International Workshop

Satellite event to NET4Age-Friendly Management Committee Meeting

Naples, 7th October, 2021

16.00-18.00

Smart Health Age Friendly Environments: an opportunity to achieve a triple win through a collaborative and intedisciplinary approach. Sharing lessons with NET4Age-Friendly network

Summary

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1. *Key facts & figures*

The meeting was organised on 7th of October at Federico II premises of San Marcellino and Festo, and provided the opportunity to the stakeholders of Federico II community to become familiar about SHAFE concepts and hear from NET4Age-Friendly CA Chair, Carina Dantas, and Vice-Chair, Willeke van Staalduinen on the focus and activities being developed, open for collaboration.

The workshop was attended by 20 participants in presence, and 20 online.

Several interviews were carried out for the event, that are available at:

https://www.net4age.eu/blog

The interviews are available with English subtitles, to facilitate understanding to a broader community.

2. The event

2.1 Part 1. The content track.

Prof. **Maria Triassi**, the dean of Federico II Med School welcomed participants, and referred the constant commitment of public health to build ecosystems for health protection in the digital world, that are inclusive and equitable. Coherent and coordinated efforts across different sectors are the only way to ensure the resilience necessary to face challenges such as Covid-19 together. The integration between training, research and service provision that characterizes the School of Medicine and the Federico II University Hospital is an added value to achieve that digital and environmental transformation we can no longer defer, currently strengthened by our UNESCO chair, a fundamental element for delivering the health services of the future. Building healthy communities requires a collective, interdisciplinary effort at international level to improve patient empowerment, and ensure continuous training and adaptation of curricula. EU COST Actions play a key role for this, and prof. Triassi wishes for more workshops conjugating health, environment, and technologies to govern the ecological transition.

Carina Dantas, NET4Age-Friendly Cost Action Chair, referred to the connection of NET4 with the SHAFE network and concepts, to overcome the silos between technological developments with the building industry and citizens empowerment in digital and social health. Collaboration is at the heart of SHAFE, and we need to inform citizens, policy makers and all stakeholders of what we are trying to achieve, that is smart, healthy and inclusive environments, so that we can address together the many challenges we face. Cooperation for implementation are the key words of NET4Age-Friendly and of SHAFE.

Willeke Van Staalduinen provided a more detailed overview of the objective of NET4Age-Friendly, building up ecosystems at local level to implement SHAFE. She also illustrated the 5 working groups of the Action:

- User-centered inclusive design of SHAFE communities
- Integrated health & wellbeing pathways
- Digital solutions and large scale sustainable implementation
- SHAFE impact & sustainability
- Reference Framework

Willeke also highlighted that more than 700 submissions were reviewed by a team of experts from the United Nations entities, and "SHAFE implemented through NET4Age-Friendly" was one of the recognized good practices for the achievement of the sustainable development goals.

Mario Losasso referred to the interdisciplinary efforts of Unina community related to health and environmental design as a player of the relationship between people and urban spaces. "Think outside of the building" one of the concepts recalled by Losasso, especially referred to the cities where we live, work and pollute. Urban districts need to evolve in ecodistricts that contribute to wellbeing.

Gabriella Fabbrocini provided an overview of a multifactorial disease such as psoriasis, that is especially vulnerable to environmental conditions. Our skin is our barrier towards the outside, strongly related with our central nervous system and stressors, connected to systemic inflammation and to our lifestyles. An integrated, multidisciplinary approach is pivotal to successfully treat psoriasis: physical exercise can modify the natural history of this disease as a non-pharmacological therapy, effective also for other co-morbidities.

Annamaria Colao, Federico II Unesco chair, provided an overview of the Health Campus activities in the communities, with a strong synergy with the public health objectives of the School, to build local health

ecosystems. Indeed, stepping out of the hospital setting and offering free consultations and diagnostics to stimulate disease prevention and health promotion awareness allows to reach a high number of citizens. Results of all visits are provided to patients to be shared with their GPs, while data are collected in a DB in compliance with the GDPR, and are available to be shared in twinning activities.

2.2 Part 2. The round table: enabling factors to build local ecosystems

The round table provided an overview of the enablng factors for implementing SHAFE environments that are in better, safer, more responsible and more active. This refers not only to physical but also cultural enviroments, where education and digitalization play a great role. Integrating disciplines emerges as an organizational challenge: if we change something we need to adjust.

Maddalena Illario illustrated how building local ecosystems for innovation is essential to achieve the triple win, through the case of quadruple helix reference sites for active and healthy ageing. She provided an overview of the quadruple helix of innovation, including academia, community, governament bodies and industry in a shared effort to ensure that innovative good practices are transfered and scaled up from pilot to large scale deployment, igniting a virtuous cycle to address unmet needs.

Nicola Scomparin focused on the need for resilience of the European Health Systems considering the viewpoint of the regions, and in the light of the challenges of the climate change, managing the health-environment-climate connections with a integrated and intersectoral approach. "Investments, new/renewed infrastructure (digital and physical) along with updated expertise have to be designed for reforming national and regional plans" Scomparin says. Multi-stakeholder and multidisciplinary collaborations, for example with the Digital Innovation Hubs, is pivotal to strengthen the regional RIS3 strategies: this is an example of how ProMIS has been stimulating synergies between local, national and international levels.

Silvia Rossi addressed the challenges for technology-driven services. "Assistive technology products do not take into account the characteristics of their end-users, such as their specific deficit, emotional and behavioral problems, the attitude towards technology, and their physical and social environment, which could affect their acceptance, use, and effectiveness" she says. A valid assistive system with a high degree of user acceptance must be based on the knowledge of the potential users, as well as on contextual information, that provide essential parts of effective planning of the assistance process. The involvement of a multidisciplinary team including computer scientist, medical personnel and psychologists proved pivotal for a social robot system to deliver robotic assistive tasks in a personalized and adaptive way for functional and non-functional aspects.

Discussion moderated by Guido Iaccarino & Lorenzo Mercurio

NET4Age-Friendly and the RSCN are 2 parallel subjects running on different levels but complementary in the achievement of lifecourse AHA. SHAFE network is already synergic with RSCN, probably twinning activities is a way to strengthen their interactions, especially framing them in the quadruple helix for innovation.

There is a confusion between digital transformation of health system and using digital tools for communication, that is more digital than a telephone call but not what we intend. Innovation of health and care goes beyond simple telemedicine and implies interoperability, data sharing, robotics etc. Digital health for public health refers to user friendly technologies, though, as there is a need to take into account the capacity of the personnel to use such technologies: the key is training of personnel, not only in the hospital but also in daily life for the use of mHealth tools.

Collaboration & implementation are the key-words. Collaborations are required to identify the services needed by the communities, and need to involve endusers but also technology experts to develop an approach that is user-centered, rather than technology or product centered. Customization requires information that are difficoult to collect by engineers in a formalised way: how do you interpret the results of assessment test in a way that a robot can react accordingly? How do we tune technology?

We should start to have the same language.

In the future we will have more than one robot, not necessarily antropometric, but having a technology addressing our needs, interacting with us is the future. Doctors are used to elaborate, when taking a decision, in a few minutes a huge amount complex behavioural patterns difficoult to code in a simplistic way: the effort should be dual. Doctors should start thinking more simple, and engineers should start thinking more complex, but surely doctors decisions can be improved by the availability of more information, also outside the clinical office.

The challenge is in the training: Med Tech schools can be an enabler, if an integrated training is provided. In general, more multidisciplinarity in Med School would be an added value, for all professionals, but poses a challenge of changing the professional identity of people, and we need to manage this organizational challenge as well. Without a clear identity maybe someone cannot work in the best way possible.

New types of curriculum could be proposed to the NET4Age-Friendly community, and have the STSM grants for travelling and support universities who want to do the same, through benchmarking. It is essential to have more knowledge and multidisciplinary education is pivotal. This junctions can be developed also for environment, and the Med Tech example can lead the way in this sense. Marie Curie program is a very powerful program that could be also very useful in this direction, and hopefully also Horizon 2020 might be important for this kind of revolution.

Education should be provided also to public administration and politicians: indeed, this revolution can be possible if we manage to overcome the "culture of administrative compliance": changing our investments means not only spending, but also spending in the right way to generate results.

3. The floor to the key-players: interviews highlights.
   a. Anna Iervolino, Federico II University Hospital CEO

   "We are facing the challenge of addressing diverse patients needs, and we know that a universal health service has to be inclusive and facilitate accessibility to services" the CEO of Federico II University Hospital says. "The digital transformation has undergone an acceleration during the pandemic, especially in terms of telemedicine. Our hospital has been strengthening its offer to make it innovative and adequate to complex needs, conjugating training, research and service offer. Resources are moving from the hospital towards the communities: it is pivotal to ensure continuity and integration of connected services, for which networking is pivotal: between organizations and with all stakeholders".

   b. Maria Triassi, Federico II Medical School Director

   "Federico II University ensures the interdisciplinarity required to build successful ecosystems for the digital transition of health and care services, including the digital health record and telemedicine. Several different interdepartmental centers such as the CIRMIS or the CESMA, bring together components of medicine and engineering that collaborate" prof. Triassi says. "Internationalization processes should be stregnthened, to facilitate logistics and administrative procedures underpinning cross-border collaborations. The National Recovery and Resilience Plan is an opportunity to renovate the physical and technological infrastructures of our medical school, activate the emergency room and become more resilient, sustainable and competitive at national and international levels".

   c. Nicola Scomparin, ProMIS delegate

   "Sharing at national levels activities that are connected between regions is a strength to bring consensus on the contribution provided to the international levels and viceversa" Nicola says. "Being public bodies can slow down collaborative processes, but ProMIS is now familiar with such processes and can speed them up". "We are in line with the digital and green transitions, activating synergies at regional and national levels for health that take into account internal and external environments" is the final highlight Nicola provides.

   d. Carina Dantas, NET4Age-Friendly Chair

   "The big question to make SHAFE environments a reality is bringing together the relevant stakeholders to a SHAFE implementation plan, sitting people together to agree on what to do together, with a pragmatic approach" Carina says.
   "Data sharing is pivotal fo SHAFE, but we need to involve citizens and there is not enough awareness on this. What it means to share data, and why this is important is not well known yet: awareness and good tools" she underlines.

   e. Maddalena Illario, Unina and RSCN

   "Joining networks is a key element to facilitate internationalization at locoregional and international levels, valorising ongoing efforts and subsequent adopion of innovative approaches for public health" Maddalena says.
   "Siloed approach to research and innovation hinders internationalization in our universities: horizontal collaborations between departments for shared objectives, such as one health, and the twin green and digital transitions are a possible response to this challenge"

   f. Lorenzo Mercurio

   "Key organizational challenges are strictly connected to multidisciplinarity: health needs especially change the way professionals work, that implies change management and often

also change the identity of the professionals, when bringing the citizen at the center" Lorenzo says.

"Accelerating service integration can be facilitated by knowledge and training, but innovation needs political commitment and citizens empowerment" he underlines.

g. Silvia Rossi

"The pandemic highlighted several ways to use robotics complementing human work, to help caregivers and clinicians in their daily routines" Silvia says. "It is well known that interdisciplinary collaborations are pivotal to develp tools that can be used successfully in real life, but multidisciplinarity is often not valorised when evaluations are carried out at academic level" she closes.

h. Mario Losasso

"This is the first time we put on the same level people and spaces. This changes how we see their interaction, and influences how we re-design and care for the spaces where functional activities are carried out, being aware of their impact on health and wellbeing" Mario says. "University spaces for students can be reorganised physically at the same time conjugating digitally innovated, quality services" he underlines.

i. Gabriella Fabbrocini and Guido Iaccarino

"The skin is our first contact with the environment" prof. Fabbrocini says, "and this is why dermatological diseases impact health and well being, often perceived negatively for social interactions. They require a multidisciplinary approach, where different specialists ensure a comprehensive evaluation: this is what we have been implementing for psoriasis patient, through an empowerment aimed at reducing the stigma that patient feel, and positively influencing the course of the disease". "Integration with community professionals has greatly been supported by e-health solutions for patient-centered care", she says.

"Multimorbidity means multiple diseases requiring complex treatment options" prof. Iaccarino says, "for which it is pivotal to adopt healthy lifestyles, through adequate food intake and physical activity. Not all patient can do the same, due to their diseases: we adopted a new approach for the prescription of adapted physical activity, developed through european projects and twinnings, to prescribe programs of adapted physical activities that are personalised according to patients needs, and digitally supported to improve adherence and allow self monitoring". "Innovative procurement can speed-up the process of adoption of innovative solutions customised to specific needs, and we experienced it for diabetes and hypertension, coming up next adapted physical activity and heart failure".

4. Emerging key elements to **build SHAFE ecosystems**

The need to strengthen multidisciplinary collaborations to ensure health in the digital world was a recurrent element throughout the workshop. Clearly, new approaches can be tailored to specific settings of service provision that impact health, strengthening our capacity of being inclusive and equitable. Figure 1 provides an overview of the inputs provided by the participants, allocated to a SWOT analysis.

Strengths	Weaknesses	Opportunities	Threats
Communities of SHAFE network Net4Age-Friendly CA	Siloed training	Twinnings with other networks, like RSCN

Med Tech Schools as an example of good practice for interdisciplinary training | Product-centered technologies |
Quadruple helix of innovation model of the EIPonAHA	Slow processes in public bodies	Customization of solutions	Change of professional identity in multidisciplinary environments
	Weak horizontal activities	Empowering citizens	Culture of administrative compliance
	Inadequate acknowledgment and valorization of interdisciplinary research	Redesign spaces	Low political commitment
		Marie Curie	
		Horizon Europe	
		Med Tech Schools	

Table 1: Key elements for SHAFE ecosystems

5. Enabling factors for SHAFE ecosystems

During the Q&A and during the discussion of the round table, throughout the workshop, the conversation between participants highlighted several elements that work as enablers to build SHAFE ecosystems, listed below:

- Physical environments: need to renovate sustainably the built environnement, but also overcome technological obsolescence
- Cultural environments: education plays a key role, and integrating disciplines emerges as the key challenge, not being acknowledged neither valorised.
- Life long learning and training for user-friendly technologies
- Local ecosystems for innovation facilitate knowledge exchange among key players of the quadruple helix of innovation: academia, community, governement bodies and industry.
- Twinnings to benchmark and exchange good practices
- Innovative services imply organizational changes and subsequent adjustment of professional identity

6. Future activity

The present document will undergo further modifications to elaborate a shared paper of the NET4Age-Friendly community.