#### How to get there:

From the train station:

Bus Nr. 11, direction «Güterbahnhof» Bus stop «Inselspital», see «Bus 11» on the map.

At the Inselspital:

Auditorium Ettore Rossi, Kinderklinik, Freiburgstrasse, Entrance 31B

#### Registration until March 24, 2014:

http://www.akademien-schweiz.ch/pershealth

#### Contact:

research@samw.ch







































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Symposium

## From Systems Medicine to **Personalized Health**

International State of the art & Swiss perspectives

Monday, March 31, 2014 Inselspital | Bem







Efforts are being undertaken to set up a new research initiative in Switzerland about «Personalized Health». The vision of the national initiative is to develop and broadly implement a translational science program at the intersection of '-omics, systems biology and personalized medicine for the benefit of the health status of the Swiss population.

# "Personalized Health" Report to discuss options and frame for a new Swiss Initiative

\*) Working Group members: Ruedi Aebersold (ETH Zurich, co-chair), Vincent Mooser (CHUV Lausanne, co-chair), Jacques Beckmann (SIB ¦ UniL), Manolis Dermitzakis (Uni-GE), Eavan Dorcey (ETHZ, SystemsX.ch; Office), Manfred Kansy (Roche), Jonathan Knowles (EPFL), Donald Kossmann (ETHZ), Andrew Macpherson (University Hospital Insel Bern), Lucas Pelkmans (UZH), Nicole Probst (UniBS), Jürg Schifferli (University Hospital Basel), Alexandre Reymond (UniL), Thomas Singer (Roche), Didier Trono (EPFL), Daniel Vonder Mühll (ETHZ, SystemsX.ch; Office), Ioannis Xenarios (SIB ¦ UniL)



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# **Personalised Medicine**



Reactive, population-based, one-size-fits-all model of care



Predictive, preventive, patientcentric model of care





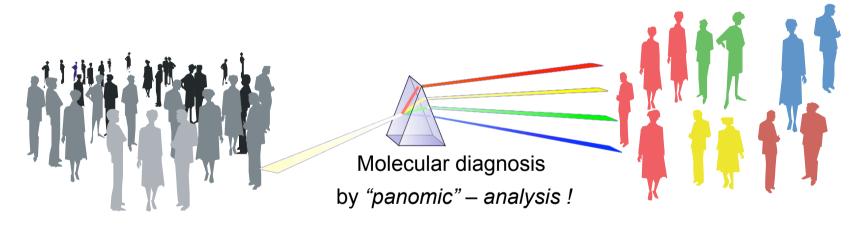
"Personalized medicine is a strategy to prevent, diagnose, and treat disease so as to achieve an optimal result for the individual."

Meyer UA, Clin Pharmacol Ther 91, 373, 2012



## **Personalised Medicine/Healthcare**

To distinguish from the sense in which medicine has always been inherently "personal" to each patient, PM commonly denotes the use of some kind of technology or discovery enabling a level of personalization not previously feasible or practical.

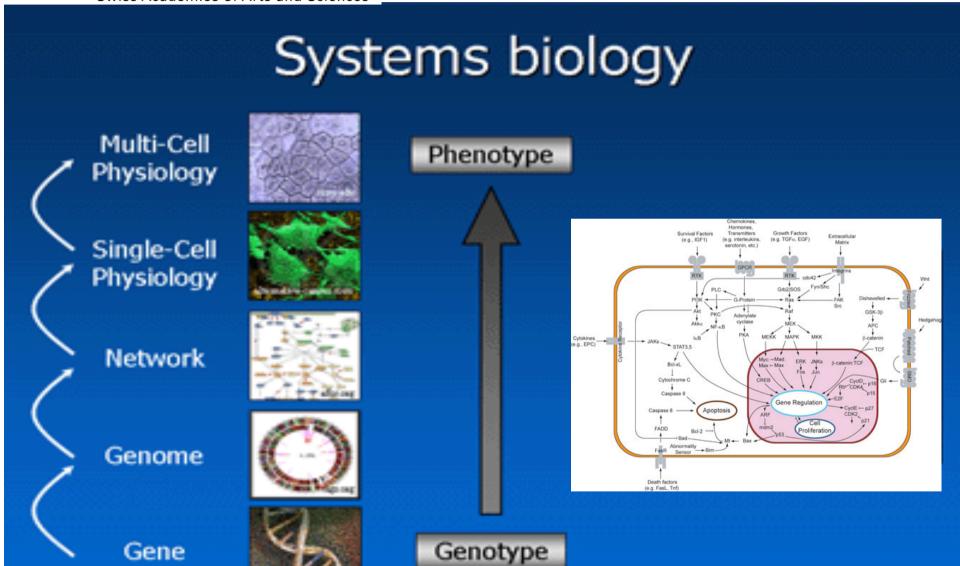


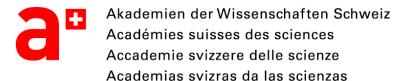
Increasingly, treatment will be tailored to selected patient groups defined by molecular biomarkers



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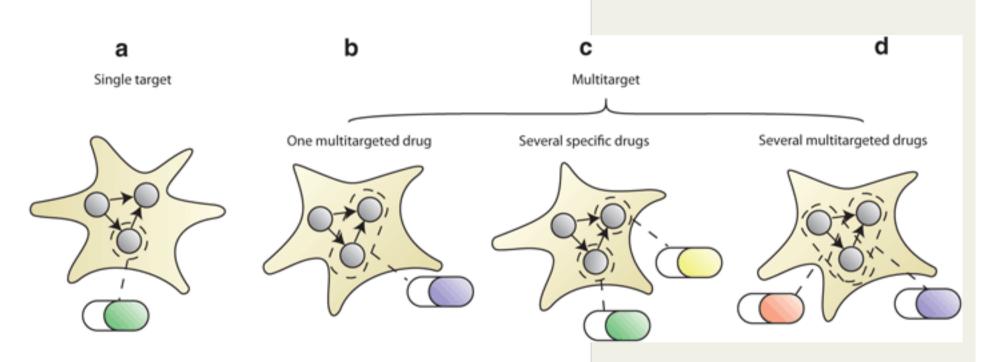
Clinical Pharmacology
& Therapeutics

\*\*Therapeutics\*\*

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## **Personalized Network-Based Treatments in Oncology**

Robin et al., CPT 94, 646-650, 2013

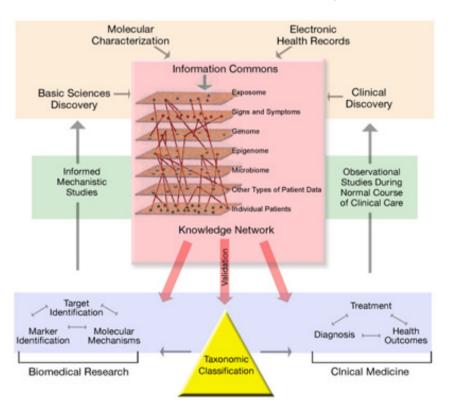


## The three most important network-targeting strategies

a) A single drug can be used to target a single node of the network; **b)** multiple nodes can be targeted with one multitargeted drug, or multiple nodes can be targeted with several **(c)** specific or **(d)** multitargeted drugs.

# **Precision Medicine or Systems Medicine**

... "panomics analysis and systems biology to analyze the cause of an individual patient's disease at the molecular level and then to utilize targeted treatments (possibly in combination) to address that individual patient's disease process".....



National Academies of Sciences (USA) Calls for Building Biomedical Knowledge Network to Drive **Precision Medicine.** *J. O'Brien 2011* 

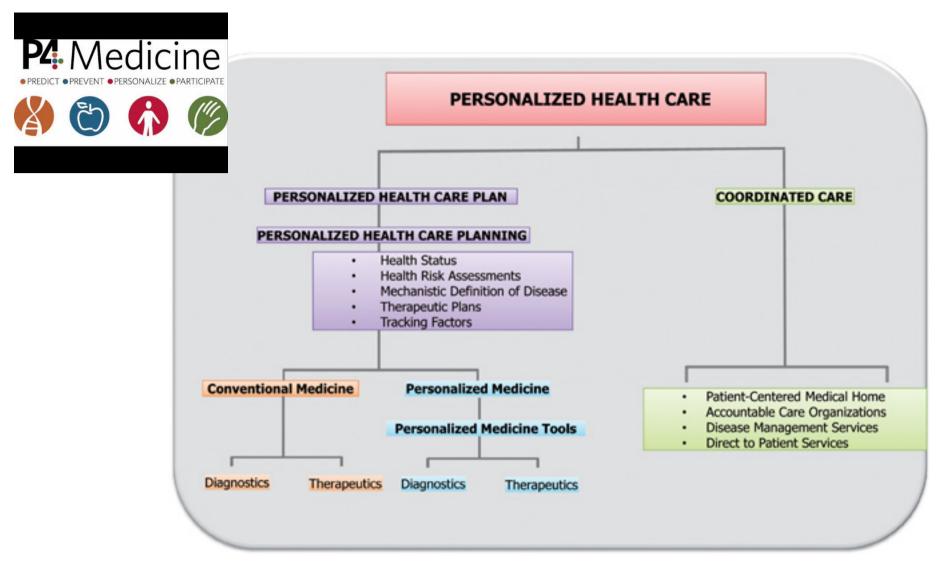
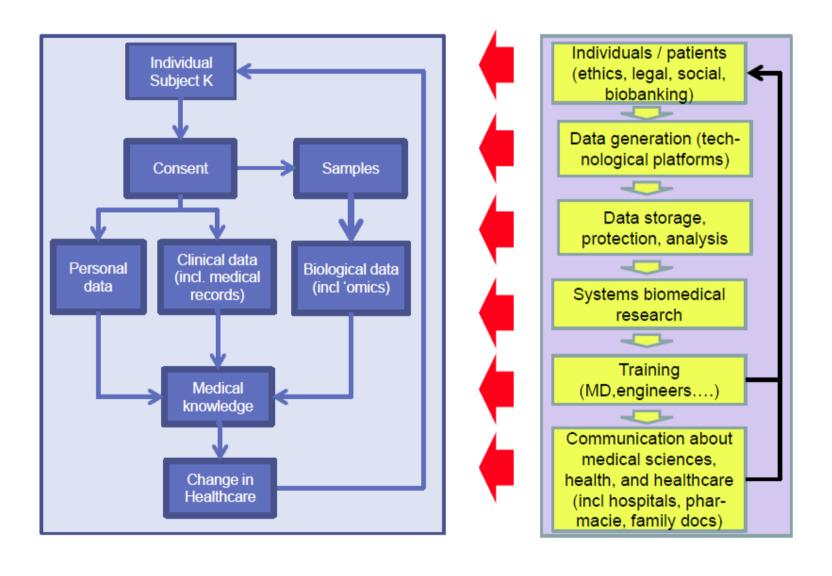


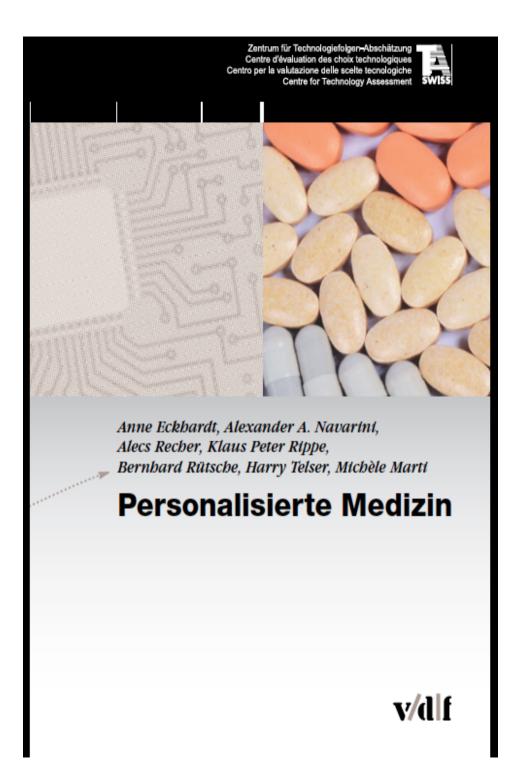
Figure 4. Hierarchy of the elements underlying Personalized Health Care which utilizes personalized health planning in conjunction with coordinated deliver systems to deliver personalized, predictive, preventive, and participatory care.

R. Snyderman, Biotechnol J 7, 973-979, 2012

## From Systems Medicine to Personalized Health

(Symposium March 31 & Workshop April 01 2014, Bern)







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