Some Key Tools for Future Healthcare Systems

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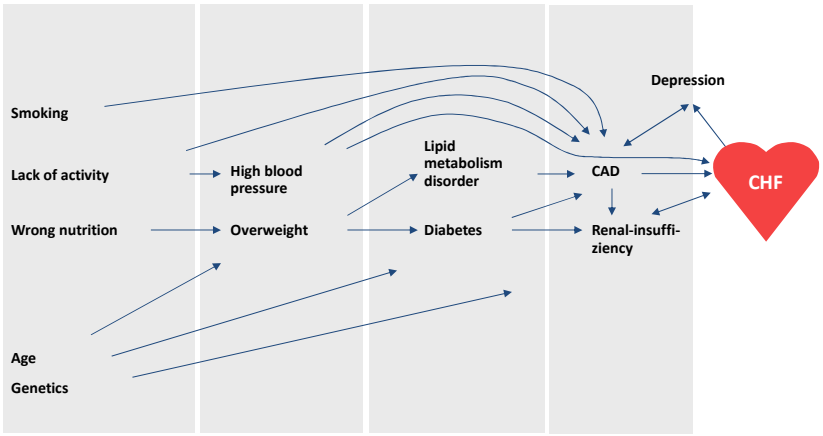
Heart failure is the Major Cause of Hospitalization in the Elderly Population

Congestive heart failure (CHF)

- Major cause of hospitalization of the elderly
- Within 12 weeks after discharge:
  - 24 % all CHF cases **readmitted** to hospital
  - 13,5 % of patients **die**
- 75 % men and 66 % women **die** within the 5 years after diagnosis
- 2 %of all **health care costs** of industrialized countries
- **Prevalence** will likely double until the year 2050

* McMurray et al *Br J Med Econ* 1993; 6: 99-110
** Anderson et al *NEJM* 1984; 311: 349. Cleland et al (The EuroHeart Failure survey programme), Eur. Heart J. 2003; 24 (5): 442
*** American Heart Association. *Heart and Stroke Facts*: 1996 Statistical Supplement; 1996: 15

Factors which lead to Heart Failure inititation, progression



Start with the unmet need and not the drive for diversification or technology

- Unmet need in CHF
  - Decrease morbidity, hospitalisation, mortality
  - Increase empowerment
  - Reduce the socio-economical burden
- Collaborative efforts between:
  - GP, cardiologist, nurses
  - Supported by healthcare payer driven by innovation and potential economical outcome

OSICAT trial (www.osicat.fr):
Disease Management Program for Heart Failure Patients in the frame of a RCT

Prevention / early intervention

Supporting patient self care

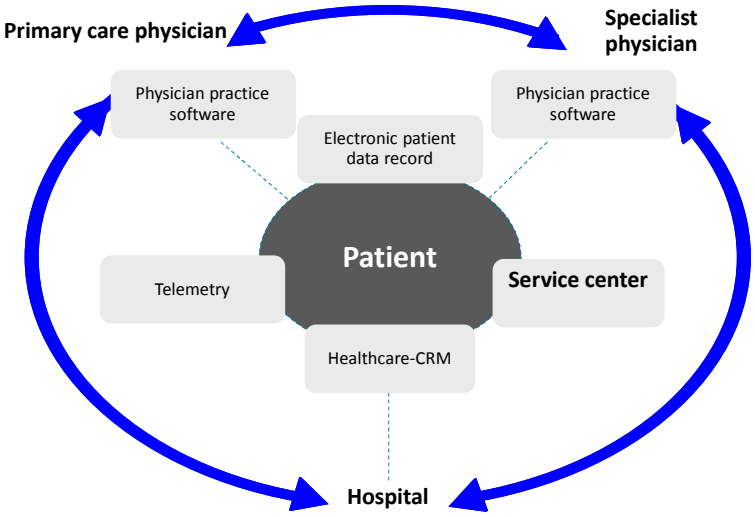
Improving communications with / between care providers

Randomisd Clinical Trial to assess if IT-based technology improves outcome of heart failure patient

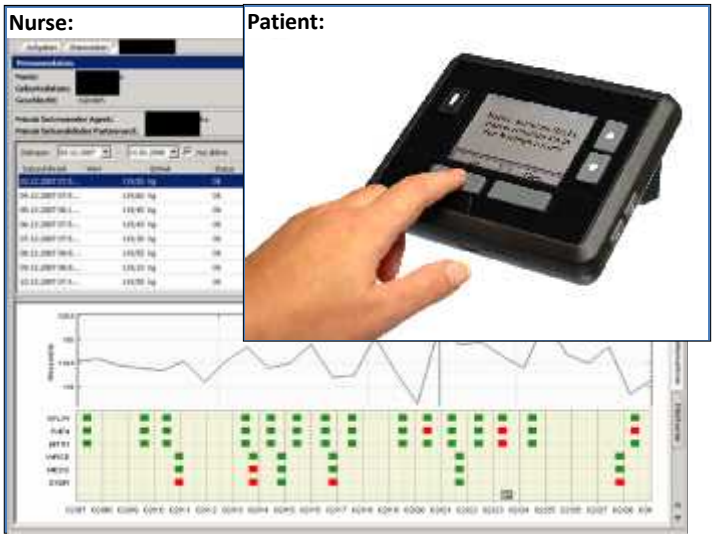
Alere

Cordiva

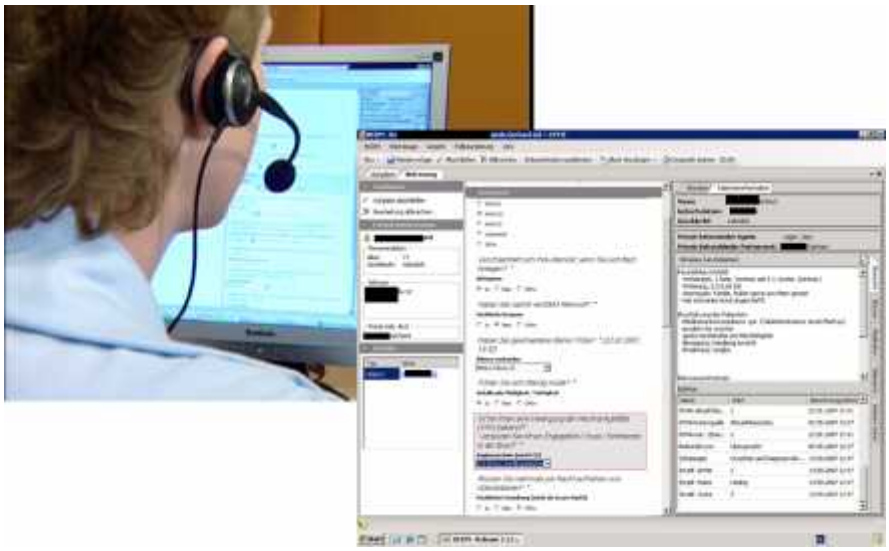
OSICAT / IT Architecture : combination therapy



Daily Analysis of Biometric Data: Body weight and symptoms

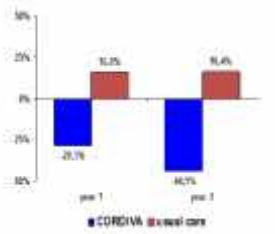


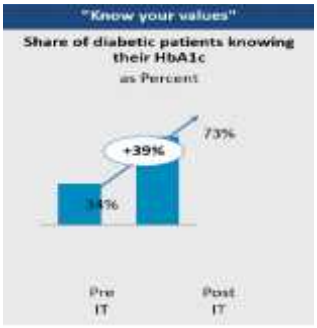
Telephonic Patient Care by Heart Failure Nurses

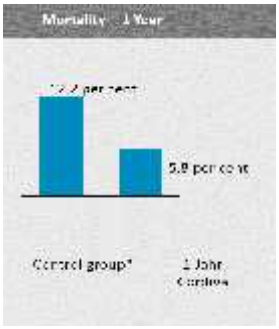


Benefits observed in previous experience

ANNUAL ALL CAUSE HOSPITALIZATION RATES COMPARED TO THE PRECEDING YEAR







OSICAT trial going on…

- RCT
- 800 patients expected
- Morbidity and Mortality trial
- Socio – Economic evaluation

	Inclusions réalisées	%	Screen Failure	Sorties d'étude prématurées	%
Témoin	179	49,0%		18	10,1%
Intervention	186	51,0%		19	10,2%
Total:	365	100,0%	4	37	10,1%

Collaboration , involvement : key for success

- Real partnership Caregiver/ industries:
  - Early involvement
  - Sharing common vision beyond just evaluation of device
- Support by institution
  - ARS, CHU but also scientific societies
- Involve the patient
  - Self Assessment
  - Therapeutic Education
  - Combination >> than IT alone

Collaboration , involvement : key for success

By using these technologies to support policy makers key objectives:

Example : how OSICAT (our study) can support PRADO (CPAM program) : fit into the system

By allowing interconnectivity between systems

Example : 30% of CHF patient have metabolic syndrome (diabetes, obesity) (Personalised approach)

By enabling new networks

Need to define a new model

- Technology has to be codeveloped and integrated (multi disease , multi box approach): By / For approach
- Strategies have to show an impact on morbidity , mortality , quality of life **OR new outcome criteria:** time stayed at home, cumulative events, comorbidity outcome…
- **Socio - Economics is key : acceptance ; cost, new payment models (who, why…)**
- Strategies need to be personalized, prescribed, not everything all the time

Where do we go now ?

Phases	Methodology	Objectives	Key Players	Timing
Phase 1	First in man Pathophysiology *(n=10)*	*Understand (med-tech)*	*Medical input*	Too Short has to be extended
Phase 2	Small Trials *(n=100)*	*Understand (med-tech)*	*Technical input*	Too Long
Phase 3	RCT *(n=1000)*	*Prove*	*Public - Private*	Long should be reduced
Phase 4	Registry *(n=10000)*	*Expand Big Data issues*	*Involve Payers*	Ad vitam