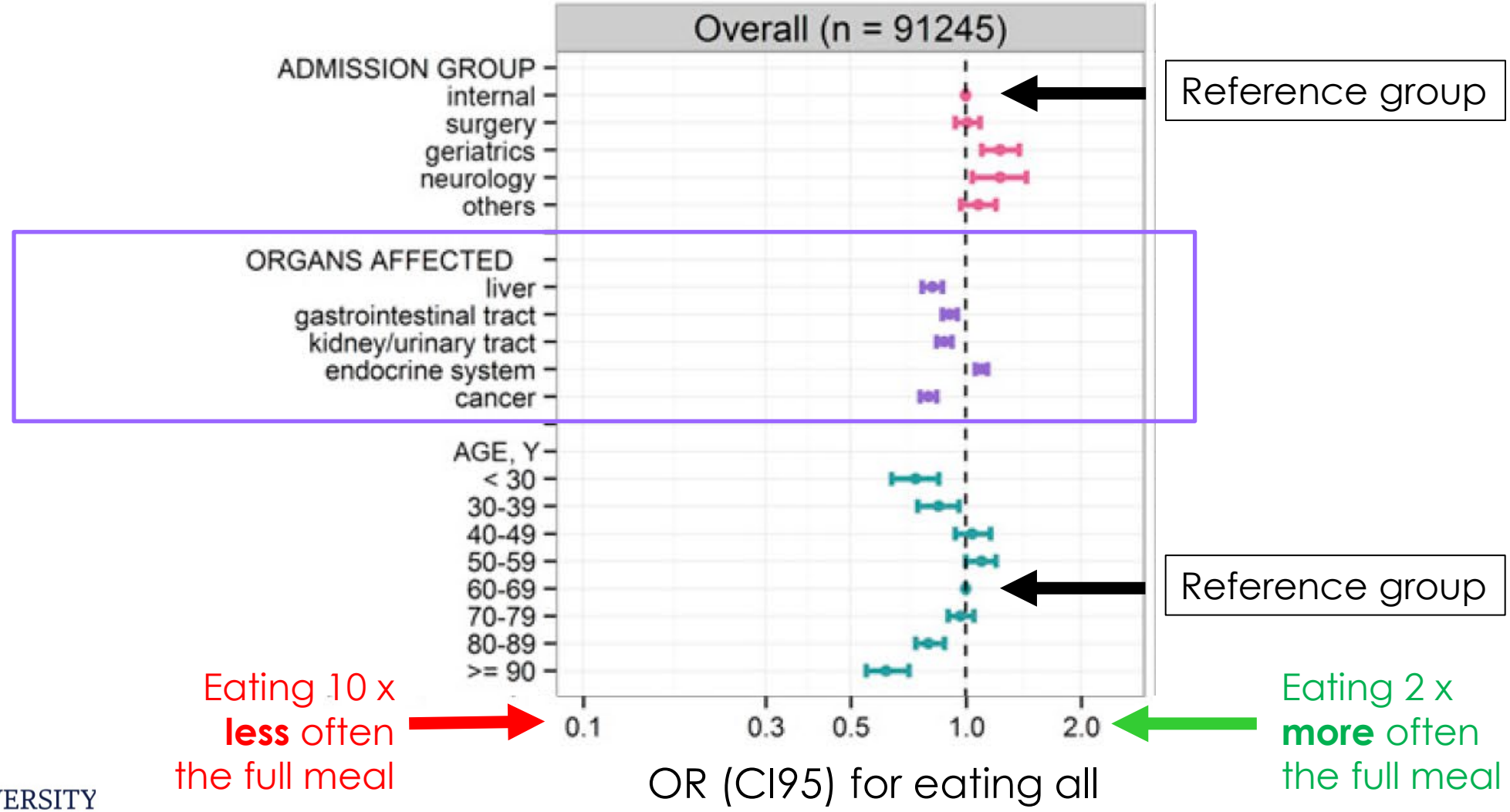
Who does not eat all? Young & old, cancer ..

Schindler et al. American Journal of ClinicalNutrition (2016)

nutritionDay WORLDWIDE



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Who does not eat all? Women, past eating, mobility

Schindler et al. American Journal of ClinicalNutrition (2016)

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Specialty

Organs

Age

Gender

BMI

Weightloss

Eating last week

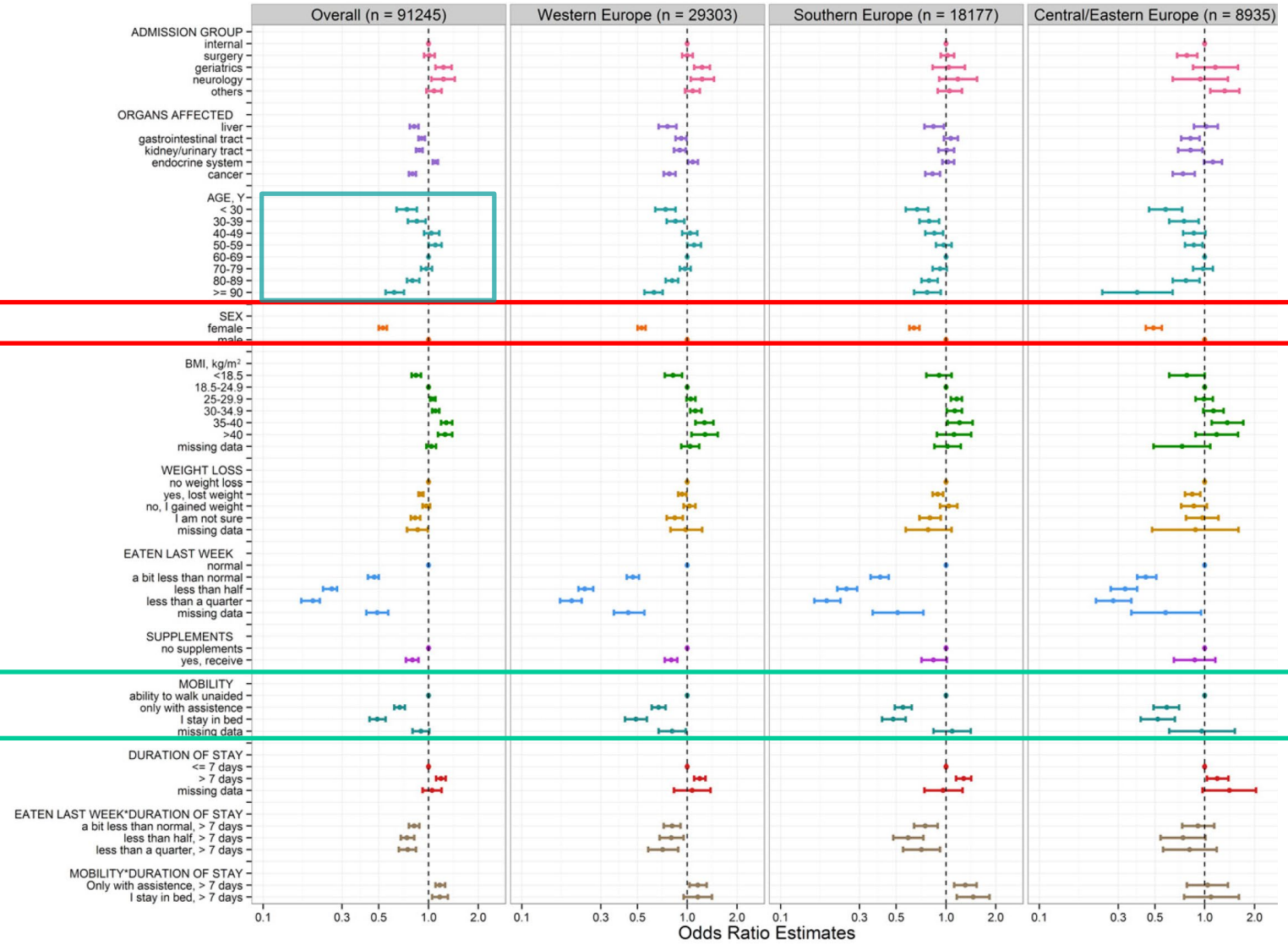
ONS

Mobility

LOS at ND

Interaction

Interaction



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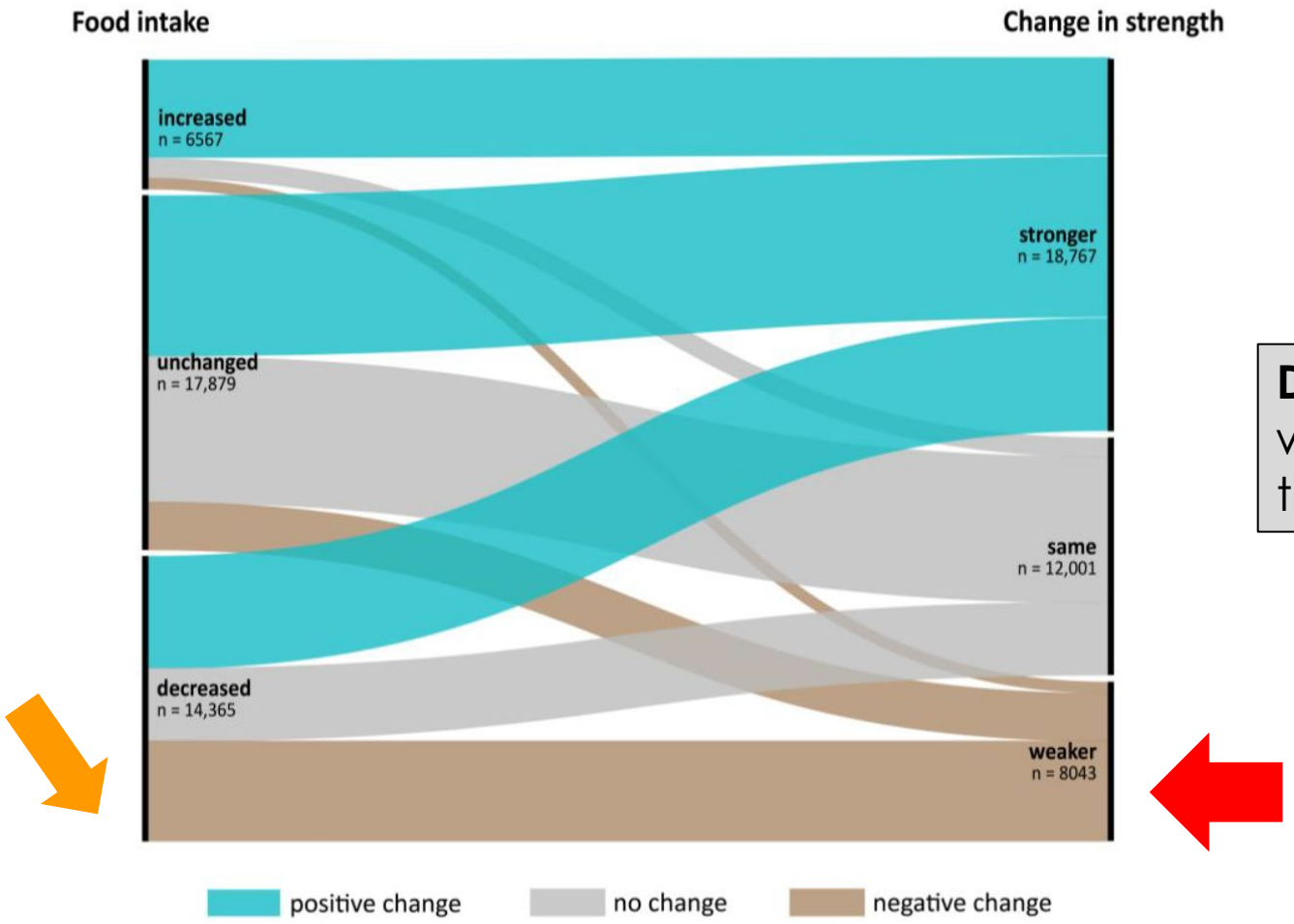
Food intake change & change in strength



Decreased food intake is associated with the majority of patients that have become **weaker**

Nutrients **2023**, *15*, 1527.
https://doi.org/10.3390/nu15061527

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Nutrition therapy for **less** & **no** **eater**: cohort 1

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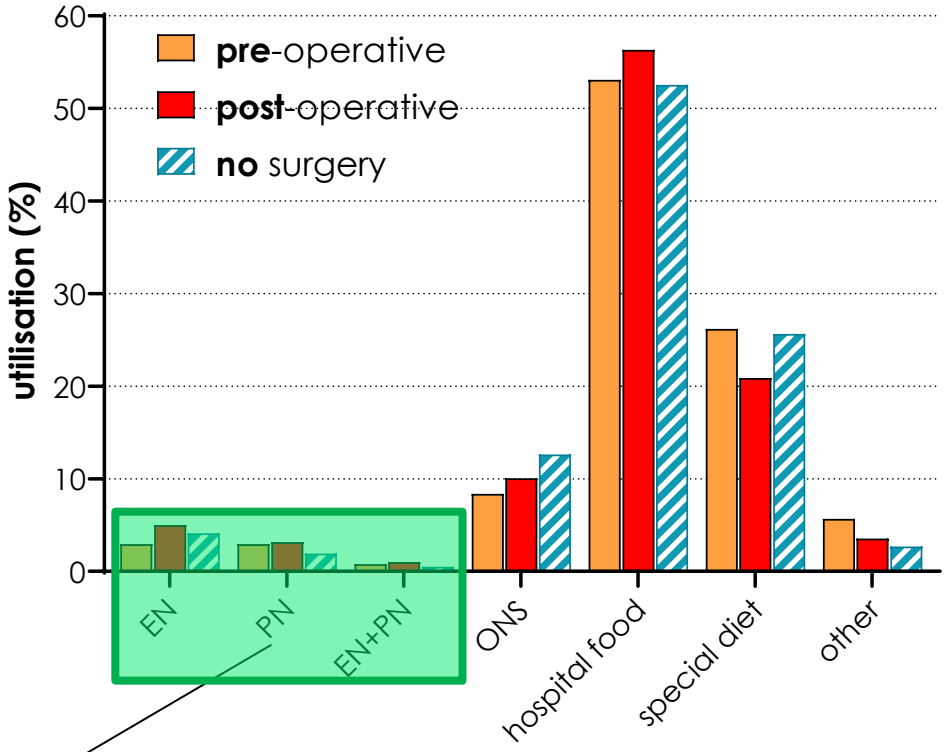
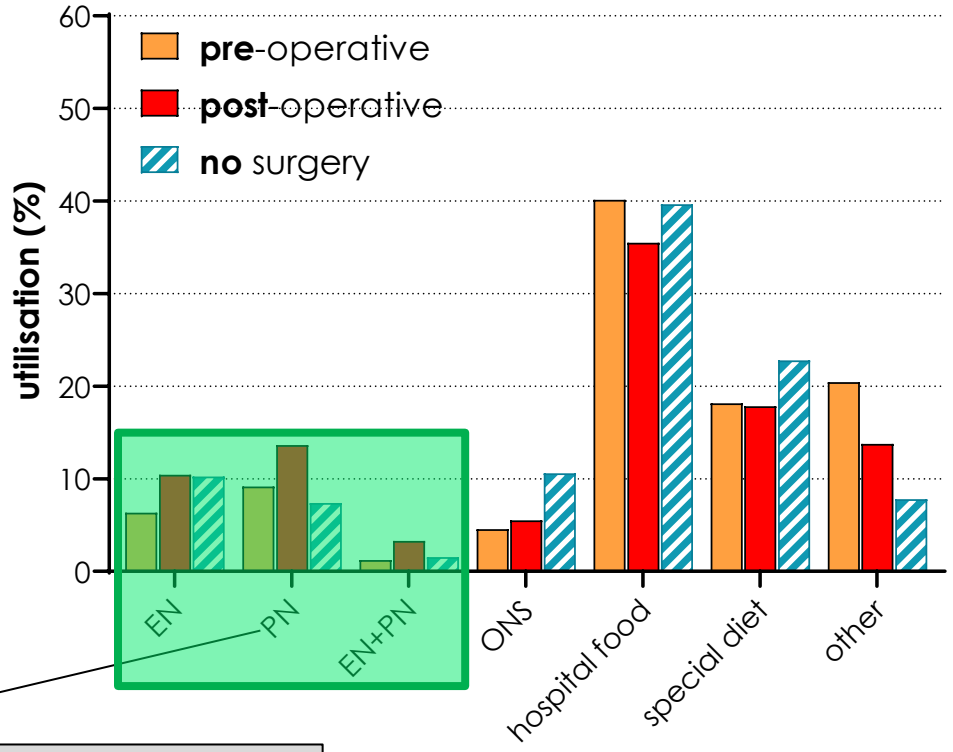
Half/quarter meal



EN/PN for
<10% of surgical patients

Nothing eaten



EN or PN for
<20% of preoperative and
33% of postoperative patients
22% of non surgical patients

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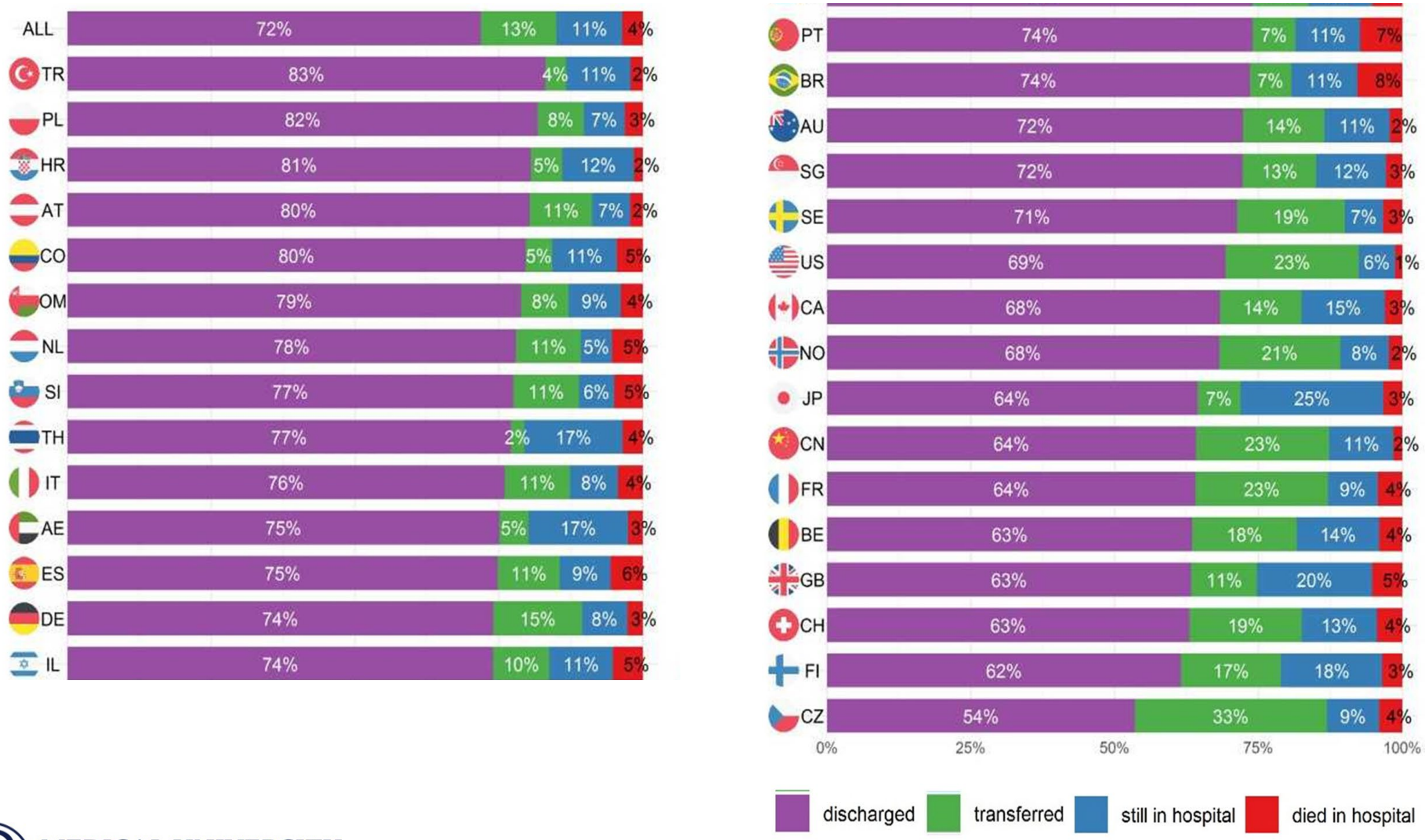
Countries & nutritionDay outcome



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Kiss N. et al. Nutrients 2021; 13:4111

nDay in Primary Care

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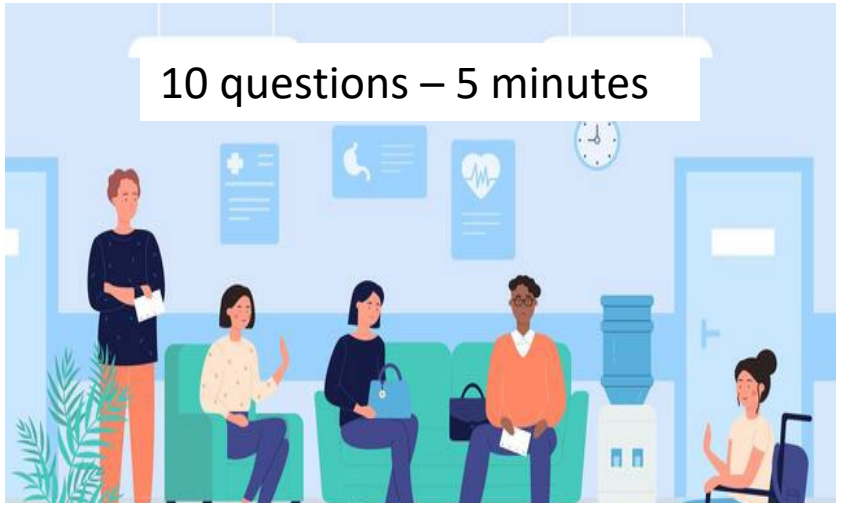
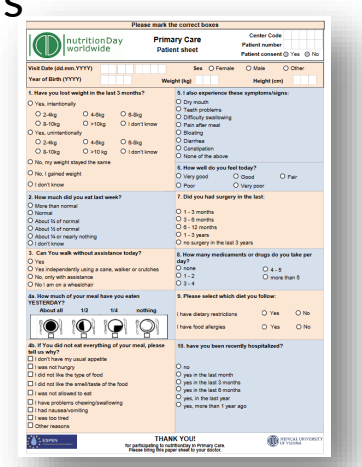
To be filled in by the patient in the waiting room



Malnutrition Risk factors

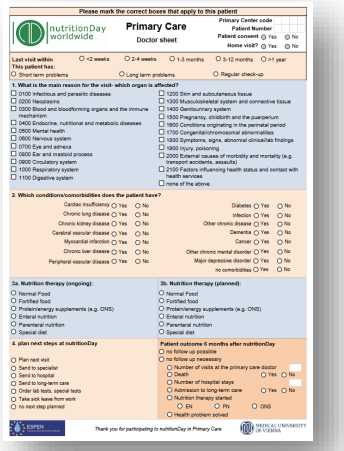
- Sex/age/weight/height
- Weight loss
- Mobility
- Food intake yesterday
- Food habits
- GI symptoms
- Recent surgery
- Medications
- Hospitalization



To be completed by the doctor at the end of the visit

Caregiver indicates on

- Reason for visiting the doctor
- Last visit on…
- Diagnosis/comorbidities
- Nutrition therapy (Today/planned)
- **OUTCOME (after 6 months)**



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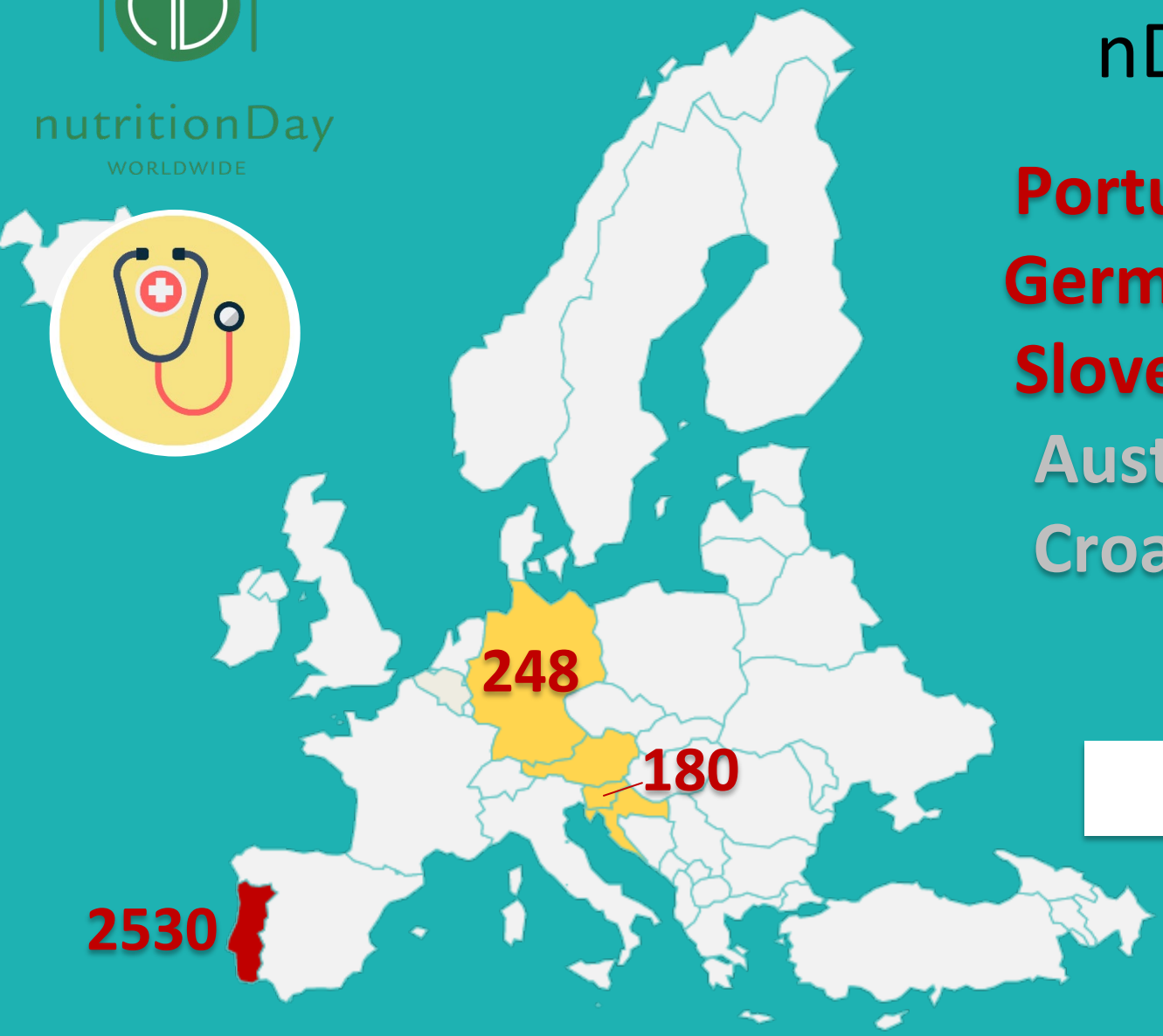
nDay in Primary Care PILOT



Portugal **236** units **2530 patients (85.5%)**

Germany 6 centers 248 patients (8.3%)

Slovenia 11 centers 180 patients (6%)

Austria 1 centers 0 patients

Croatia 5 centers 0 patients

Total 2958 patients

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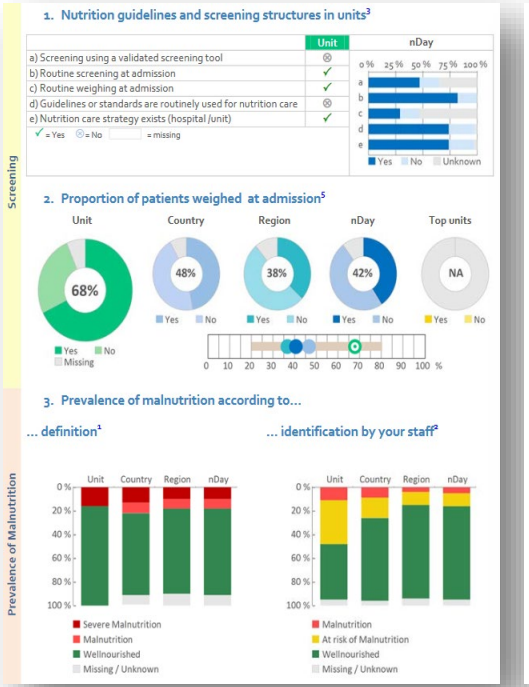
nDay unit Reports

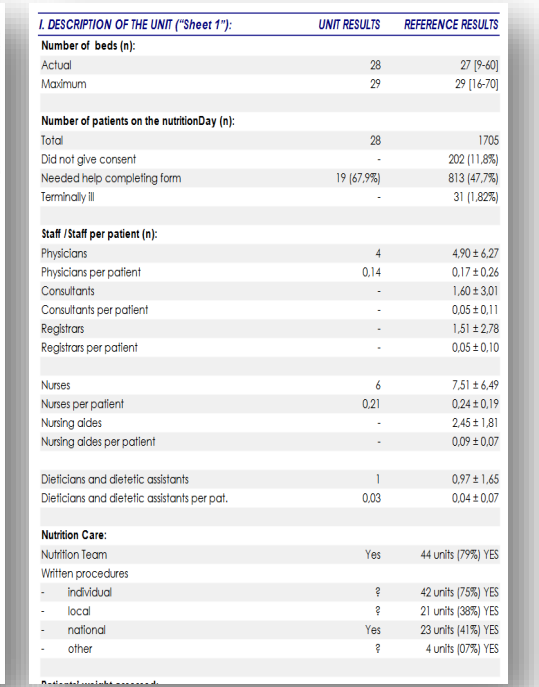
Hospital Oncology

HospitalExpress

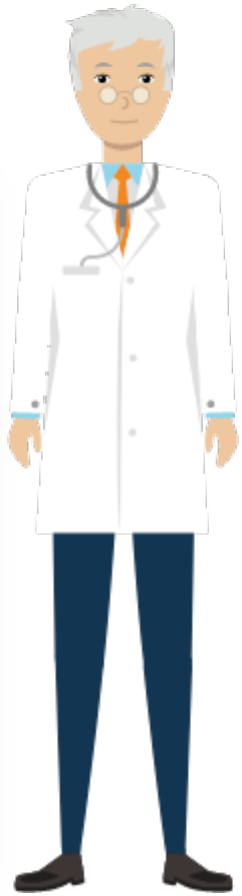
ICU

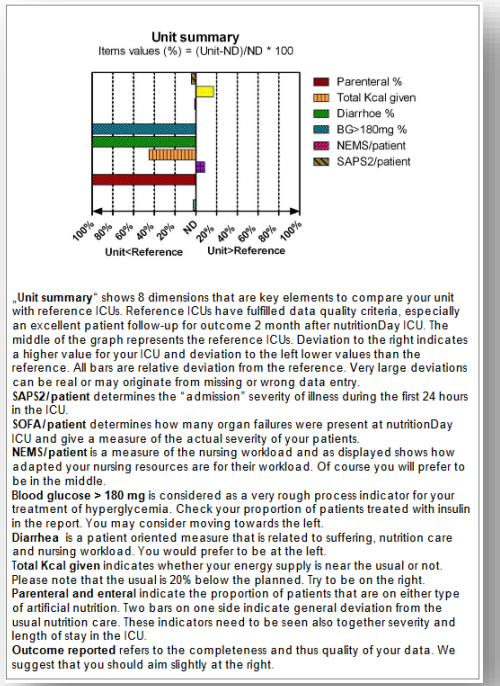
Nursing Homes



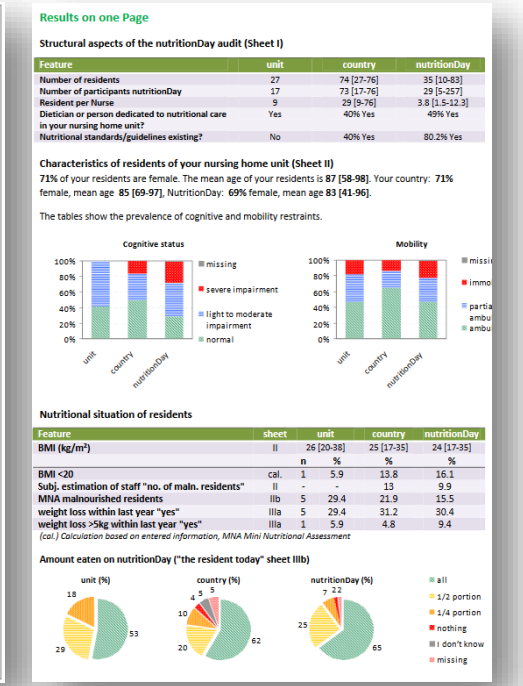


I. DESCRIPTION OF THE UNIT ("Sheet 1"):	UNIT RESULTS	REFERENCE RESULTS
Number of beds (n):		
Actual	28	27 [9-60]
Maximum	29	29 [16-70]
Number of patients on the nutritionDay (n):		
Total	28	1705
Did not give consent	-	202 (11,8%)
Needed help completing form	19 (67,9%)	813 (47,7%)
Terminally ill	-	31 (1,82%)
Staff / Staff per patient (n):		
Physicians	4	4,90 ± 6,27
Physicians per patient	0,14	0,17 ± 0,26
Consultants	-	1,60 ± 3,01
Consultants per patient	-	0,05 ± 0,11
Registrars	-	1,51 ± 2,78
Registrars per patient	-	0,05 ± 0,10
Nurses	6	7,51 ± 6,49
Nurses per patient	0,21	0,24 ± 0,19
Nursing aides	-	2,45 ± 1,81
Nursing aides per patient	-	0,09 ± 0,07
Dieticians and dietetic assistants	1	0,97 ± 1,65
Dieticians and dietetic assistants per pat.	0,03	0,04 ± 0,07
Nutrition Care:		
Nutrition Team	Yes	44 units (79%) YES
Written procedures		
- individual	?	42 units (75%) YES
- local	?	21 units (38%) YES
- national	Yes	23 units (41%) YES
- other	?	4 units (07%) YES





„**Unit summary**" shows 8 dimensions that are key elements to compare your unit with reference ICUs. Reference ICUs have fulfilled data quality criteria, especially an excellent patient follow-up for outcome 2 month after nutritionDay ICU. The middle of the graph represents the reference ICUs. Deviation to the right indicates a higher value for your ICU and deviation to the left lower values than the reference. All bars are relative deviation from the reference. Very large deviations can be real or may originate from missing or wrong data entry.
SAPS2/patient determines the "admission" severity of illness during the first 24 hours in the ICU.
SOFA/patient determines how many organ failures were present at nutritionDay ICU and give a measure of the actual severity of your patients.
NEMS/patient is a measure of the nursing workload and as displayed shows how adapted your nursing resources are for their workload. Of course you will prefer to be in the middle.
Blood glucose > 180 mg is considered as a very rough process indicator for your treatment of hyperglycemia. Check your proportion of patients treated with insulin in the report. You may consider moving towards the left.
Diarrhea is a patient oriented measure that is related to suffering, nutrition care and nursing workload. You would prefer to be at the left.
Total Kcal given indicates whether your energy supply is near the usual or not. Please note that the usual is 20% below the planned. Try to be on the right.
Parenteral and enteral indicate the proportion of patients that are on either type of artificial nutrition. Two bars on one side indicate general deviation from the usual nutrition care. These indicators need to be seen also together severity and length of stay in the ICU.
Outcome reported refers to the completeness and thus quality of your data. We suggest that you should aim slightly at the right.



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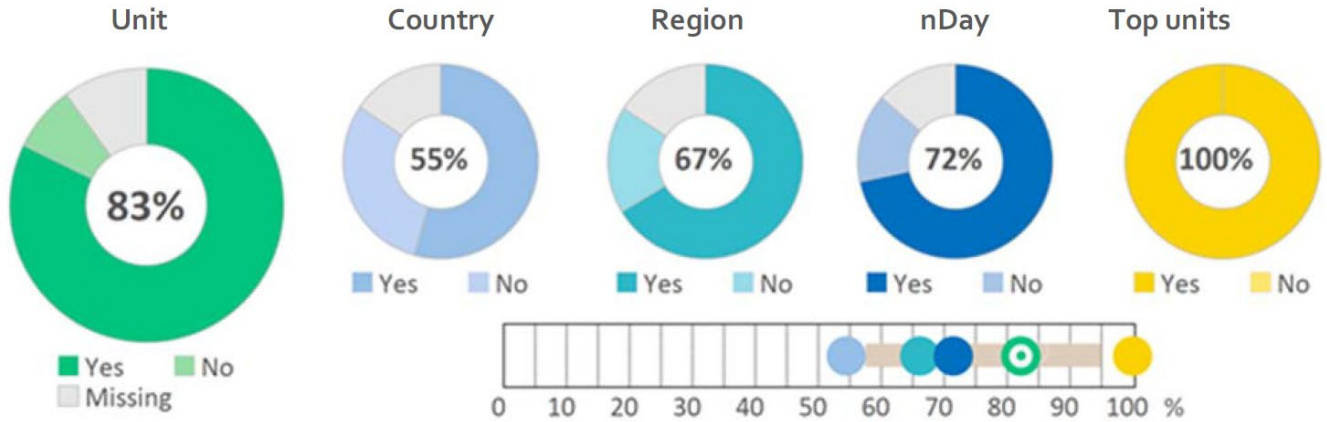
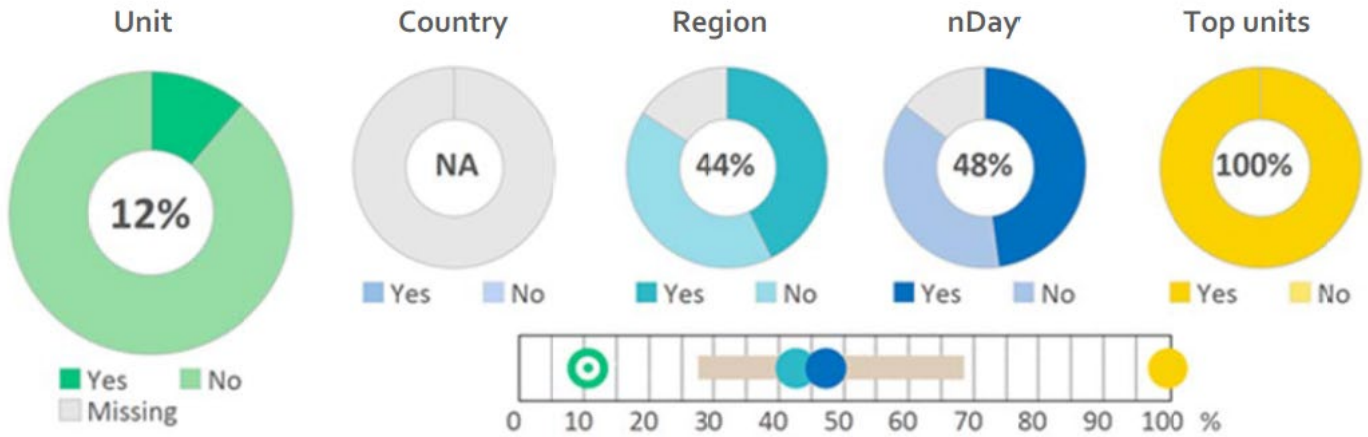
Unit graphical quality report : **Process** Benchmarking

2. Proportion of patients weighed at admission[5]



2. Proportion of patients weighed at admission[5]



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nDay annual Report COUNTRY (1)

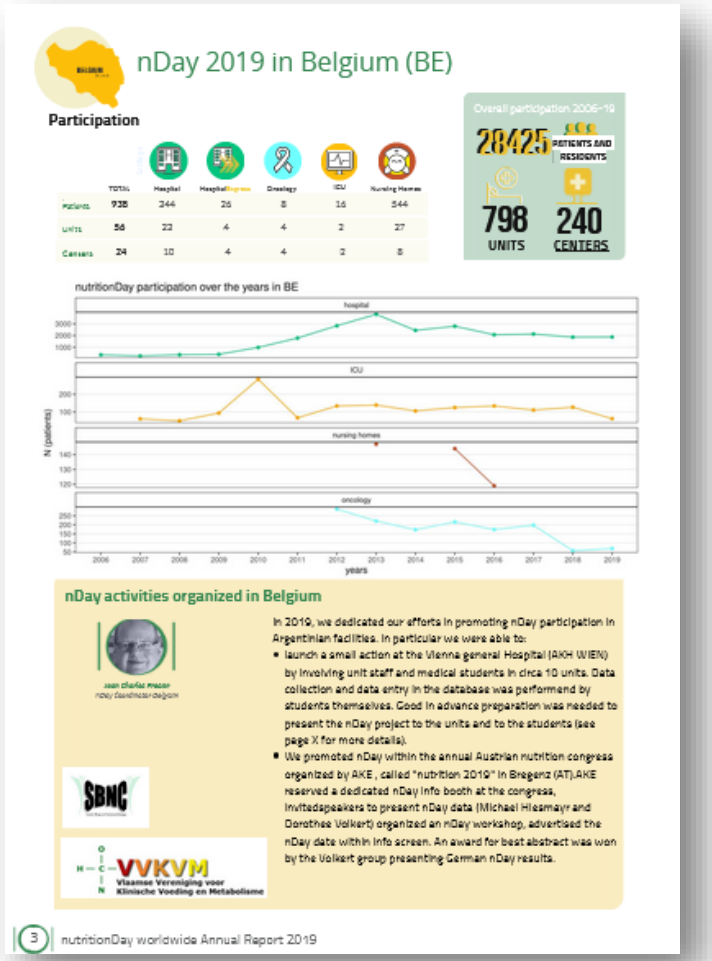
Countries are included ONLY if they have obtained a national report (min 6 units participating)

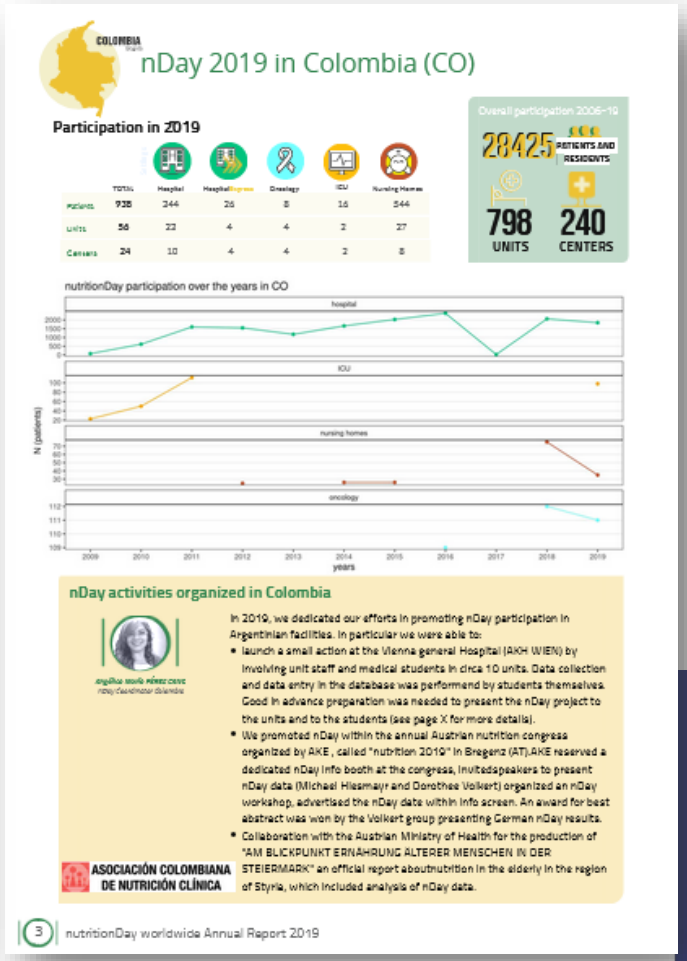
OverALL participation

2019 participation

Over the year participation/CATEGORIES

National coordinator + National Society activities organized





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Conclusion: nutritionDay advocacy

- Patient **bring** some characteristics/risk factors into the hospital that are associated with several outcome
- Risk profile **changes** with length of stay
- Risk factors interact and evolve in hospital: **mobility & eating**
- **Not eating** is not always recognized and not systematically triggering nutrition care
- nutritionDay
  - Creates **knowledge & awareness**
  - Objective **benchmarking**
  - Largest **reference database** for nutrition risk factors & care

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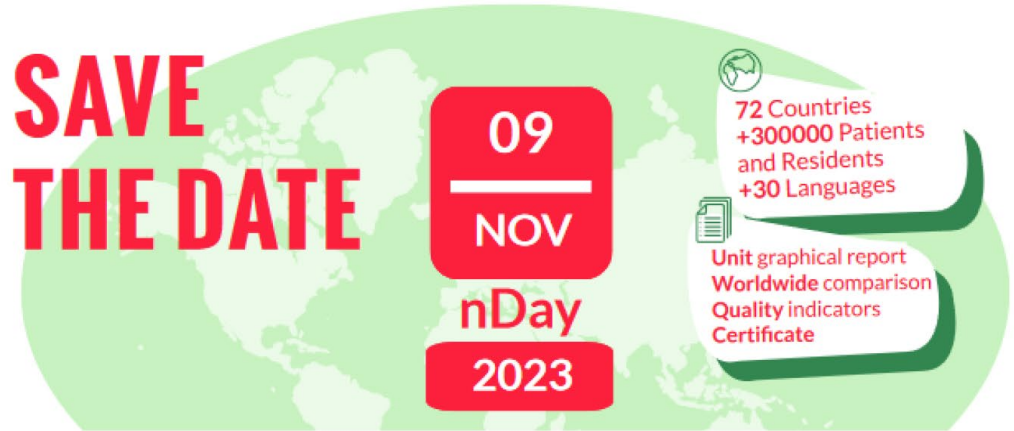
Join on **Nov 9th 2023** the international audit on **nutrition care in healthcare institutions**



Benchmark and **monitor** the nutrition care in your hospital or nursing home and your patients' nutrition risk profile.
FREE unit report with a comparison to the worldwide reference in the same specialty!
Participation free of costs

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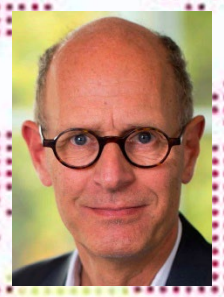
nutritionDay Core Team

PROFESSORS

Peter Bauer

Judit Simon

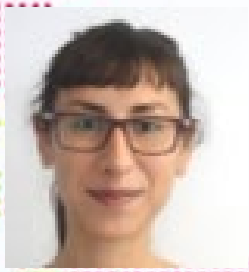

Michael Hiesmayr

Dorothee Volkert

Karin Schindler

Martin Posch

PhD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