

# **Development of a transcultural social-ethical-care model for dependent populations in the Mediterranean Sea basin**

A\_A.3.4\_0376 TEC-MED 2019-2022 (ENI CBD MED- Europe)

## **WP5 TEC-MED Project: VALIDATION OF TEC-MED SOCIAL CARE MODEL**



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## STATEMENT ABOUT THE PROGRAMME:

“The 2014-2020 ENI CBC Mediterranean Sea Basin Programme is a multilateral Cross-Border Cooperation (CBC) initiative funded by the European Neighbourhood Instrument (ENI). The Programme objective is to foster fair, equitable and sustainable economic, social and territorial development, which may advance cross-border integration and valorise participating countries’ territories and values. The following 13 countries participate in the programme: Cyprus, Egypt, France, Greece, Israel, Italy, Jordan, Lebanon, Malta, Palestine, Portugal, Spain, and Tunisia. The Managing Authority (MA) is the Autonomous Region of Sardinia (Italy). Official Programme languages are Arabic, English and French. For more information, please visit: [www.enicbcmed.eu](http://www.enicbcmed.eu)”.

## STATEMENT ABOUT THE EU:

“The European Union is made up of 28 Member States who have decided to gradually link together their know-how, resources and destinies. Together, during a period of enlargement of 50 years, they have built a zone of stability, democracy and sustainable development whilst maintaining cultural diversity, tolerance and individual freedoms. The European Union is committed to sharing its achievement and its values with countries and peoples beyond its borders”.

## 1. INTRODUCTION

Life expectancy is increasing worldwide. According to the World Health Organization (WHO), between 2020 and 2050, the global population over 60 years of age will double. The population pyramid has inverted, which is a problem for current health systems (World Health Organization, 2017). Population aging is a phenomenon caused by declining fertility, increasing life expectancy and migration trends. While this shift in a country's population distribution toward older ages started in high-income countries (e.g., France had almost 150 years to adapt to a shift from 10% to 20%), the pace of population aging worldwide is also increasing dramatically. Places like India, Egypt or Brazil will have a little more than 20 years to make the same adaptation.

Longer life spans provide opportunities, not only for the elderly and their families, but also for societies in general (International Longevity Centre Brazil, 2015). The additional years provide the opportunity to engage in new activities, such as higher education, a new career, or the pursuit of a forgotten passion (Beard et al., 2012). Older people also contribute in many ways to their families and communities. However, the extent of these opportunities and contributions is largely dependent on one factor: health. Population aging therefore requires an integrated public health response, taking into account policy priorities and welfare system models.

Mediterranean Basin countries are showing a common pattern of declining social support and the need for innovative models of social-ethical care for dependent elderly people.

The 2014-2020 ENI CBC Mediterranean Sea Basin Programme is a multilateral Cross-Border Cooperation (CBC) initiative funded by the European Neighborhood Instrument (ENI). The objective of the program is to foster fair, equitable and sustainable economic, social and territorial development that can promote cross-border integration and enhance the territories and values of the participating countries. The following 13 countries participate in the program: Cyprus, Egypt, France, Greece, Israel, Italy, Jordan, Lebanon, Malta, Palestine, Portugal, Spain and Tunisia. The Managing Authority (MA) is the Autonomous Region of Sardinia (Italy). The official languages of the program are Arabic, English and French.

The TEC-MED model was developed through a comprehensive participatory process involving all partner countries that included a literature review and state-of-the-art assessment, semi-structured interviews with stakeholders and a gap analysis through a Delphi panel with experts.

The dimensions of the model's theoretical framework were defined as follows:

1. Subject of care: dependent person over 65 years of age and at risk of social exclusion.
2. Health and social care providers: health and social care professionals, formal caregivers and family caregivers.
3. Care environment and service provision: social and health care, home care and taking into account accessibility, housing and prevention.
4. Governance: user and family participation, awareness raising, policies - active aging, resource management and needs assessment.
5. Financing: public and private, through initiatives and entrepreneurship.
6. Technology: including mobile technology (training, monitoring, etc...), telemedicine, artificial intelligence, robotics, sensors...

For each of the dimensions, three levels of action were defined: macro, meso and micro:

- Macromanagement: refers to the government, political or legislative level, leadership position in public administration providing social care services (may include policy makers and other stakeholders).
- Mesomanagement: refers to the organizational level such as local government or care management in hospital, nursing home, etc.
- Micro-management: refers to the individual level. Person, social professional caring for the dependent, health and social care provider, family caregiver.

The model is made up of a set of 5 key elements that make it distinctive and at the same time have a cross-cutting influence on its own conceptualization. These 5 elements are:

- 1) quality, research and dissemination;
- 2) gender perspective,
- 3) ethics,
- 4) social inclusion,
- 5) transcultural.

In addition, in order to pilot the TEC-MED Model, an online platform was established to serve as a tool to implement the social care model among older adults and a group of professionals (training agents) working with older adults in public and private practice.

In parallel, each country prepared an action plan for the implementation of the model and a capacity building plan that addresses the needs in terms of capacity building and training for the implementation of the model.

The model will be modified based on the results obtained during the pilot (A.5.1.1), until the sample size is reached and its validity tested.

The model will be validated and introduced in countries with different cultures. Once the model has been validated, future agents, both direct practitioners and policy makers, will be trained.

At the beginning, each country will identify the professional profiles of the training agents based on information and professional experience, taking into account the socio-cultural characteristics of their countries. The project will end with an evaluation of the training. Once the social care professionals (6 per country) have been trained, these capacities are expected to generate an action gap, determining the impact of new labor and social services. This training will help to strengthen the capacities of these professionals and to turn them into trainers of future social care professionals by giving them tools and knowledge to increase their skills and competencies related to the care of the elderly.

To assure the quality of the implementation of the model, the Donabedian's model (Donabedian, 1988) will be followed, which describes quality of care from three categories:

- 1.- Structure (the context in which care is delivered, including staff, financing, and equipment)
- 2.- Process (the transactions between patients and providers throughout the delivery of healthcare)
- 3.- Outcomes (the effects of healthcare on the health status of patients and populations).

In this context, WP5 is composed of **2 activities sequenced over time**. For a better understanding of the activities, they have been divided into sub-activities which are shorter and more specific:

Activity	Description
A.5.1. Implementation of TEC-MED model	5.1.1. IMPLEMENTATION AND EVALUATION PHASE <ul style="list-style-type: none"><li>• Training of TAs</li><li>• Implementation of the Pilot Activities</li></ul>
A.5.2 TEC-MED Model validation	5.2.1 Validation of TEC-MED Model

## 2. FINAL RESULTS

WP5 was coordinated by the WP leader (PP7) who is the leader of activities:

- A.5.1.1. Implementation of TEC-MED model
- A.5.1.2. TEC-MED Model validation where PP5 led the validation and certification process of the model. The final revision of all documents was done by the LB.

### 2.1. Activity A.5.1. Implementation of TEC-MED model

A Pre-pilot plan was set to prepare for activity A.5.1.1. Implementation of TEC-MED model starting by the following:

- **Consensus on the Intervention and Evaluation Framework:** where the assessment of beneficiaries and interventions framework was set based on scientific criteria related to the Nursing Outcomes Classification (NOC) and encompassing 8 different dimensions:
  1. Health condition.
  2. Physical-functional capacity.
  3. Cognitive ability.
  4. Basic needs.
  5. Emotional management and social relations.
  6. Ability to promote a healthy life/death.
  7. Family, partners and caregivers.
  8. Socio-economic determinants.

The scales used under each dimension were a basis for the contents of the Care platform along with the needed variables present in the TEC-MED platform. In addition, in the TEC-MED platform, each country was in charge of updating their training platform with resources in their respective languages that can be used as part of interventions done with beneficiaries and were divided as per the above-mentioned dimensions.

An evaluation protocol was also set to support the evaluation including both qualitative and quantitative aspects.

- **Identification of centres or institutions working with older adults by each country:** where each country has secured a minimum of 2 official agreements with organisations to implement the TEC-MED model.
- **Identification, recruitment and training of training agents by each country (a minimum of 6):** all countries have recruited a minimum of 6 training agents and trained them on the TEC-MED model of care, use of the platforms and different dimensions for assessment and interventions.
- **Securing of ethical committees' approvals by each country:** countries have also secured ethical committees' approvals to be able to carry out the TEC-MED pilot prior to the start of the pilot phase in each country.
- **Testing of the platforms as well as the intervention frameworks:** prior to the start of the pilot phase, the platforms were tested as well as the assessments and interventions to be able to rectify any issues.

After the completion of the pre-pilot phase, 4 countries were able to start their pilot phase in April 2022 and 2 others in June 2022.

During the pilot phase, each country has set an outreach strategy to reach 4,700 beneficiaries to be involved in the implementation phase through different entry points including:

- Public Administrations
- Private Entities
- Non-Profit and Non-Governmental Organisations
- Hospitals, Acute and Outpatient Facilities
- Residential Facilities
- Home Care organisations



- Associations of elderly
- Religious entities
- Etc...

Each TA was expected to spend from 1h of social-care intervention at home/institution per patient every 3 months. The TA was expected to visit around 8 patients a day, for 5 days a week (40 patients/week) totalling to 784 patients.

As part of the pilot implementation, the TA was expected to do an initial assessment and intervention followed by 2 follow-ups every 3 months.

To assure the quality of the implementation of the model, the Donabedian's model (Donabedian, 1988) was followed, which describes quality of care from three categories:

1. Structure (the context in which care is delivered, including staff, financing, and equipment)
2. Process (the transactions between patients and providers throughout the delivery of healthcare)
3. Outcomes (the effects of healthcare on the health status of patients and populations)

In addition, 20% of the beneficiaries were assigned to the control group and did not receive interventions to be able to compare the two groups. An economic evaluation will also be carried out on a subsample.

By the end of the pilot phase, 22,261 beneficiaries were reached who benefited from 34,218 assessments (between first assessment, follow-up and final assessment).

Reach per country was as follows: Tunisia 4774, Lebanon 4700, Egypt 4019, Greece 4006, Spain 2423, Italy 2339 beneficiaries.

Throughout the pilot implementation phase, PP7 and the LB have carried regular follow-up meetings to discuss challenges and solutions related to the pilot phase. In addition, a monitoring tool was created and updated by project partners on a weekly basis to follow-up on achieved results by each country.

## **2.1.2. Main findings**

### ***2.1.2.1. Quantitative analysis***

The quantitative analysis has been carried out in 6 countries: Italy, Greece, Tunisia, Spain, Lebanon and Egypt:

#### ITALY

A convenience sample of subjects ( $\geq 60$  years) who were at risk of social exclusion or care dependency were enrolled in this study. All the subjects were consecutively enrolled from April to December 2022 in the context of the home care service provided by Domicilia Società Cooperativa Sociale in the area Lazio 6. At baseline, 2.064 elderly people and 374 caregivers for a total of 2438 final beneficiaries were recruited. Most of the elderly did not have caregivers or the caregivers didn't want to participate in the study. Hence the small number of caregivers involved. GREECE:

All the participants live in Greece and particularly in the Region of Western Greece. The criteria for the participated population for the beginning of the program were:

Elderly > 65 years old

Family Caregivers that have the responsibility of an older

person Elderly that face the fact or -the risk- of social isolation

All the participants were considered as Final Beneficiaries during the implementation process.

As the whole process included a first contact, a 1<sup>st</sup> follow-up and finally a 2<sup>nd</sup> follow-up, it is rational that not all the participants have completed all the three assessments. Total population reached: 3.990 Final Beneficiaries (both elderly and caregivers that have at least one assessment completed).

The population that has completed all the three assessments is less (1.373 people).

#### SPAIN:

In Spain multiple challenges were met and the response rate for the baseline was of 51.83%, which is 2436 people (1,763 older people and 673 caregivers) distributed in the following ways:

- First assessment: 2,436 people, 821 Control Group (33.7%) and 1615 Intervention Group (66.3%); 1,763 older people-final beneficiaries (72.4%) and 673 caregivers (27.6%).

- Two assessments (first and third assessment): 1.001 people, 382 Control Group Control (38.2%) y 619 Intervention Group (61.8%); 713 older people-final beneficiaries (71.2%) y 288 caregivers (28.8%). In this group they are three time-groups:

G1: Third assessment at month 2 (first assessment in August): 152 people.

G2: Third assessment at month 4 (first assessment in June and July): 439 people.

G3: Third assessment at month 6 (first assessment in April and May): 243 people.

- Three assessments (first assessment, second assessment, and third assessment): 414 people, 99 Control Group (24%) y 315 Intervention Group (76%); 300 older people/final beneficiaries (72.4%) y 114 caregivers (27.6%). In this group they are three time-groups:

G4: Second assessment at month 4 and third assessment at month 6 (first assessment in June):207 people.

G5: Second assessment at month 2 and third assessment at month 4 (first assessment in August):149 people.

#### TUNISIA:

At the baseline stage, the target sample size of 4700 subjects has been reached. Overall, 4774 persons were involved in the pilot phase, among them 3136 (65.7%) were final beneficiaries and 1638 (34.3%) were caregivers, mainly family caregivers.

The TEC-MED Model interventions were implemented among 3820 subjects (80% of the total sample) among them 2497 were elderly persons (79.6% of the total final beneficiaries) and 1323 were caregivers (80.8% of the total caregivers). The control group represented 20% of the total sample. (20.4% were elderly and 19.2% caregivers). At the follow-up time 1. Overall, 1731 subjects (36.3%) were assessed at the first follow-up. The average period of time between the baseline stage and the first follow-up was  $3.29 \pm 0.25$  months. Among them, 1198 were elderly persons (917 in the

intervention group and 281 in the control group) and 533 were caregivers (466 in the intervention group and 67 in the control group).

At the follow-up time 2. Overall, 1839 subjects (38.5%) were assessed at the second follow-up. The average period of time between the first and the second follow-up was  $6.35 \pm 0.29$  months. Among them, 1228 persons were elderly (937 in the intervention group and 291 in the control group) and 611 were caregivers (512 in the intervention and 99 in the control group). we

Among all the samples, only 681 subjects (14.3% of the total) were assessed in both the first and the second follow-up.

#### LEBANON:

4.354 final beneficiaries were reached, 2694 women and 1660 men. 3.955 were from Lebanon, while the others were from Syria, Iraq or other countries.

4038 were elderly people and 316 partners or caregivers and they were distributed in the following ways:

- First assessment: 2438 people participated, of which 887 were of the control group and 1.551 of the intervention group;
- Second assessment: 973 people participated in the first and second assessment, of which 288 were from the control group and 685 from the intervention group.
- First and Third assessment: 700 people participated in the first and third assessment, of which 23 were from the control group and 776 from the intervention group.
- Three assessments: 144 people participated in the three assessments, all of them from the intervention group.

#### EGYPT:

4048 final beneficiaries were reached and most of them were recruited at home, while the others through primary care services, associations and NGOs and the Department of Social work and others.

2075 were partners or caregivers and 1944 were users. 12 professional caregivers and 2 countries administrators also took part in the study.

2068 were women, 1985 men and one not identified.

2956 were part of the intervention group and 1064 of the control group (plus 28 N.A).

Overall, the statistical analysis of hypothesis testing showed:

- Existence of statistically significant differences in the level of quality of life of the caregivers, between the control group and the intervention group.
- The level of caregiving dependency of the sample subjects remained the same or improved in the intervention group.

In this context, it can be concluded that the new TEC-MED model of care could be beneficial for the improvement of the quality of life of carers and the improvement of care dependency levels of older people.

### 2.1.2.1. Qualitative analysis

The *Qualitative Evaluation* aims to analyse the perception of the different people involved in the pilot of the TEC-MED model (final beneficiaries, family caregivers, training agents, professional caregivers, stakeholders) about the implementation process and the impact of the TEC-MED model, identifying areas to improve. In addition, it aims to evaluate the process and impact of the TEC-MED model through the pilot and to identify areas for improvement (TEC-MED, 2022). In-depth interviews and focus groups were conducted in the six participating countries, with final beneficiaries, caregivers and health professionals.

The main results of this evaluation method are described in the table below:

COUNTRY	EXPERIENCE/TEC MED MODEL	WORK OF THE TRAINING AGENTS	PLATFORM	POSITIVE ASPECTS AND IMPACTS	WEAK ASPECTS/ IMPROVEMENTS TO BE DONE (project in this globality)
SPAIN	-Positive for all participants.  - CG and SH highlight the closeness with users and caregivers and	- SH,professionals, and the caregivers think that TAs are very respectful, very involved and available.  -CGs highlight	-Difficult to use for elderly people and caregivers.  -The professionals think the platform is easy to use and	-The closeness and adaptation to the environment.  -the personalization of the service, which implies a personalised care plan, focused on each person's needs and their family	-T.A asked for more time for the piloting phase and a longer tutelage and recommended simplifying the model and refining the repetitions.  -The lack of resources to access to technology or to implement the changes that

	that the model is focused on the person and his/her environment.	that TA contributed to their psychological well-being. -	useful as it groups all services, it is accessible and has many resources to serve the elderly.  -For T.A the operation of the platform has not been noticeable, since it failed frequently. It is seen more as an obstacle than as something effective.	environment. (SH)  -The multidisciplinary nature of the model and the exchange of experiences between countries.  - According to CG the project has taught them to identify their needs and take care of themselves.  - CG improved their training in more functional or technical aspects.  -Despite the opinions expressed by CG, the T.A do not perceive any impact on the quality of life of the beneficiaries, nor of the families, perhaps because of the reduced access they have had to them.	were suggested by the T.A  - More digital tools needed (SH)  - CGs demand more psychological help.  - SHs suggest to improve the training and the access to the platform for professionals and to provide training to the elderly and caregivers, especially on access to resources.
GREECE	-Positive  - F.B found the project important against isolation  - interesting and necessary  -supporting	-the T.A were very prepared  - F.B. highlighted the good communication between them and the T.A  - the T.A were experienced and kind (families)  - careful feeling from the T.A	- it's difficult to use for the elderly (also because many of them don't have lap-top)  -innovative and modern (professionals)  -user friendly (professionals)	-the sessions about how to treat to people with disabilities were especially useful;  - the project gave psychological support to families and elderly.  -training sessions were helpful and F.B achieved new skills  - the model is person-centred and detailed. It provides best practices and benefits for the target population.  - The model is innovative (T.A)	- Short time of implementation  -More sessions needed (families and elderly)  -Need for more company and contact especially from the elderly that deal with the feeling of loneliness

<p>TUNISI A</p>	<p>- Beneficiaries and professionals, expressed motivation to have participated in Tec-Med, including public administration, associations from civil society and nursing homes.</p> <p>-Geriatricians and public programs coordinators found true value in the possibilities offered by the project.</p>	<p>-Families and elderly expressed gratitude to T.A's attitude and understanding of the issues.</p> <p>-Families and F.B highlighted the creation and the importance of human interactions with the T.A</p>	<p>-The elderly couldn't use the platform on their own.</p> <p>- T.A found the assessment too long.</p> <p>-T.A experienced several technical difficulties.</p>	<p>The perceived impact of the Tec-Med project varied depending on the profile of the Interviewee. The higher the education, the access to technology, the lower the resistance to change. This was a detrimental factor to the impact of the model. Elderly people surrounded by caregivers who are caring and dedicated were able to benefit more from the model.</p> <p>-Informal caregivers expressed a positive change of attitude.</p> <p>-Elderly started new habits that have a benefit on their mental and physical health</p> <p>-Many caregivers perceived the project as an opportunity to embrace a new way of life, reconnecting with their relatives.</p>	<p>- The new attitude, in regards to food, medication and lifestyle was not sustained in the absence of the caregiver on several occasions.</p> <p>- Reduce the length of the assessment and simply the questionnaire.</p> <p>- Make the model more user-friendly and suitable for illiterate people.</p>
<p>ITALY</p>	<p>-Participating in the TEC-MED study was welcomed in a positive way by all the participants.</p> <p>-The change in assistance, the holistic management of the patient, a better multidisciplinary integration in</p>	<p>T.A were very important in making certain types of services used and known, both in moments of direct assistance and in telephone consultancy activities.</p> <p>-The elderly and caregivers were very satisfied with the skills of</p>	<p>-Difficult to use for the elderly and caregivers. They found it more helpful to use informative pamphlets.</p> <p>-Professionals found the platform useful and easy to use.</p>	<p>-Participating in the study led to improvements in F.B's self-care.</p> <p>-The project has led to an improvement in the skills of both professionals and caregivers, thanks to the training received.</p> <p>-Improvement in the health status and quality of life of the participants,</p>	<p>-Concern about the "<i>effectiveness</i>" of such a project over time.</p>



	<p>assistance, and the possibility of carrying out a multidimensional evaluation were the most valued aspects of the model.</p> <p>-Participants expressed satisfaction for having participated in the project, especially because the assistance improved.</p>	<p>the Training Agents and the indications provided.</p> <p>- Multidisciplinary integration has improved and the interventions of the Training Agents have contributed to the development of the skills of caregivers and of the elderly themselves.</p>		<p>especially of the elderly, but also of the caregivers and the family in general in the physical, social and psychological aspect.</p> <p>-Participating in the study has allowed the F.B to be included in the social life of the community.</p> <p>-The training received was satisfactory in a transversal manner for all the actors.</p>	
LEBANON	<p>-Positive for all the participants</p> <p>-The focus on elderly and especially caregivers was very appreciated.</p> <p>-Improvements in health and awareness were observed.</p> <p>-Social support improved</p> <p>-Improved networking</p> <p>-</p>	<p>-The work of the Training agents was highly valued by the participants who emphasised their high skills.</p> <p>-Most professionals and caregivers emphasised that training agents were largely overwhelmed with their workloads, had limited time to finalise their work and had a very high target to achieve.</p>	<p>-Users had some difficulty using the platforms either due to internet connectivity (this is why many suggested the use of offline tools) or to the features of the platform that need to be more user-friendly.</p> <p>-Several considered it's not user friendly.</p> <p>-Technical issues related to the platform were also reported especially among professionals who also suggested to have offline</p>	<p>-The training received appears to be categorised as positive by the various participants.</p> <p>-The diversity and modality of the training was also praised.</p> <p>-Improvement of F.B's health status.</p> <p>-The project helped older people to share their voice, to feel listened to and important.</p> <p>-More social support to the F.B</p>	<p>-Training materials were very good and friendly but they needed more time to be widespread with organisations, so they are able to benefit from them in the long run.</p> <p>- The target of final beneficiaries was too big and the questions were so detailed to the point that they can be misleading.</p> <p>-Proposition of different new training topics namely:</p> <ul style="list-style-type: none"> <li>- Abuse</li> <li>- Memory</li> <li>- Mental Health (majority of suggestions)</li> <li>- Motivation</li> <li>- Positive thinking</li> </ul> <p>-Given the economic crisis in Lebanon, it was difficult to manage the expectations of beneficiaries who were expecting to receive</p>



			<p>data collection systems and other data sharing ways.</p> <p>Older people faced more difficulty in access to the platform and resources.</p>		<p>material rewards following the assessments and interventions and this was shared as a negative aspect of the study.</p>
EGYPT	<p>-Despite initial scepticism about the TECMED model and its viability in the Egyptian context, F.B, caregivers, T.A and stakeholders gave positive feedback.</p> <p>- The TECMED model generated meaningful engagement with its target population and showed its potential to serve as a valuable model for other regions and contexts.</p> <p>- FB and CG expressed a deep appreciation for the closeness and connections that have been fostered during the use of the model, which has allowed them to establish strong bonds with those under their care.</p> <p>-The model has proved effective in identifying</p>	<p>-The elderly expressed their high level of satisfaction with the quality of the training agents and their professional approach.</p> <p>Their warm manner were highly valued by the participants.</p> <p>-The interventions and recommendations they gave helped to improve FB's quality of life.</p>	<p>-Caregivers and stakeholders expressed satisfaction with their experience using the platform, highlighting its user-friendly interface.</p> <p>-Elderly people were not comfortable using technological equipment, including mobile phones.</p> <p>-Due to Internet connection problems, an offline version is suggested.</p> <p>-CG found the platform was a useful tool that they would recommend to others, as it helped to improve the care they give to their</p>	<p>- The model had a positive impact on FB and CG physical and mental The training agents expressed that the model was instrumental in increasing the participants' awareness of the importance of exercise and its benefits on their overall well-being.</p> <p>-The TECMED mode was useful not only to assess and identify social problems but also to facilitate positive lifestyle changes in its participants.</p> <p>-final beneficiaries and caregivers felt better equipped to communicate and support their needs.</p> <p>-The training agents who participated in the TECMED project expressed how the model changed their perspective about the elderly and caregivers and that it was a source of personal and professional growth.</p>	<p>T.A suggested shorter assessments and clearer instructions on how to use the platform. It was also noted that some participants struggled with the technical aspects of the platform, especially those who were not familiar with using digital devices. Therefore, more training and support for these individuals may be necessary.</p> <p>-An offline application can be useful to solve internet connection problems.</p>

	<p>social problems within the population and it enabled care providers to address the broader social determinants of health and well-being, thereby improving the overall quality of care and contributing to the long-term health of the population.</p> <p>-The training agents who participated in the TECMED project expressed how the model changed their perspective about the elderly and caregivers. They found the process of conducting assessments and giving interventions and recommendations to be fulfilling.</p> <p>-The training agents emphasised the positive impact of the TECMED model on the final beneficiaries and caregivers, who felt better equipped to communicate and support their needs</p> <p>-The model improved T.A's and CG's knowledge about</p>		<p>patients.</p> <p>-CG found the platform to be a valuable resource in improving their own knowledge and skills related to caregiving</p>		
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	mental health.  - It was a significant source of personal and professional growth for the training agents.				
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## 2.2. Activity A.5.2. Validation of TEC-MED Model

With regards to activity A.5.1.2. TEC-MED Model validation, it was completed through 2 major actions:

*a) ACTION 1: Evaluation and Validation actions - Qualitative and quantitative data that all project partners collected.*

This activity was completed based on a list of indicators which can be used for validation and evaluation of the model agreed upon between the LB and partners. This extensive list of indicators (Indicators Mesh) with details about the indicators: name, description, formula, etc... served as a basis for this activity. The quantitative evaluation was based on the scales used during the assessment as well as the quantitative indicators related to (structure, process and results) shared in the indicators' mesh and were collected through a quantitative form.

The qualitative evaluation included focus groups and semi-structured interviews with the following categories:

- Institutional and NGO staff (formal caregivers).
- Carers (non-professional)
- Final beneficiaries
- Training agents (TAs)
- Stakeholders (civil society, public administration, business and research and education)

*b) ACTION 2: Validation and Certification of the TEC-MED model*

The model developed in the project was certified by a body expert in the knowledge and objectives of the project (activity 5.1.2).

This activity was conducted in one partner country, PP5- National Institute of Nutrition and Food Technology, Tunisia.

A team was informed and trained on the requirements of ISO 9001-2015, on the techniques and tools for implementing the quality approach and continuous improvement. After that, a quality management system QMS conform to ISO 9001-2015 standard was implemented at the TEC-MED care model level. Finally, the external certification body has provided the ISO 9001-2015 certification for the TEC-MED model. To fulfil TEC-MED model certification, two main sub-activities were carried out, i.e. the implementation of a quality management system (QMS) and certification process.

The implementation of QMS according to ISO 9001-2015 was achieved through 5 steps:

Step 1: Diagnosis and planning

Step 2: Capacity building implementation

Step 3: QMS documentation

Step 4: QMS implementation

Step 5: Blank audit and recommendations for certification of the TEC-MED mode

The certification process took place after QMS implementation, and an audit was carried out by a Certified Body to assess the performance of the QMS against the ISO 9001-2015 standard.