Sharing experiences in applying for Research Grants – Interactive discussion

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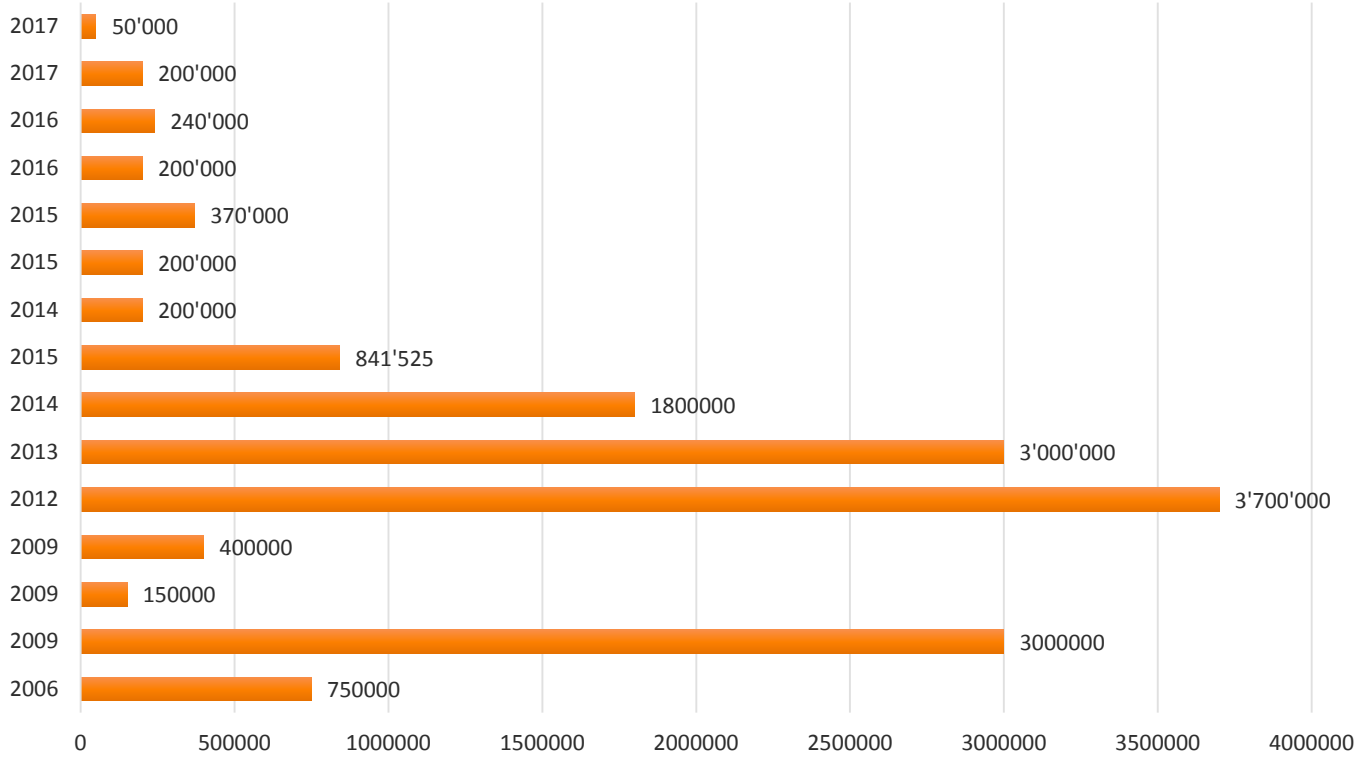
PMU, February 1, 2018

UNIL | Université de Lausanne

canton de vaud

Personal history of funds obtained: 15M



FNSNF
FONDS NATIONAL SUISSE
SCHWEIZERISCHER NATIONALFONDS
FONDO NAZIONALE SVIZZERO
SWISS NATIONAL SCIENCE FOUNDATION

FONDATION LEENAARDS

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Département fédéral de l'intérieur DFI

Office fédéral de la sécurité alimentaire et des affaires vétérinaires OSAV

EUROPEAN COMMISSION

The majority of submitted projects are rejected

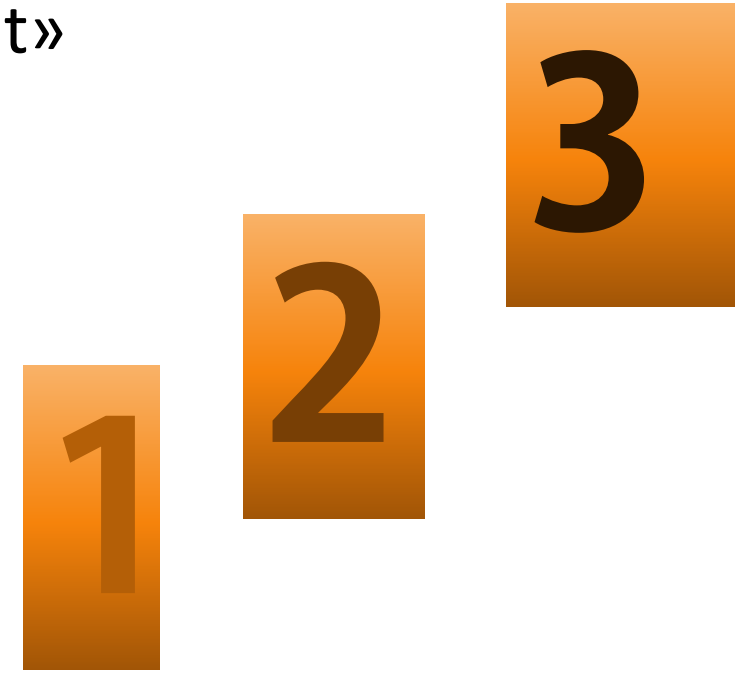
A few logical rules

1. To be financed, a project needs to be submitted.
2. The majority of submitted projects are rejected.
3. Rejection does not mean that the project is not good.
4. A project can always be improved.

Rejected projects can be recycled

The most difficult fundings to obtain
are the first ones,

when the CV is «light»



Do not under estimate the administrative part!

European Commission - Research - Participants
Proposal Submission Forms

Proposal ID **633666-2** *Acronym* **LIFEPATH**

PIC	***Legal name***
999600909	*HOSPICES CANTONAUX CHUV*

Short name: CHUV

Address of the organisation

Street Rue du Bugnon 21
Town LAUSANNE
Postcode 1005
Country Switzerland
Webpage www.chuv.ch

Legal Status of your organisation

Research and Innovation legal statuses

Public body ..... yes
Non-profit ..... yes
International organisation ..... no
International organisation of European interest ..... no
Secondary or Higher education establishment ..... no
Research organisation ..... no
Small and Medium-sized Enterprises (SMEs) ..... no

Legal person ..... yes

Tips!

- Many rejections occur because the project does not match the call.

  ➔ read the conditions several times.

  ➔ call the administrative person in charge.

- Some reviewers will not spend many hours reading your project.

  ➔ spend time on the summary and on the structure

- Many reviewers will not be experts in the field

  ➔ ask a colleague to read the project

Both content and format are important

Content

Form

Structure, references, sentences, paragraphs

2. To develop epidemiology tools better able to capture the dietary patterns and nutritional status of the Swiss population.

Given the recognized need for novel and more efficient population epidemiology tools to capture dietary patterns and the nutrition status of people, we plan to conduct new analyses on existing population-based data (Menu-CH1, SKIPOGH) and biobank (SKIPOGH) and to generate new population-based data (SKSC controls) taking advantage of the existing infrastructure, human resources and expertise.

2.1. To examine the nutrient density of the Swiss diet, overall and by regions [MB, OB, CW].

Nutrient profiling, which aims at categorizing foods according to their nutritional quality[83 84] has been advocated as a useful tool to guide public health strategies and policies[83]. Diets rich in nutrients and low in energy could prevent non-communicable diseases[85]. The Nutrient Rich Food index score 9.3 (NRF9.3) was inversely associated with all-cause mortality in the Rotterdam study[86]. In this project, we will generate the nutrient density of consumed foods (Menu-CH1 data) in Switzerland using nutrient profiling scores. We will describe the nutrient density of Swiss diet overall and by regions using standard statistical techniques. **Data source:** Menu-CH1.

2.2. To explore the contribution of fermented foods to the Swiss diet and to assess their associations with the available health outcomes, focusing on fermented dairy [GV, MB, CW, OB].

Microbes and products of microbial fermentation in foods are integral parts of the diet of hominids since at least the Early Mesolithic 9'200 years [87]. The role of food fermentation in human societies has

Task 2.1: Ethics approval for all data sets

Even though ethics approval was obtained for all data sets it will be assured that potential changes in the study goals can be followed by the amendments of the ethics protocols. This task will also assure new ethics requests of other data need to be acquired.

Task 2.2: Ethical monitoring for big medical data

Task 2.2 will work with other stakeholders in Switzerland and internationally on ethical aspects linked to medical big data. It is an important topic to protect personal data. On the other hand it can also be unethical to not use data that can help many people.

Task 2.3: Security guidelines for EaaS

This task will work on security constraints of new data analysis models such as EaaS. This could be done in fully sandboxed environments, as it is important to not import security problems to the hospital network when moving algorithms to a secure data storing environment.

Task 2.4: Anonymization of data and constraints

The data from the cohort studies is already anonymized but this task will further analyse the risks of the data to allow for re-identification and implement tools also for potentially additional data that are to be acquired.

Milestones (M, month):

M04: Formal approvals for use of the data for the two case studies are available for the three datasets
M12: Metadata and data are harmonized across datasets
M12: First infrastructure prototype ready and usable for data access
M18: Interviews with small enterprises in the medical field regarding take up of data access technology etc.
M24: First organization of scientific challenges on the give infrastructure
M24: User tests of the visualization tools in view of commercialization, tests to show costs reductions in hospitals
M36: Second prototype of the integrated data access, machine learning and visualization tool ready
M36: Clear idea on the value of anonymized medical research data, value of annotations and also value reduction of medical data over time

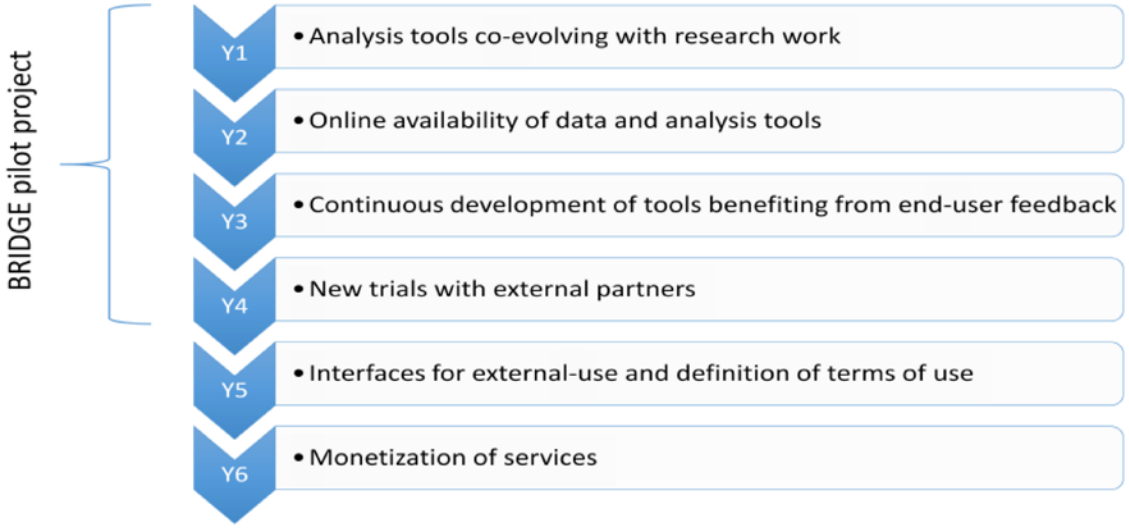


Figure 5. *Road map figure during and beyond the project.*

Include figures and tables

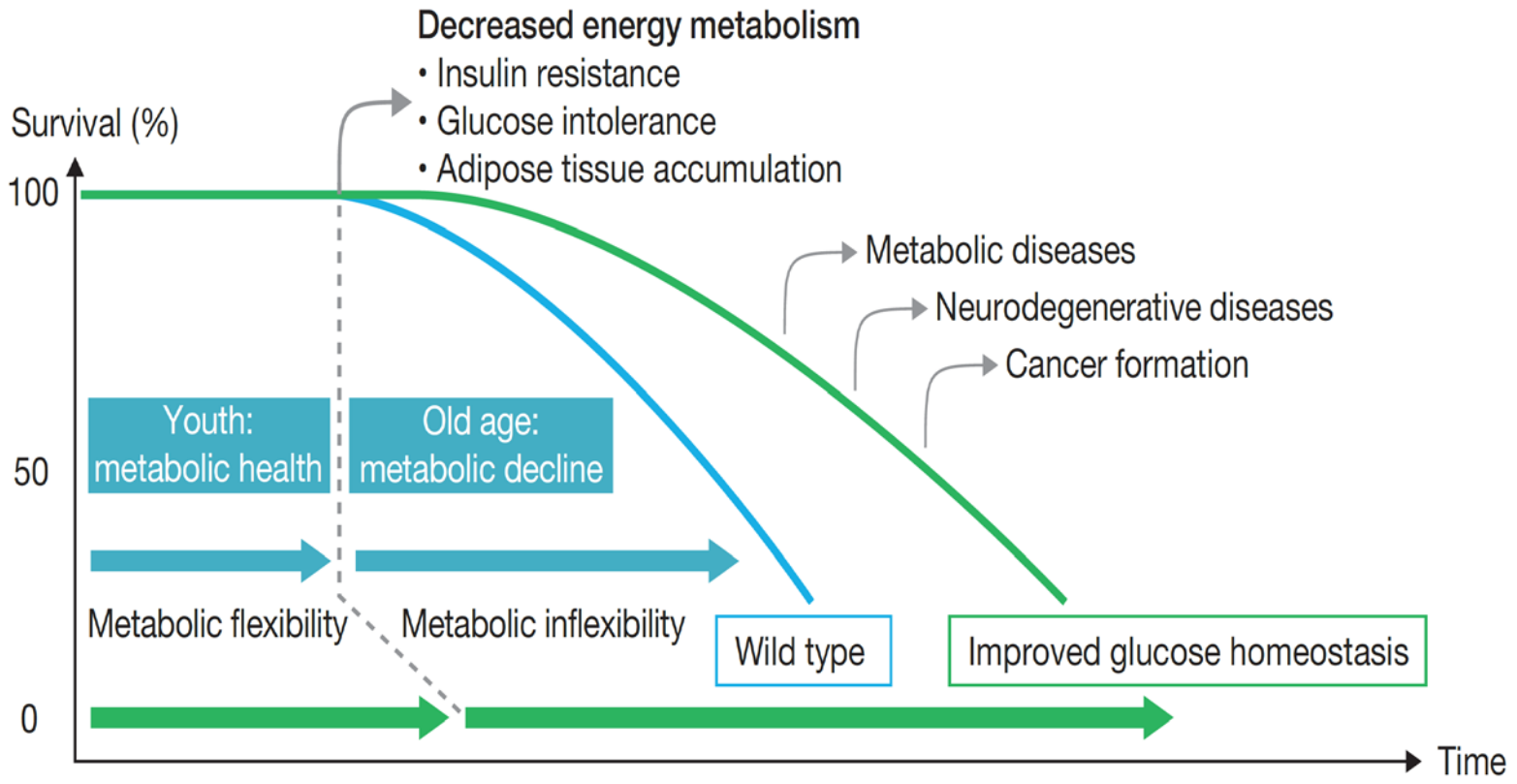
- Figures and tables provide a lot of information in a short amount of time.
- Adequately label axes (big font!)
- Figure legends are very important and need to be self-explanatory.

Table 1. Available data for which investigators directly contributed and resources and corresponding projects

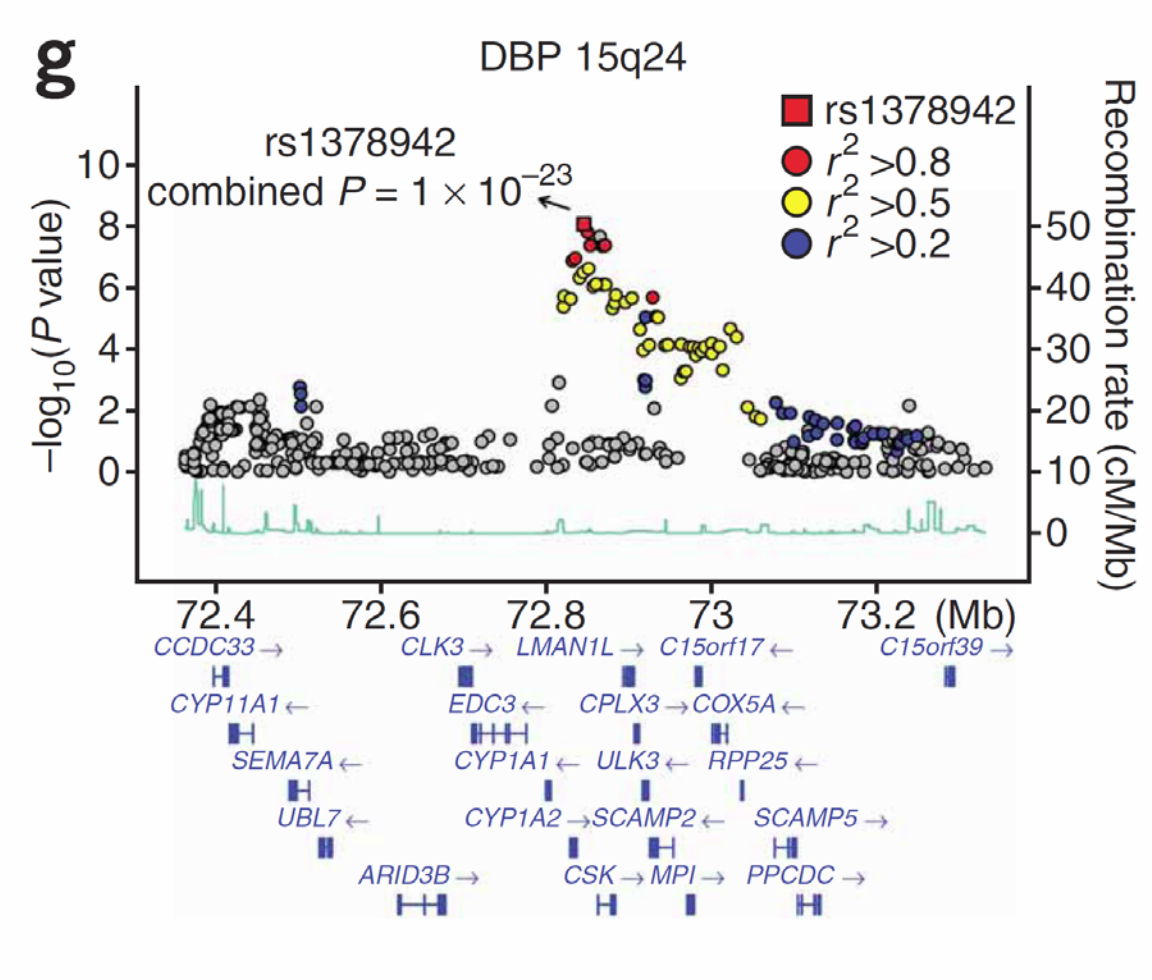
Data/resource	Funding	Responsible persons	Regional coverage	Contribution to projects
SKIPOGH1 & 2 data and bio-bank	SNF-funded, H2020 (Lifepath)	MB	Cantons VD, GE, BE, adults 18-90 years	1.2; 1.3;2.2
SKSC infrastructure, proto-col, centralized laboratory	NCCR-Kidney.CH, Hospitals	OB, CW	All Swiss University Hospitals	1.2, 1.3;2.2; 2.3
MenuCH1 food intake data	FSVO	MB, FSVO	Swiss 18-75 years	1.1; 2.1; 2.2
Nutrition intervention stud-ies (FOODBALL, Nutrichip 2, F3, trans-fatty acid)	Agroscope SNF, JPI	GV	Relevant world-wide	2.2
Broad nutrient panel list and fully equipped laboratory	Molecular Nutri-tion group, NIHS	SR	Relevant world-wide	1.3; 2.2
LCA databases	ESU-services	NJ	Switzerland and imported food and feed products	1.1

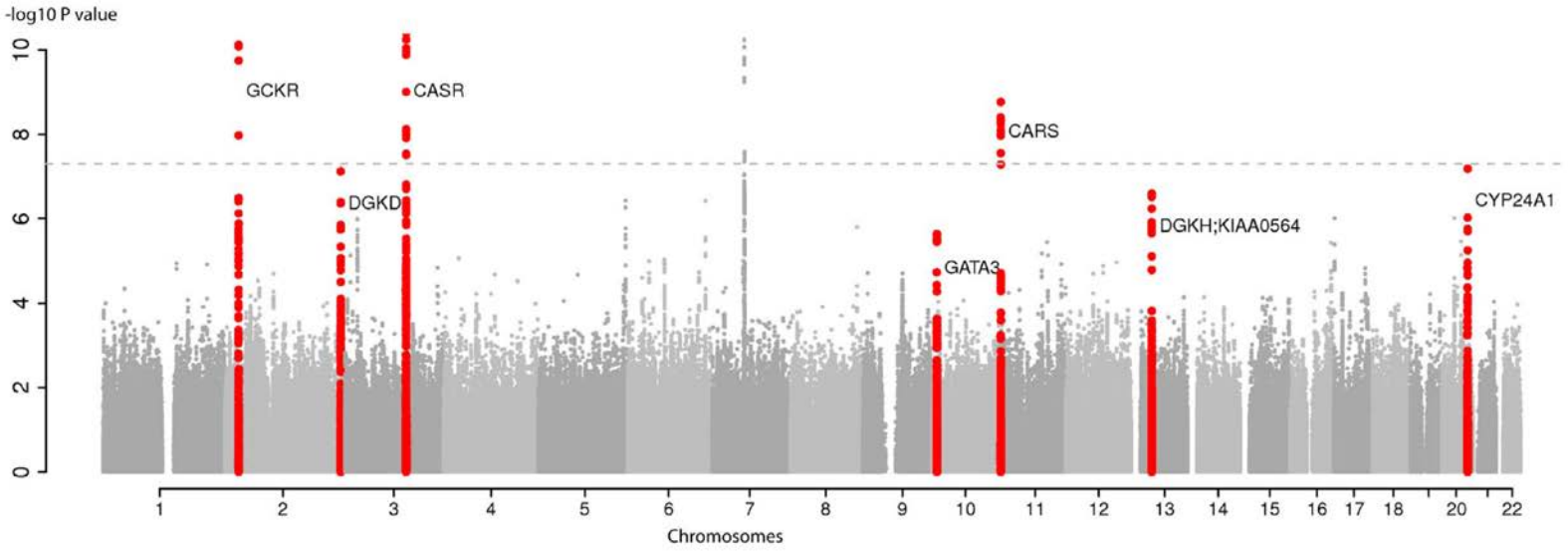
FSVO, Federal Food Safery and Veterinary Office. NIHS, Nestlé Institute of Health Sciences. SHBS, Swiss Household Budget Survey. SKSC, Swiss Kidney Stone Cohort. FSO, Federal Statistical Office (http://www.bfs.admin.ch/bfs/portal/en/index/infothek/erhebungen__quellen/blank/blank/habe/01.html). F3 (function fermented food) study. FOODBALL, The Food Biomarker Alliance.

Life-course perspective and metabolic flexibility

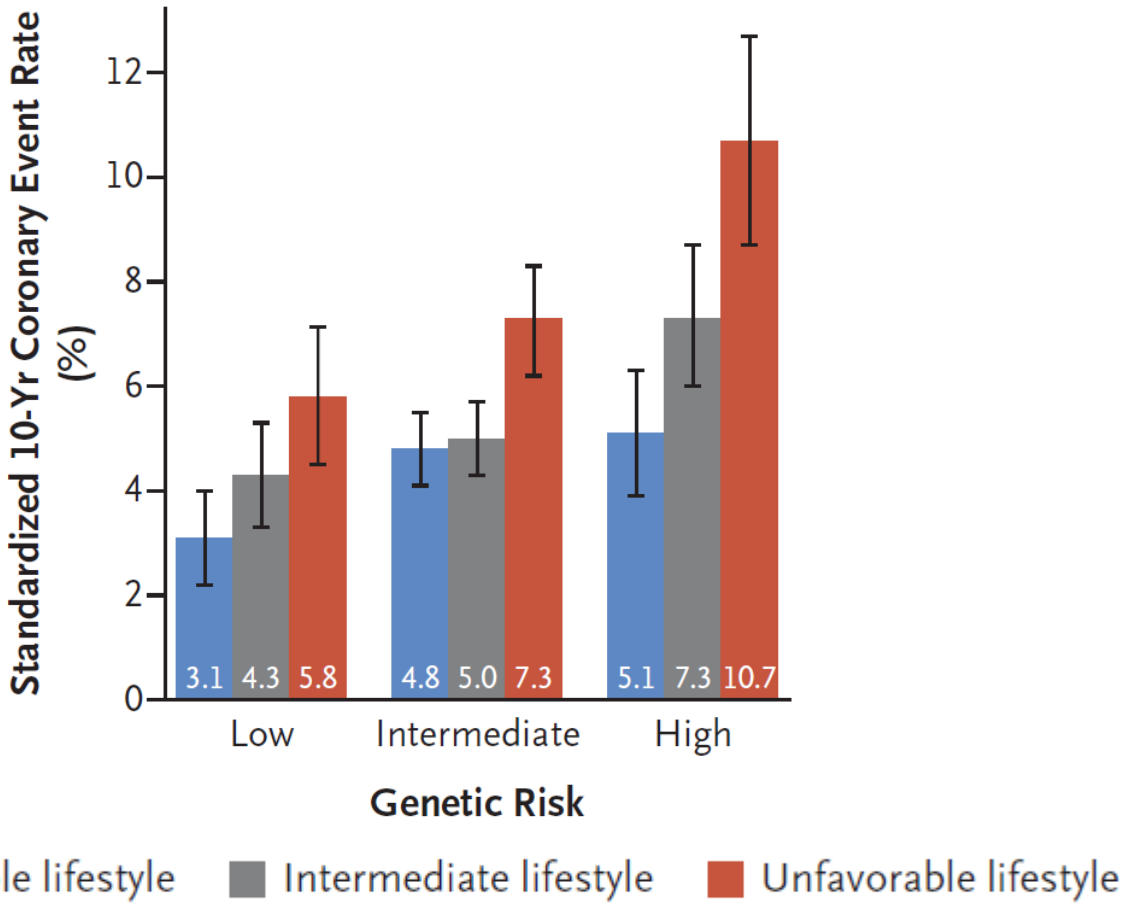


Riera &. Dillin (2015). "Tipping the metabolic scales towards increased longevity in mammals." Nat Cell Biol **17**(3): 196-203


g
DBP 15q24
rs1378942
rs1378942
combined $P = 1 \times 10^{-23}$
r^2 >0.8
r^2 >0.5
r^2 >0.2
$-\log_{10}(P \text{ value})$
Recombination rate (cM/Mb)
72.4
72.6
72.8
73
73.2 (Mb)
CCDC33
CLK3
LMAN1L
C15orf17
C15orf39
CYP11A1
EDC3
CPLX3
COX5A
SEMA7A
CYP1A1
ULK3
RPP25
UBL7
CYP1A2
SCAMP2
SCAMP5
ARID3B
CSK
MPI
PPCDC


-log10 P value
0
2
4
6
8
10
GCKR
CASR
CARS
DGKD
GATA3
DGKH;KIAA0564
CYP24A1
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
20
22
Chromosomes

10-year risk of myocardial infarction: usefulness of lifestyle at any genetic risk



Khera et al, NEJM 2016

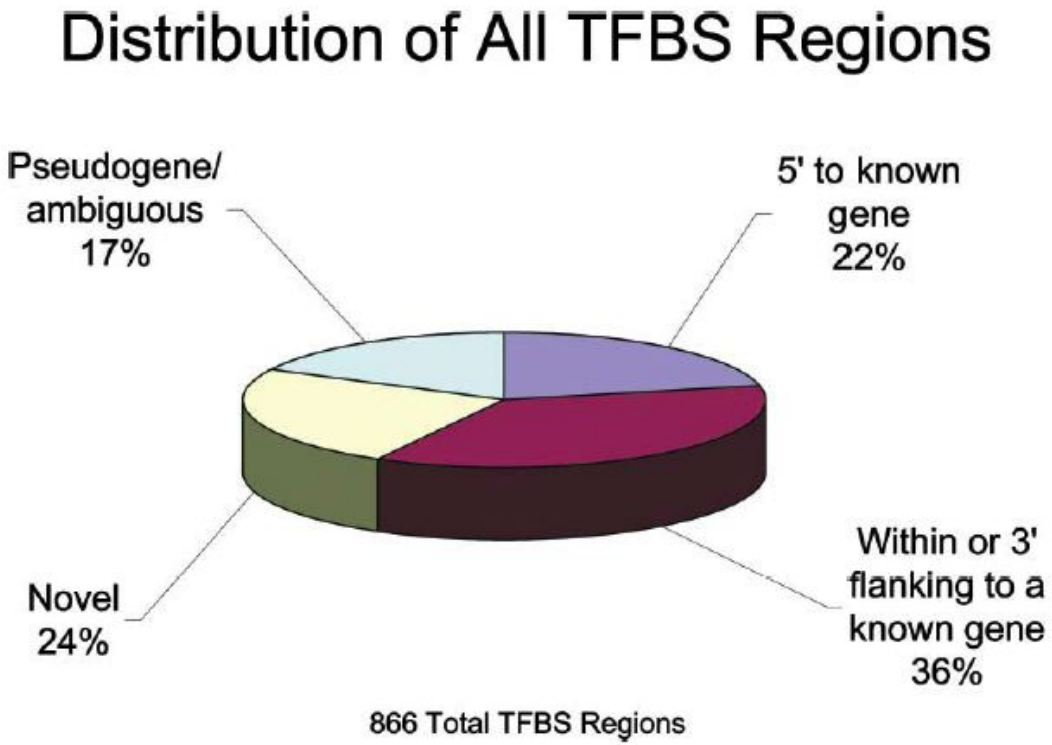


Figure 1. Classification of TFBS Regions

TFBS regions for Sp1, cMyc, and p53 were classified based upon proximity to annotations (RefSeq, Sanger hand-curated annotations, GenBank full-length mRNAs, and Ensembl predicted genes). The proximity was calculated from the center of each TFBS region. TFBS regions were classified as follows: within 5 kb of the 5′ most exon of a gene, within 5 kb of the 3′ terminal exon, or within a gene, novel or outside of any annotation, and pseudogene/ambiguous (TFBS overlapping or flanking pseudogene annotations, limited to chromosome 22, or TFBS regions falling into more than one of the above categories).

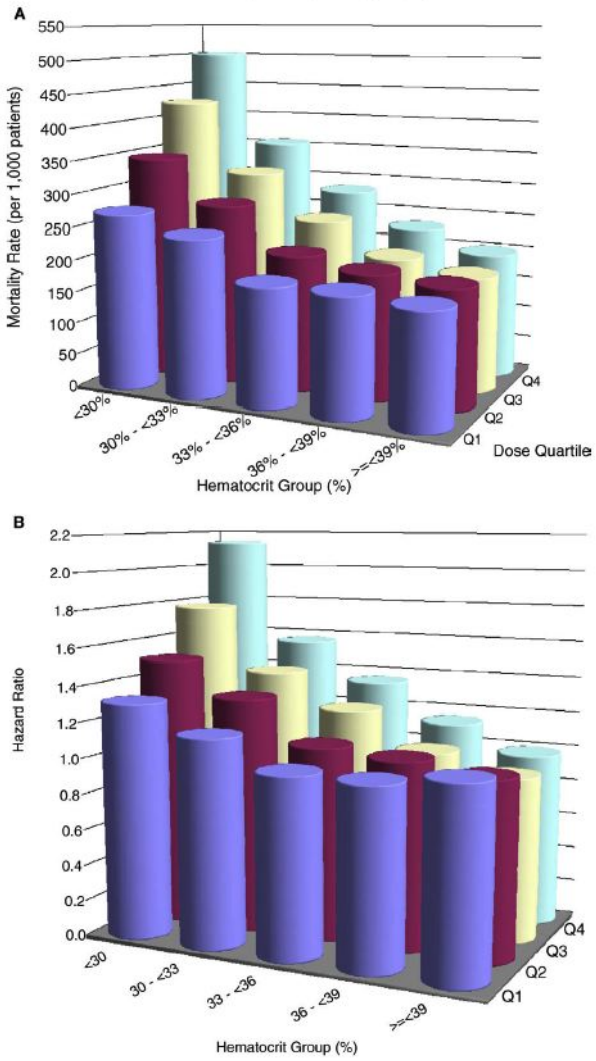

A
Mortality Rate (per 1,000 patients)
550
500
450
400
350
300
250
200
150
100
50
0
<30%
30% - <33%
33% - <36%
36% - <39%
>=<39%
Hematocrit Group (%)
Q4
Q3
Q2
Q1
Dose Quartile
B
Hazard Ratio
2.2
2.0
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
<30
30 - <33
33 - <36
36 - <39
>=<39
Hematocrit Group (%)
Q4
Q3
Q2
Q1

Table 5

Simulation results for using full data, CRs only, and proposed method under four missing mechanisms

	Bias[a]		Variance[b]		95% CI[c]	
Method	$(\hat{\beta}_W)$	$(\hat{\beta}_X)$	$(\hat{\beta}_W)$	$(\hat{\beta}_X)$	$(\hat{\beta}_W)$	$(\hat{\beta}_X)$
(M.1) $P(R=1)=0.66$						
Full	0.01346	0.02229	0.04008	0.03685	0.955	0.950
Comp	0.03062	−0.003561	0.1149	0.06732	0.960	0.955
Impu	0.01431	0.021	0.04088	0.05169	0.980	0.975
(M.2) logit $P(R=1)=2Y$						
Full	0.007908	−0.02116	0.03838	0.03624	0.975	0.925
Comp	0.01945	0.07096	0.107	0.06581	0.960	0.950
Impu	0.006966	0.01597	0.04227	0.05226	0.975	0.985
(M.3) logit $P(R=1)=2X$						
Full	0.007908	−0.02116	0.03838	0.03624	0.975	0.925
Comp	0.01225	0.0589	0.08856	0.06818	0.980	0.975
Impu	0.009563	−0.04699	0.03865	0.04923	0.985	0.970
(M.4) logit $P(R=1)=X+Y$						
Full	0.01346	0.02229	0.04008	0.03685	0.955	0.950
Comp	0.02404	1.613	0.1102	0.08202	0.955	0.580
Impu	0.01814	0.08289	0.0578	0.06075	0.955	0.970

[a]Bias $= (\hat{\beta}-\beta_0)/\beta_0$.

[b]Simulation variance.

[c]Confidence interval using jackknife standard error.

Funding sources

- https://www.unil.ch/researcher/en/home/menuguid/financements/financement-fondations.html

swissuniversities

- https://www.swissuniversities.ch/fr/services/bourses-pour-les-etudes-a-letranger/plus-dinformations/fondationssubventions/

FONDS NATIONAL SUISSE
SCHWEIZERISCHER NATIONALFONDS
FONDO NAZIONALE SVIZZERO
SWISS NATIONAL SCIENCE FOUNDATION

- Carrier (doc-mobility, post-doc, ambizione, prima)
- Projects
- Programmes: PNR, PRN, Sinergia, SCOPES, BRIDGE, COST, NCCR, longitudinal studies

BRIDGE

- BRIDGE is a joint programme conducted by the SNSF and the Commission for Technology and Innovation (CTI). It offers new funding opportunities at the intersection of basic research and science-based innovation, thereby supplementing the funding activities of the two organisations.

- **BRIDGE consists of two funding schemes:**
- **Proof of Concept** is aimed at young researchers who wish to develop an application or service based on their research results. These projects may target all kinds of innovations from all research areas.
- **Discovery** is aimed at experienced researchers who want to explore and implement the innovation potential of research results. Only technological innovations that have a societal and economic impact will be funded.

BRIDGE 22.01.2018

8

189

Horizon 2020

- Marie Skłodowska-Curie actions (MSCA) provide grants for all stages of researchers' careers - be they doctoral candidates or highly experienced researchers - and encourage transnational, intersectoral and interdisciplinary mobility.

- ERC starting grant
- ERC consolidator grant
- ERC advanced grant

- **National MD-PhD-Programme**
- **Funders involved in the program**
- Swiss Academy of Medical Sciences (SAMS)
  Swiss Cancer Research (KFS)
  Swiss National Science Foundation (SNSF)

- **Lausanne:**
- Prof. Ivan Stamenkovic, E-Mail: ivan.stamenkovic@chuv.ch, md-phd@unil.ch
- https://www.unil.ch/mdphd/en/home.html

Benefits of writing a grant

1. Knowledge improvement
2. New ideas
3. Networking
4. Setting-up collaborations