Fundació TIC Salut Social

Non face-to-face assistance model in hospital, social and mental health

Situation report on the Central Catalonia Health Region - 2021

S/Sistema de Salut de Catalunya

Salut/ TIC Salut Social

althaia Xarxa Assistencial Universitària Manresa

Salut/ Consorci Sanitari de l'Anoia

Salut/ Salut Catalunya Central

CHV CONSORCI HOSPITALARI DE VIC

Table of contents

Executive overview

As a result of the recent pandemic, healthcare systems around the world were forced to rapidly implement non face-to-face healthcare services (ANP). This has led to significant changes in the provision of healthcare to the public. Within Europe, Catalonia is one of the forerunners in embracing digital health or e-Health, in part thanks to its long tradition of information exchange among the public healthcare sector as well as through its ambitious strategy for the implementation of e-Health. In the wake of the COVID-19 pandemic, the various bodies involved in the provision of healthcare services have been working together to promote the use of the available non face-to-face care channels (ANP), such as telephone assistance, eConsultation and video-consultation.

The Central Catalonia Health Region (RSCC), the four hospital healthcare centres of this region (Althaia—Xarxa Assistencial Universitària de Manresa, Consorci Sanitari de l'Anoia—Hospital d'Igualada, Hospital Universitari de Vic—Consorci Hospitalari de Vic and Salut Catalunya Central—Hospital de Berga) and the TIC Salut Social Foundation have established a working group to define an ANP deployment model adapted to each centre, in line with the CatSalut 2021 objectives for specialised care.

Using a participatory work approach, four documents were drawn up (one for each centre) with the following contents: types of visits eligible for non face-to-face consultation (ANP), organisational and technological aspects to take into account, protocols for professionals and the public, activity report and an improvement plan. The achieved results clearly demonstrate the commitment of the different centres and professionals to adapt the provision of services to the current situation and minimise the impact of the pandemic through the adoption of ANP.

Of all the hospital activity carried out in the region (2021), between 18% and 25% was through ANP, which was mainly telephone-based, while less than 1% was through video-consultation and with a further residual use of eConsultation. Telephone consultation is the most common channel as it does not require any specific skills and is a more conventional tool. Although video-consultation has grown in usage, this varies depending on the area of specialisation. It has an overall higher resolution rate than telephone consultation, but requires a higher degree of digital skills and an appropriate management of visits. eConsultation is less widely used and is still in the testing phase, although it is expected to have a greater impact in the area of primary care, which currently has an average of around 170,000 eConsultations per week. In organisational terms, the integration of schedules is an essential factor. Defining protocols and criteria is another major factor for the successful implementation of ANP. Its main impediment has been its somewhat precipitated deployment on account of the pandemic, which initially forced its spontaneous introduction before the necessary groundwork was fully in place. And while this technological solution remains a necessity, it does not pose a major problem, since the resources are already in place. However, it may be an encumbrance for citizens who lack access to technology and digital skills.

Regarding the measures for improvement that have been identified, these are grouped into organisational, technological and citizen-related initiatives. Key aspects that have to be addressed are: protocols and criteria for the ANP, integration of tools and schedules, measurement and evaluation indicators, information and training for users in digital skills and appropriate management of the change.

By way of conclusion, the collaboration between the different bodies involved has enabled great progress to be made in the implementation of a model of non-presential care (MANP) that guarantees the quality, accessibility and sustainability of the public healthcare services. It is therefore necessary to continue in this direction and identify systemic challenges and propose solutions that will have an impact at the regional level, thereby improving the services provided to the public.

Working group

The work collected in this report was made possible thanks to the participation of the Central Catalonia Health Region (RSCC), the four hospitals of this region (Althaia—Xarxa Assistencial Universitària de Manresa, Consorci Sanitari de l'Anoia— Hospital d'Igualada, Hospital Universitari de Vic—Consorci Hospitalari de Vic and Salut Catalunya Central—Hospital de Berga) and the TIC Salut Social Foundation. More specifically, the people who took part in the different programmes were as follows:

Promoter group –
Regió Sanitària Catalunya Central (Central Catalonia Health Region)

- Concepció Cervos Costansa, Manager
- Rosa Aguilera i Terrado, Head of the Citizen Care Unit
- Dolors Ramos Caro, TTechnician for Citizen Participation, Patient Experience and Digital Transformation—Citizen Care Unit

Hospital Universitari d'Igualada – Consorci Sanitari de l'Anoia

- Marta Banqué Navarro, Head of Strategy, Projects and Quality
- Alejandra Sánchez Ochoa, Quality Technician and Head of Patient Safety
- Marta Cucurell Palomas, Physician specialising in Dermatology and Coordinator of Specialised Outpatients' Care

Althaia –
Xarxa Assistencial Universitària de Manresa

- Ignasi Carrasco Miserachs, Assistant Director
- Pere Guerrero Obis, Head of Digital Transformation, Information Systems and ICTs
- Teresa Segarra Perramon, Associate Director of the Nursing Department
- Angel Betoret Perez, Legal Advisor and DPO
- Jordi Calaf Olivella, Head of Administration of External Consultants
- Joan Torres Perez, Head of Patient Management
- Pere Oliveras Alsina, Head of Management Support
- Anna Maria Badrenas Ferrer, Associate Director of Healthcare Management
- Antonia Raich Soriguera, Head of Communication and Participation

Hospital Universitari de Vic – Consorci Hospitalari de Vic (CHV)

- Rosa M. Morral Parente, Assistance Director
- Ignasi Saigi Ullastre, Head of the Endocrinology Department
- Laureà Perez Oller, Head of the Nephrology Department
- Marta Lacambra Basil, Head of the Anaesthesia Department
- Montse Criballés Faja, Head of Client Management
- Raquel Carrera Goula, Head of Quality and Communication
- Rosa Terré Boliart, Head of the Rehabilitation Department
- Santiago Escoté Llobet, Head of the Mental Health Department
- Sebastià Caro Gomez, Head of the IT Department
- Fina Carbonell Cuevas, Director of Nursing
- Rosa M. Vivet Ferrer, Head of the Outpatients' Department
- Margarita Oriol Ruscalleda, Head of the Surgical Department
- Marga Ullastre Pujal, Head of the Domiciliary Rehabilitation Unit
- Pep Ortiz Jurado, Head of the Hospital Rehabilitation Unit
- Marta Colomer Codinachs, Head of the Nephrology Unit

Hospital Comarcal de Sant Bernabé – Salut Catalunya Central

- Dra. Antònia Baraldés Farré, Assistant Director
- Dr. Agustí Camps Roca, Associate Director of Management and Quality
- Dr. Pedro Giralt Celimendiz, Head of the Outpatients' Department
- Joana Rodriguez Codina, Director of Nursing
- Lluís Venturós Pedrosa, Associate Director of SITIC
- Susagna Vilà Colell, Head of Patient Intake

TIC Salut Social Foundation

- Andrea Barroso, Tunior Project Manage Technician
- Jesús Berdún, Head of the non face-to-face assistance model

Glossary

ANP	Non face-to-face assistance
MANP	Non face-to-face assistance model
PDF	Portable Document Format
PNG	Portable Network Graphics
SISCAT	Integrated Public Healthcare System of Catalonia
RSCC	Central Catalonia Health Region
ABS	Primary Healthcare Area
EAP	Primary Care Unit
CAP	Primary Healthcare Centre
CMBD	Minimum basic data set
AGA	Healthcare Management Area
CUAP	Primary Care Emergency Centre

1 Introduction

1.1 Non face-to-face healthcare in Catalonia

Digital health in clinical practice

As a result of the recent pandemic, healthcare systems around the world were forced to rapidly implement non face-to-face healthcare services (ANP). This has led to significant changes in the provision of healthcare to the public. Nevertheless, despite the digitalisation of certain healthcare services amidst the crisis, **there are certain measures that have to be taken into account in order to deploy non face-to-face healthcare services and ensure the accessibility, equity of access and sustainability of these.** Digital health technologies provide important opportunities for reshaping the existing healthcare systems with a view at improving the quality of services and making better use of resources.

Within Europe, Catalonia is one of the forerunners in embracing **digital health or e-Health** [1]. It has a long tradition of sharing information within its public healthcare sector and is currently implementing an ambitious digital health strategy [2]. The study, Digital Health Strategies Deployed During the Outbreak of COVID-19 [1], has proven that ICT tools are the main driver in reducing the bureaucratic processes related to healthcare. These new strategies have helped professional staff save time as well as reducing the number of non-essential consultations in healthcare centres and thus decreasing the risk of infection for both the public and the healthcare professionals. Another study which compared the costs of the face-to-face and the non face-to-face models of healthcare in Catalonia demonstrated that the latter reduces the costs for both agents included in the analysis (i.e., the user/patient and the healthcare system); in economic terms, the non face-to-face model is more cost-effective in all respects than the traditional face-to-face healthcare service [3].

During the period of lockdown that was implemented during the COVID-19 pandemic, non face-to-face healthcare became an essential component of clinical practice with the aim of providing safer care to all, and was used to meet both the healthcare needs of COVID-19 patients as well as those of routine primary care patients. However, this change has not been fully consolidated [6]. At present, the tendency to integrate ANP channels into healthcare is still growing. In fact, several studies have shown that the COVID-19 pandemic helped expand the use of non face-to-face care as a means of compensating, to some extent, for the decline in in-person visits, especially among Catalonia's youth. Thus, digital health has helped to maintain a line of contact between citizens and the healthcare system in a context of maximum complexity [4].

Catalonia has several digital health tools currently in use in clinical practice. Specifically, these digital health tools are the ANP channels, such as telephone consultation, eConsultation and video-consultation. The use of eConsultation, a real-time, remote consultation service between primary care professionals and citizens within the public healthcare system, has already reached 1,000 consultations.

Digital health and non-presential healthcare in Catalonia

Catalonia has several digital health tools currently in use in clinical practice. Specifically, these digital health tools are the ANP channels, such as telephone consultation, eConsultation and video-consultation. The use of eConsultation, a real-time, remote consultation service between primary care professionals and citizens within the public healthcare system, has already reached 1,000 consultations. Before the COVID-19 pandemic, the use of eConsultation was growing at a monthly rate of 7%, but as of 15 March 2020, the growth has been exponential [5]. The implementation and use of eConsultation has increased significantly as a result of the COVID-19 pandemic, and most healthcare staff are satisfied with its use at work, and plan to incorporate it into their practices in the post-COVID-19 context [6].

Figure 1 shows the current data on video-consultations carried out according to each healthcare region. The greatest impact of this ANP channel can be seen in the RS Metro Nord and in the city of Barcelona, where most of the hospitals are part of the Catalan Health Institute (ICS) network and have this tool directly integrated into the hospital's IT system. Figure 2 shows the usage data regarding the devices used for the video-consultations, without differentiating between the different healthcare regions. It indicates that the computer is the chosen device for consultations via this ANP channel.

Figure 1. Video-consultations according to healthcare region

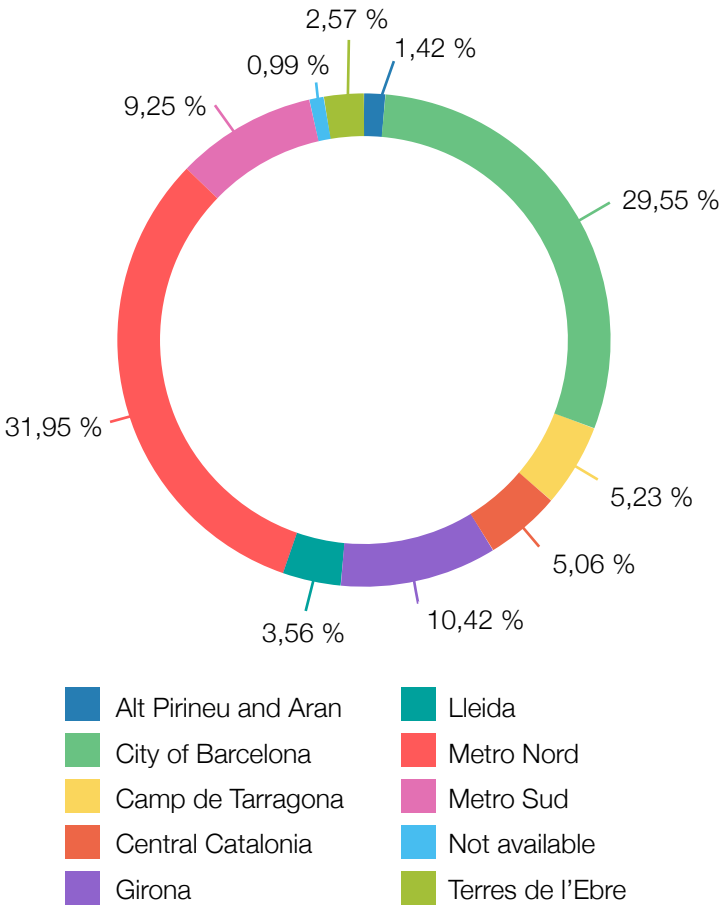
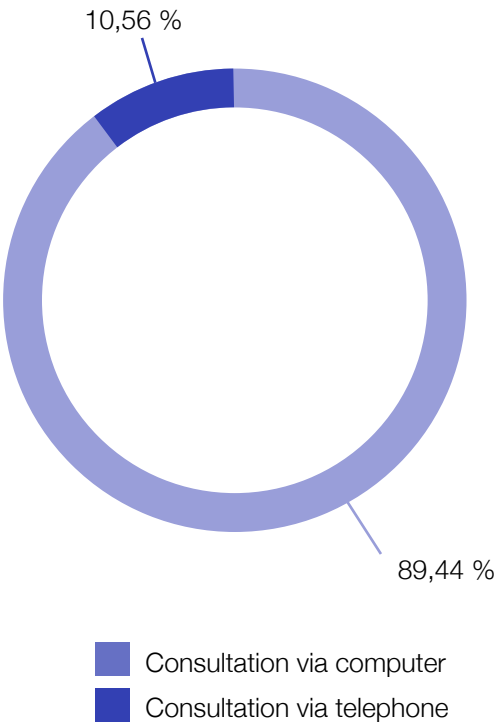


Figure 2. Video-consultations according to device



Source: Helath Central Database from Health Department analytics service (RCDS)

1.2 The LATITUD project: ways of strengthening ANP

The digital health within the assistance services

Over the last few years, a series of different initiatives have made it possible to develop mechanisms to strengthen the deployment of ANP in Catalonia's public healthcare system. In 2019, the Catalan Ministry of Health and the TIC Salut Social Foundation launched **the LATITUD project: A strategic plan for the implementation of the remote care model in the integrated public healthcare system of Catalonia (SISCAT)** [11]. Thus, with the different bodies in the sector following an adaptive and participatory methodology, a common framework for the implementation of these innovative digital tools was defined. This plan was finalised in 2020, amid the prevailing backdrop of the pandemic, which led to the accelerated deployment of new ANP channels throughout the territory in order to guarantee the quality, accessibility and sustainability of the services.

The LATITUD model of non face-to-face care lays out the foundations that, on the one hand, help guarantee the equity, quality and sustainability of the healthcare services, for both the general public and the healthcare system; and, on the other hand, allow other aspects of health to be taken into account, such as the circumstances of the individual (social, economic, skills, location, etc.) and the healthcare resources available so that care itineraries can be defined according to needs, combining face-to-face care (AP) and ANP.

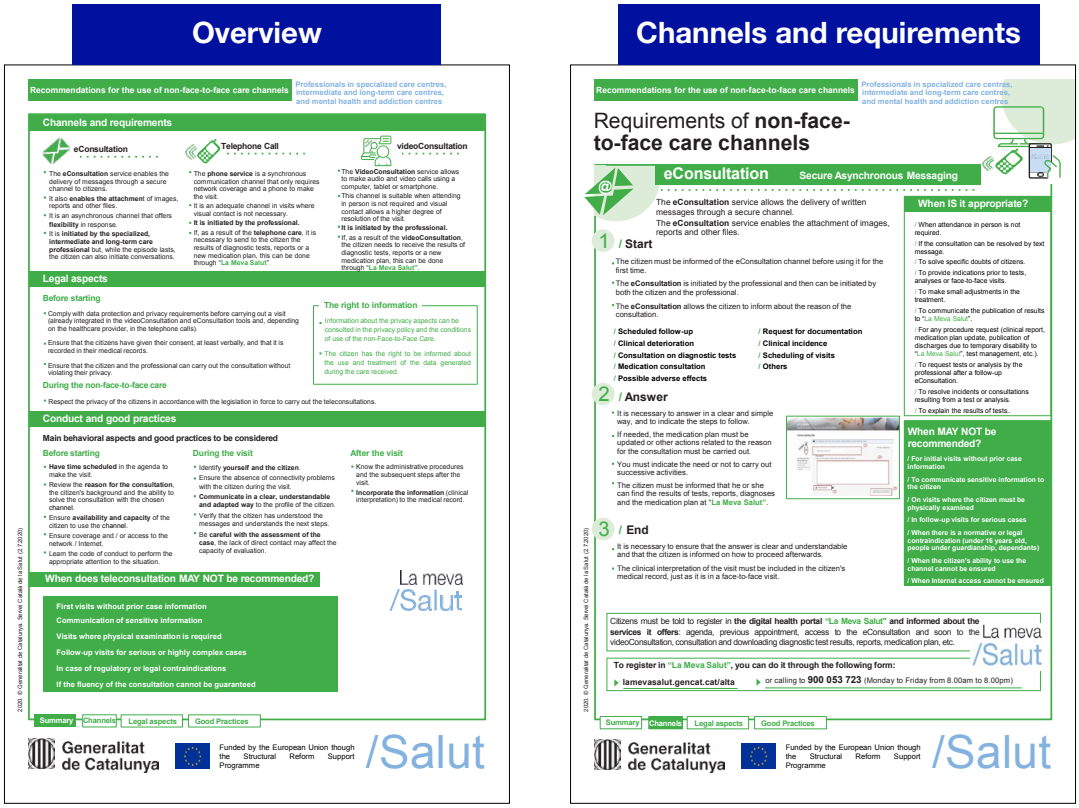
Building on previous work, and to facilitate the transformation of the care model associated with the new ANP channels, in 2020 the Foundation developed **a set of recommendations together with the CatSalut Care Directorate, the eSalut Office and professionals and managers from various SISCAT centres, with the support of the European Commission (Structural Reform Support Programme, in cooperation with DG REFORM)** [12, 13].

This programme provides a practical overview of the available tools: telephone assistance, eConsultation (secure messaging) and video-consultation. This work gathers the consensus of professionals from different SISCAT centres and offers recommendations on how to incorporate them into the practice of each centre. These recommendations are grouped into two blocks:

- **Recommendations addressed to professionals:** describing the various stages of the care process in which it is recommended to use these channels, with examples of types of visits, criteria to be taken into account, description of the available channels (figure 3), legal aspects and guidelines for conduct and good practice (figure 4).
- **Recommendations addressed to the management of the centres**: providing organisational recommendations for the use of the available channels, as well as legal aspects, a checklist and guidelines for good practice (figure 5).

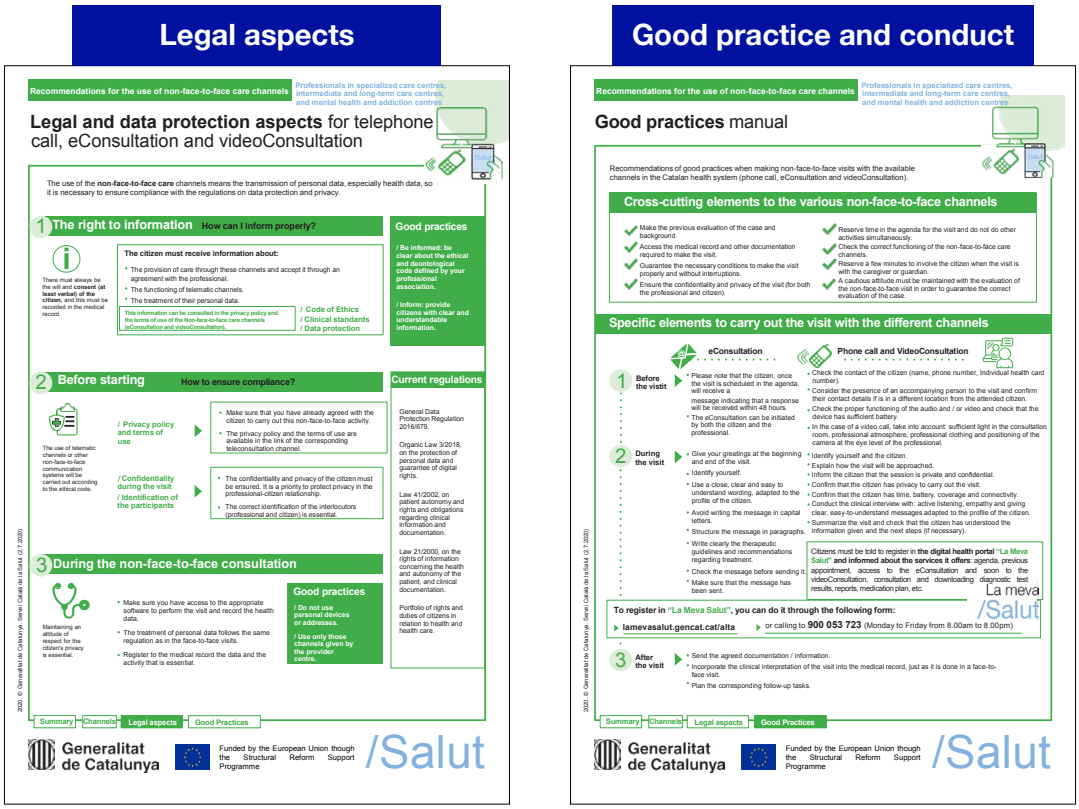
The LATITUD model of non face-to-face care lays out the foundations that help guarantee the equity, quality and sustainability of the healthcare services so that care itineraries can be defined according to needs, combining face-to-face care (AP) and ANP.

Figure 3. Recommendations addressed to professionals. Overview, channels and requirements



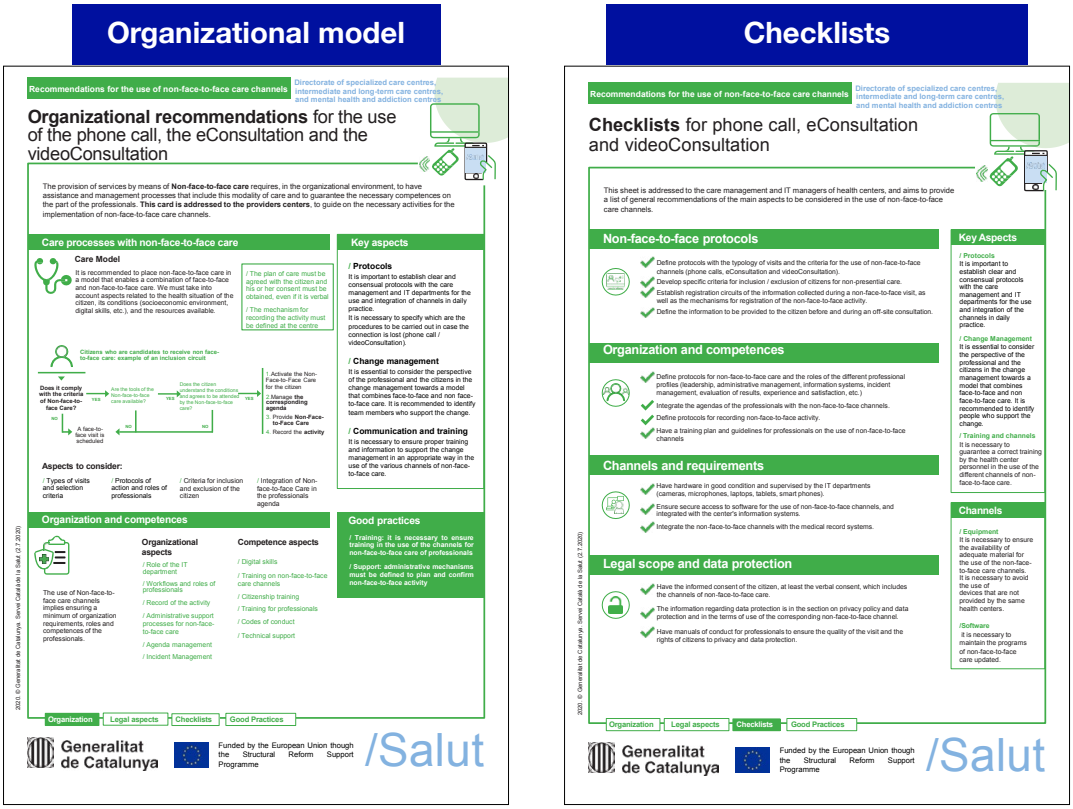
Source: TIC Salut Social Foundation, funded by EU and DG REFORM

Figure 4. Legal aspects, good practice and conduct



Source: TIC Salut Social Foundation, funded by EU and DG REFORM

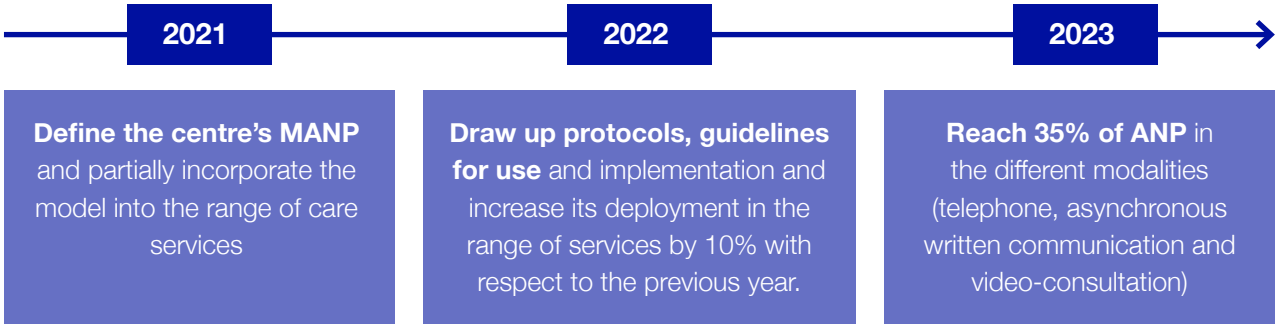
Figure 5. Information addressed to management, organisational model and checklists



Source: TIC Salut Social Foundation, funded by EU and DG REFORM

In 2021, CatSalut established a set of performance-based annual targets (CPR) in which the indicator ASI-AE01 was developed for the deployment of the MANP in a three-year plan (Figure 6) for specialised care, taking into account the availability of resources for the provision of non face-to-face care.

Figure 6. Three-year plan for the deployment of the MANP in specialised care



Source: Servei Català de la Salut

Within this context of reference, **the RSCC contacted the TIC Salut Foundation and together they agreed to set up a working group to accompany and support the region's hospitals in the deployment of the ANP model.** The aim of the collaboration was to provide assistance and support to the centres in the region, taking into account the initial situation of each one as well as their specific needs:

- Althaia- Xarxa Assistencial Universitària de Manresa
- Consorci Sanitari de l'Anoia- Hospital d'Igualada)
- Hospital Universitari de Vic- Consorci Hospitalari de Vic
- Salut Catalunya Central- Hospital de Berga

The role of the Foundation in this collaboration has been to facilitate and support the centres to deploy the MANP, taking into account the current situation of each of the centres and assisting in the preparation of the documentation required by the indicator. This resulted in four documents, one for each centre, in which the components defined in the objectives are addressed. The next steps of the collaboration in 2022 will be for all the bodies involved to continue pursuing the deployment of the ANP, using the recommendations contained in this document as a starting point.

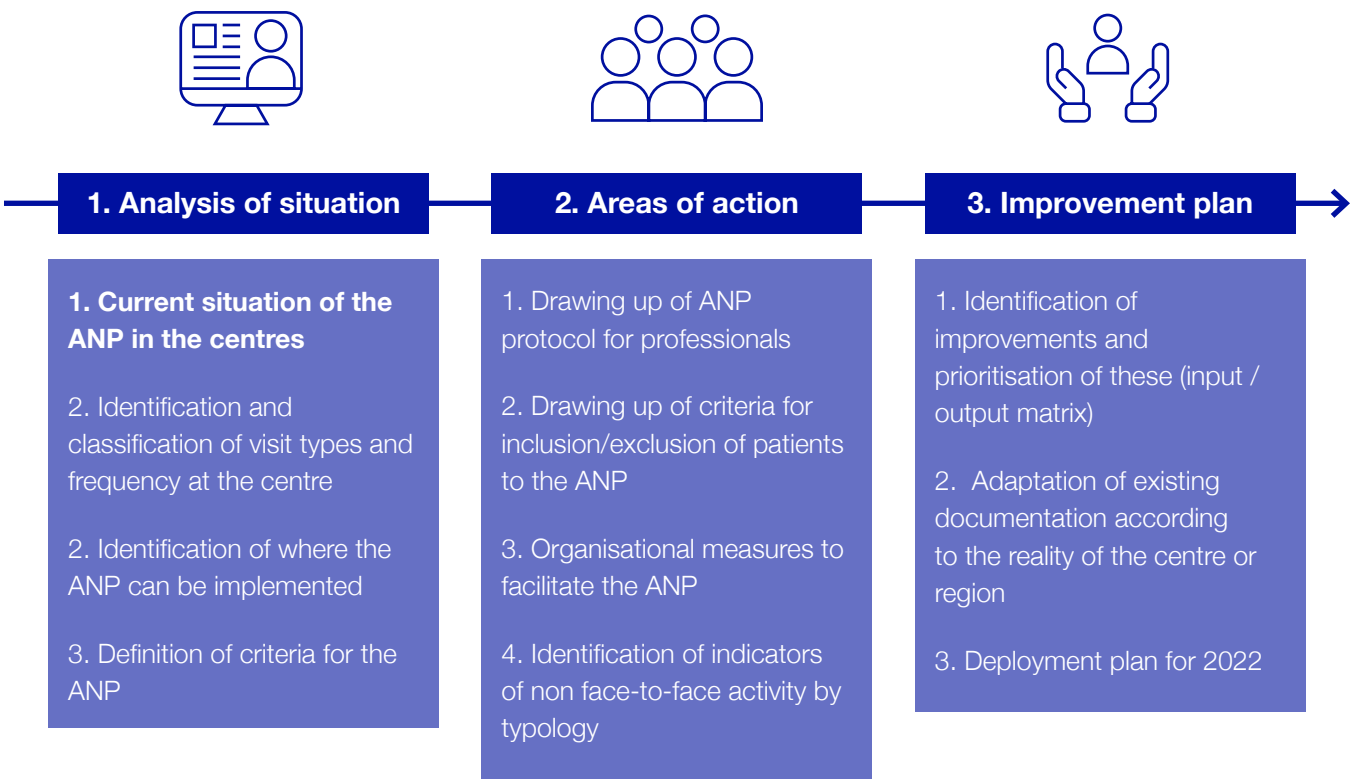
1.3 Working methodology

The established working methodology has been defined in accordance with the requirements of the CatSalut indicator 2021 ASI-AE01: Deploying the remote care model. This indicator requires a document to be drawn up in which all the different departments of the centre are represented and in which all the following points are included:Tipologia de visites candidates a ANP (per estament o servei en el cas dels hospitals).

- Types of visit eligible for ANP (by department or service in the case of hospitals).
- Modality of visits/channel (email, video-conference, telephone).
- Estimate of the percentage of eligible visits.
- Organisational modifications to be made to facilitate the ANP.
- Procedure for offering ANP to patients, survey of their preferences.
- Protocol of the centre's ANP for professionals.
- Activity report with indicators of non face-to-face visits made by service or department with type of visit and channel.
- Improvement plan for deployment by 2022.

The Foundation's proposal plan (Figure 7) and calendar, as well as the specific work dynamics, must be adapted to each organisation.

Figure 7. Proposal plan



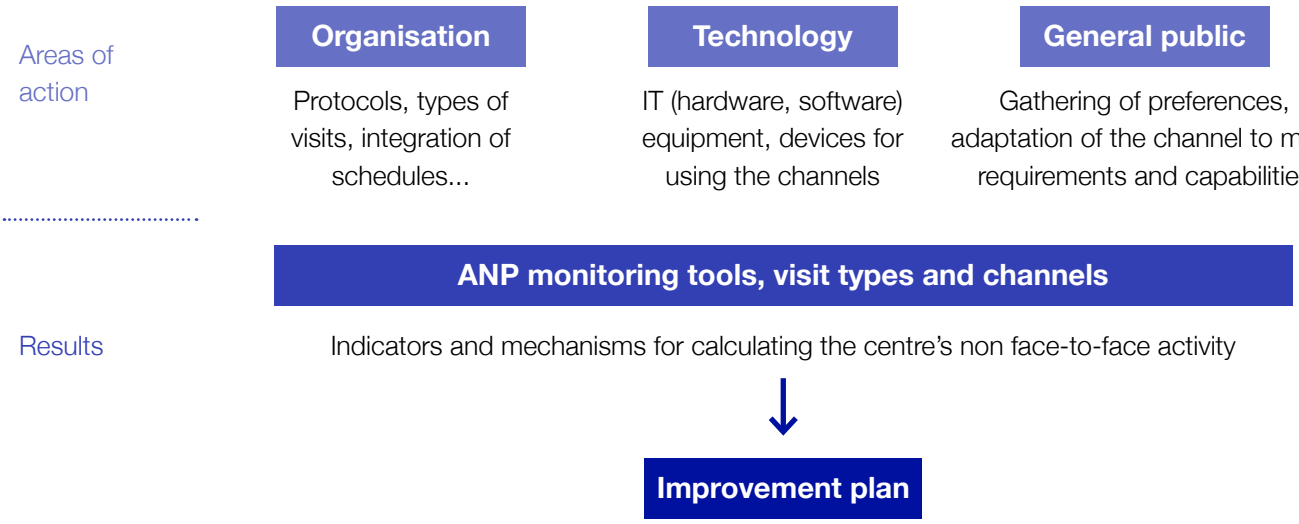
Source: TIC Salut Social Foundation

Areas of action and strategies

For the initial analysis, the hospitals were asked to provide their overall data on ANP and, additionally, a survey was carried out with professionals from the centre's different departments to collect the most recent data regarding their ANP practices. Three areas of action were then defined, which would become the main focus of the work with the centres (figure 8). Sessions were also held with the hospitals' directors of healthcare and IT systems.

With regard to the specific work carried out in each department, activities aimed at validating/ complementing the results collected in the survey were carried out using the MURAL collaborative tool. The aim of this work was to validate the points covered in the survey with each centre in order to draw up the corresponding report for each.

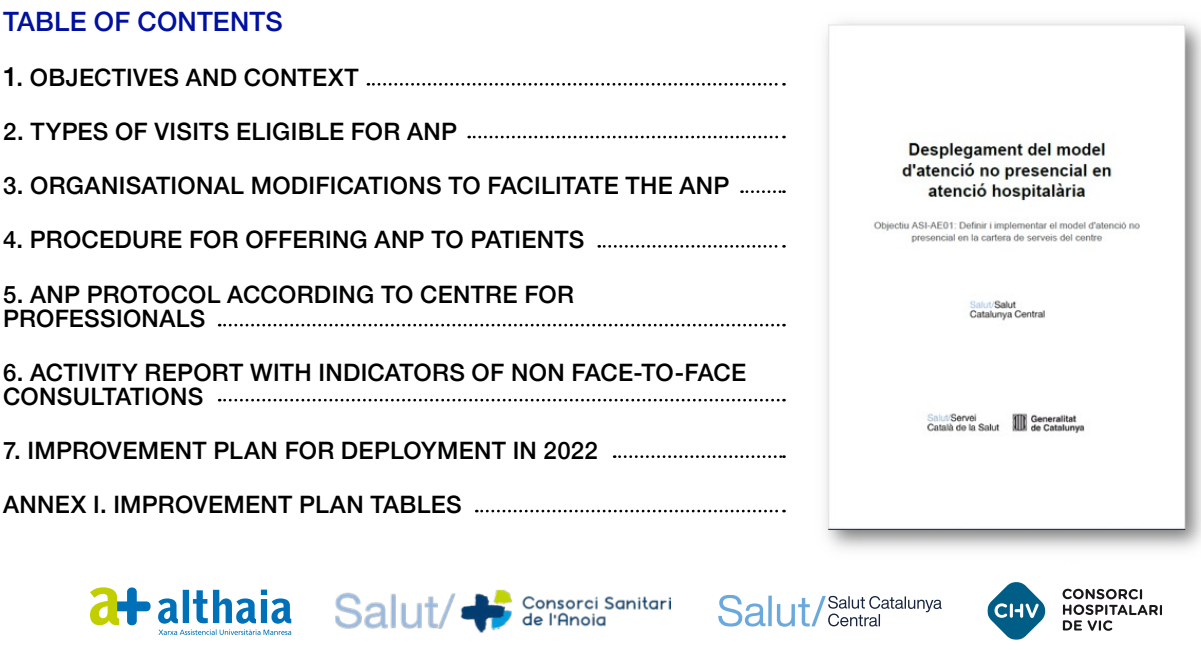
Figure 8. Area of action



Source: TIC Salut Social Foundation

As a result, the different centres and health regions worked collaboratively with the TIC Salut Social Foundation to draw up the documents required by the ASI-AE01 indicator, which led to a specific document being produced for each centre. Thus, each centre ended up with a unique document (figure 9) containing all the required points.

Figure 9. Example of final document



Source: TIC Salut Social Foundation

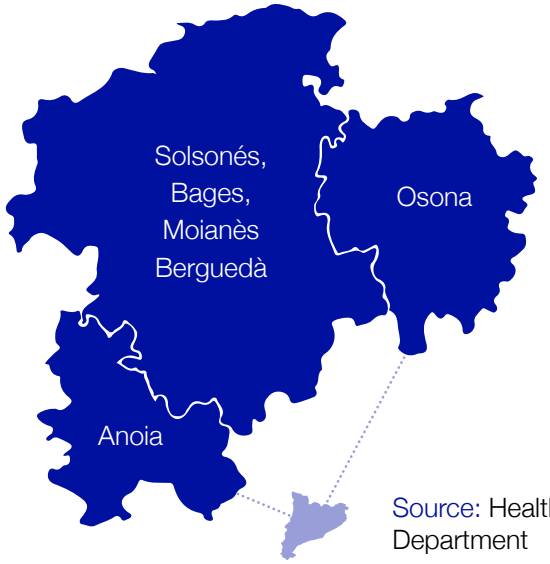
2

Non face-to-face healthcare in the Central Catalonia Health Region

2.1 The situation of the Central Catalonia Health Region

The RSCC groups together six of the central areas of Catalonia: Anoia, Bages, Berguedà, Moianès, Osona and Solsonès (Figure 11).

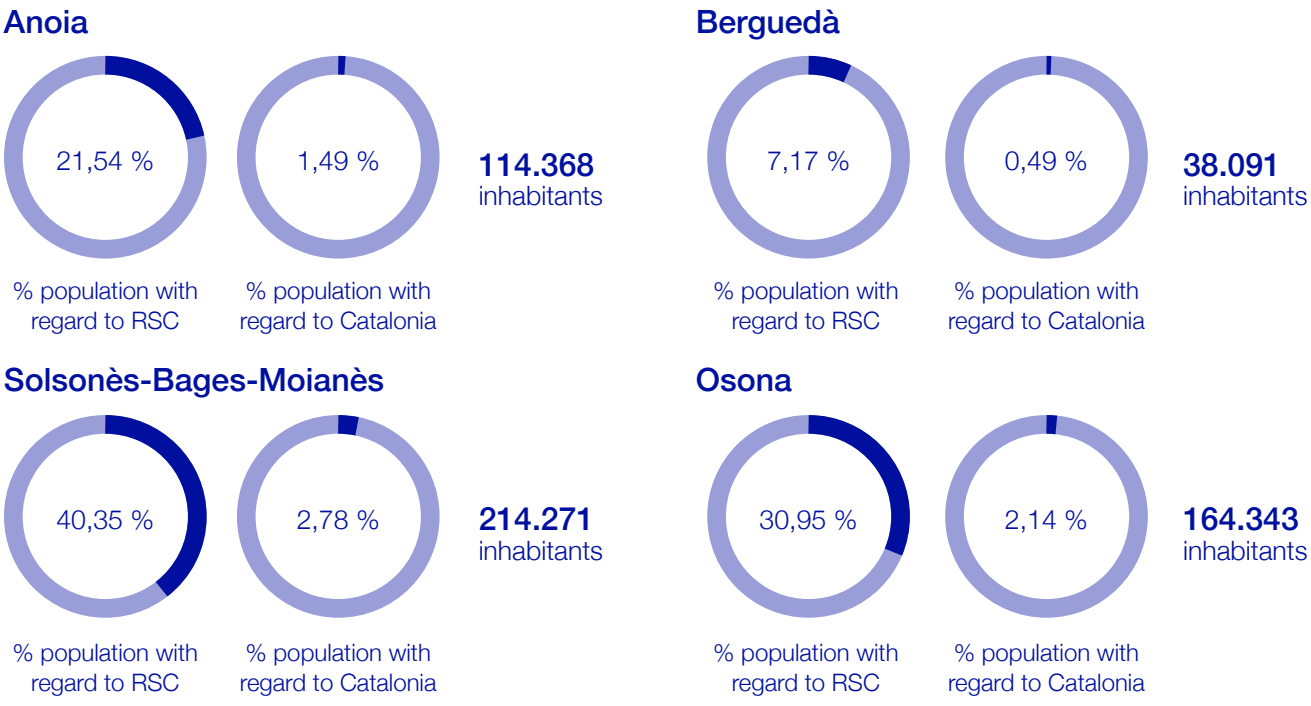
Figure 10. Counties of the Central Catalonia Health Region [7]



Source: Health Department

Current data from 2021 indicate a total population of 531,073 inhabitants [8]. The territorial coverage of each comarca is shown in figure 9. In summary, and in order to understand the situation of each hospital, in statistical terms, the comarca of Anoia provides services to 21.54% of the population, the counties of Bages, Solsonès and Moianès account for 40.35% of the total, Berguedà accounts for 7.17% and Osona for 30.95% of the total population of the RSCC.

Figure 11. Territorial coverage by comarca of the RSCC, 2020. [8]



Source: Consell de Direcció del Servei Català de la Salut

The healthcare centres in the region are shown in figure 12. The different centres that provide specific healthcare services are:

- **Primary care:** total number of primary care resources, primary care units (EAP), primary healthcare centres (CAP), primary care emergency centres (CUAP) and local clinics (CL).
- **Public healthcare:** total number of inpatient public healthcare centres, day hospitals, PADES teams (Home care programme and support teams, including ETODA, outpatient observation therapy teams) and UFISS teams (Functional Interdisciplinary Public Healthcare Unit).
- **Mental health and addictions:** total number of hospitals, mental health centres, day hospitals, community rehabilitation services, drug dependency care and monitoring centres (CAS) and hospital detoxification units.
- **24-hour and urgent care:** total number of primary care hospital emergency units (CUAP) and 24-hour care [7].
- **Hospital care:** see figure 14.

Primary care is structured into primary territorial units, the primary healthcare areas (ABS), which concentrate the bulk of the healthcare activity to the primary healthcare centres (CAPs). Some CAPs have emergency service units (CUAP). Each ABS has an EAP that generally carries out activities in a CAP, but sometimes they can provide services to more than one CAP. There are some CLs in the region that provide primary care services to certain small localities where there are no CAPs [9]. Figure 13 shows the number of centres for each type and number of visits in primary care.

Figure 12. Healthcare centres in the region [8], 2020

Source: Consell de Direcció del Servei Català de la Salut

Figure 13. Primary healthcare centres and visits [8], 2020

Source: Consell de Direcció del Servei Català de la Salut

In the field of specialised hospital care, the network of providers is made up of the inpatient emergency care hospitals that are part of Catalonia's comprehensive public health system. Hospitals, in addition to inpatient emergency care, can offer the following services [9]:

- Surgical interventions, with or without admission.
- Emergencies. These may be general or specialised services.
- Outpatient consultations.
- Day hospitalisation.
- Diagnostic tests.

Figure 14 shows the centres and beds of the hospital network in the region [10].

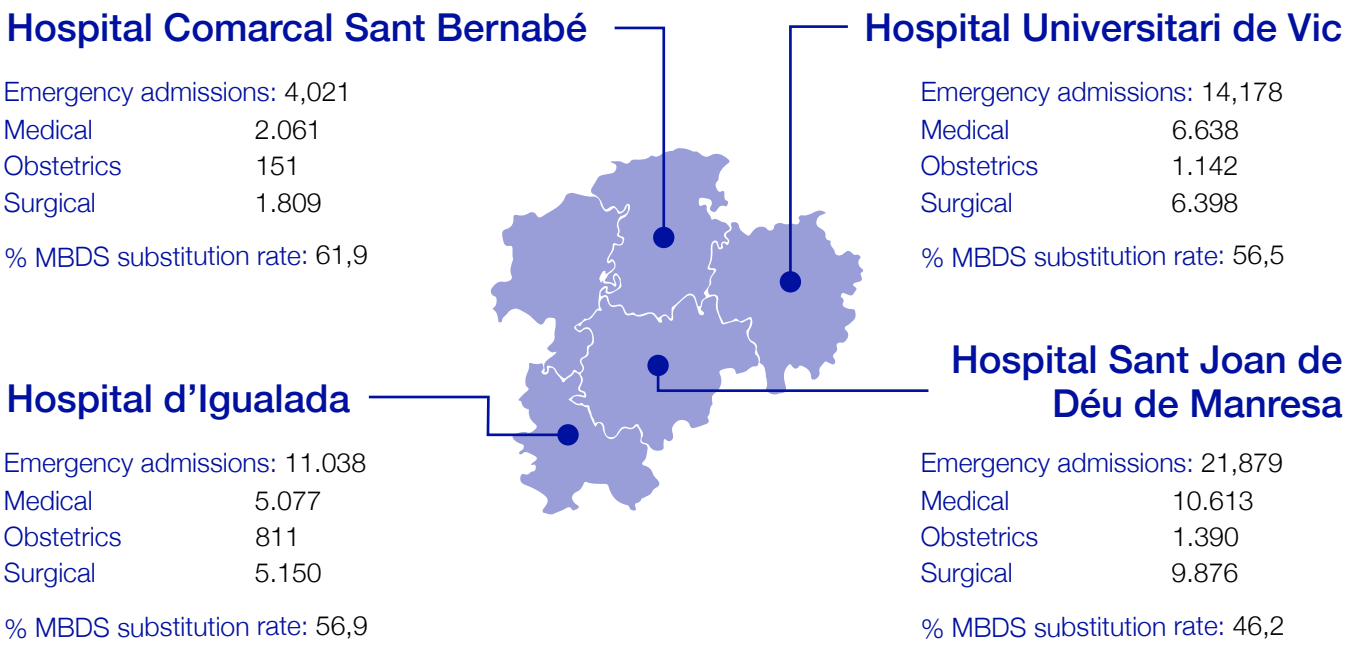
Figure 14. Centres and number of beds in the emergency hospital network, 2019 [10].
Update: number of critical care beds in the Hospital Universitari de Vic = 12.

Centres	Beds	Conventional beds	Semicritical beds	Critical beds
Hospital d'Igualada	208	202	0	6
Hospital Sant Joan de Déu de Manresa	399	337	8	12
Hospital Universitari de Vic	241	219	0	10
Hospital Comarcal Sant Bernabé	65	65	0	0
Regional Total	**913**	**823**	**8**	**28**

Source: Health Department

Figure 15 shows the inpatient admissions by type of care activity and discharge by healthcare management area (AGA) [14].

Figure 15. Inpatient admissions by type of care activity and discharge by AGA, 2019 [10]



Source: Health Department

In order to understand the situation of each specialised care centre, below is a detailed description of the type of organisation, the type of activity and the population to which they provide healthcare services.

Hospital Sant Joan de Déu de Manresa (Fundació Althaia) - el Bages

The Althaia institution, Xarxa Assistencial Universitària de Manresa, FP, is a healthcare organisation made up of different centres and services. Legally speaking it is not a judicial person, but a private foundation, and as such is a non-profit organisation that provides and manages different lines of healthcare and social activity. It is the referral hospital for Bages, Solsonès and Moianès, which together have a population of 208,000 inhabitants, and is also the referral hospital for the regions of Berguedà and Cerdanya, which both have a primary care hospital and together have a total population of 58,000 inhabitants.

Hospital d'Igualada (Consorci Sanitari de l'Anoia) - l'Anoia

The Consorci Sanitari de l'Anoia (CSA) is a public entity created in 2011 and its purpose is to provide comprehensive healthcare services to the population living in the region of l'Anoia and its area of influence. Its mission is to respond to people's healthcare needs and expectations by providing comprehensive, quality healthcare in a sustainable and socially responsible manner. The CSA is constituted by the Catalan Health Service (60%), Igualada City Council (30%) and the Anoia County Council (10%). It provides coverage to a referral population of more than 110,000 inhabitants from the region of Anoia and the population of Santa Coloma de Queralt, covering a total of 111,281 inhabitants.

The state-owned company Salut Catalunya Central

Central was created in 2020, thereby taking over the management of the Hospital Sant Bernabé de Berga. This new company is 100% state-owned and belongs to the Catalan Health Service (CatSalut). The hospital is part of the Xarxa Hospitalària d'Utilització Pública (XHUP) and offers specialised medical care to the population of the Berguedà region. The Hospital Sant Bernabé Foundation is made up of the Hospital Sant Bernabé and the Sant Bernabé Residence. It serves the population of Berga, Baix Berguedà and Alt Berguedà, which has a total population of 37,233 inhabitants.

CONSORCI HOSPITALARI DE VIC

Hospital Universitari de Vic (Consorci Hospitalari de Vic) - Osona

The Consorci Hospitalari de Vic is a non-profit public administrative consortium created in 1986, the first of its kind in Catalonia. It is constituted by the Generalitat de Catalunya and the Hospital de la Santa Creu de Vic Foundation. It is a university institution that offers public and private healthcare services to the inhabitants of the Osona region. It offers specialised healthcare, intermittent care, dependency and mental healthcare. This is one of the four main hospitals of the RSCC located in the comarca of Osona, of which Vic is the capital (29.1% of the population), with a total population of 164,343 inhabitants, a surface area of 1,245.2 km2 and a density of 131.98 inhabitants/km2

2.2 Current situation of the ANP

The results of the work carried out in the region clearly show the commitment of centres and professionals to adapt the provision of services to the current situation, with the aim of minimising the impact of the pandemic through the ANP. The extent to which the different ANP services are used varies according to tool, with the telephone call being the most widespread.

Non face-to-face activity in the region

• Of the total hospital activity in the region in 2021 (661,584 visits), between 18% and 25% was through ANP, mainly by telephone (166,670), less than 1% through video consultations (1,380) and a residual use of eConsultation.

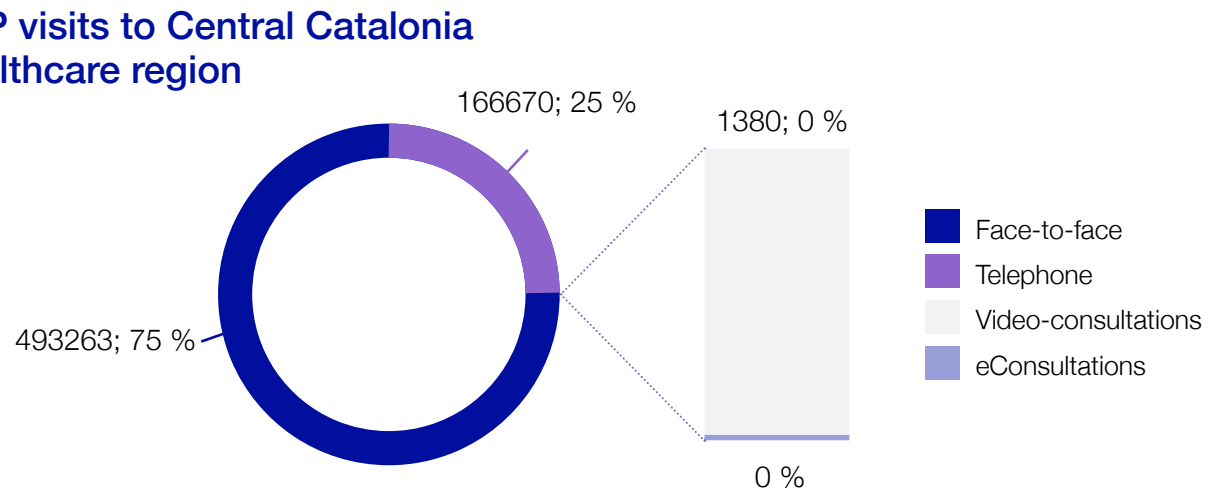
• The departments with the highest use of ANP are endocrinology, anaesthesiology, traumatology, rehabilitation, mental health and immuno-allergology.

Telephone consultation is the most widely used non face-to-face channel, as it does not require specific skills and has been more commonly used historically. Video-consultation has already been integrated into the system and there has been an increase in its use, although this varies from one department to another. Overall, it has a higher level of resolution than telephone consultation. However, it requires specific digital skills and proper management of the waiting room in order to function optimally. eConsultation is less widely used and is still in its testing phase. It is expected to have a similar impact in hospital care as it has had in primary care, which currently records an average of 170,000 eConsultations per week.

From an **organisational standpoint**, it is essential for further work to be carried out on the integration of schedules in order to guarantee the successful deployment of the ANP. Defining clear protocols and criteria is also a key catalyst for change. Its precipitated implementation as a result of the pandemic led to an initially spontaneous use while the change was being managed, something which somewhat hindered the transformation of the process. The elements relating to the administration of this change are considered to be essential for the correct deployment of the ANP.

The **technological factor** is indeed a crucial element, although initial analysis indicates that in terms of infrastructure, the centres are well prepared to provide this sort of service. However, certain risks relating to the possible lack of access to technology and digital skills among the population have been identified, which may hinder the optimum use of these tools. In terms of the impact and use of the ANP channels, tests have been carried out in several departments. Telephone consultation remains the option of choice, especially in the communication of positive results, changes in medication, pre-operative information or post-operative follow-up. Video-consultation was first used in the departments of endocrinology and rehabilitation, although it is currently being used to a great extent in dermatology and especially in the mental health service. Finally, eConsultation is used in a minority of cases and is mainly deployed in dermatology, endocrinology, gastroenterology and clinical haematology. The biggest challenge faced by hospitals has been the precipitous situation that has forced them to use remote care channels. This has meant that many centres now use these tools in an impromptu way on account of not having fully integrated them, despite being aware of how necessary they are in the current healthcare and technological context. Figure 16 shows the number of ANP visits to the region by type of channel.

Figure 16. ANP visits to the Central Catalonia Healthcare Region, according to channel

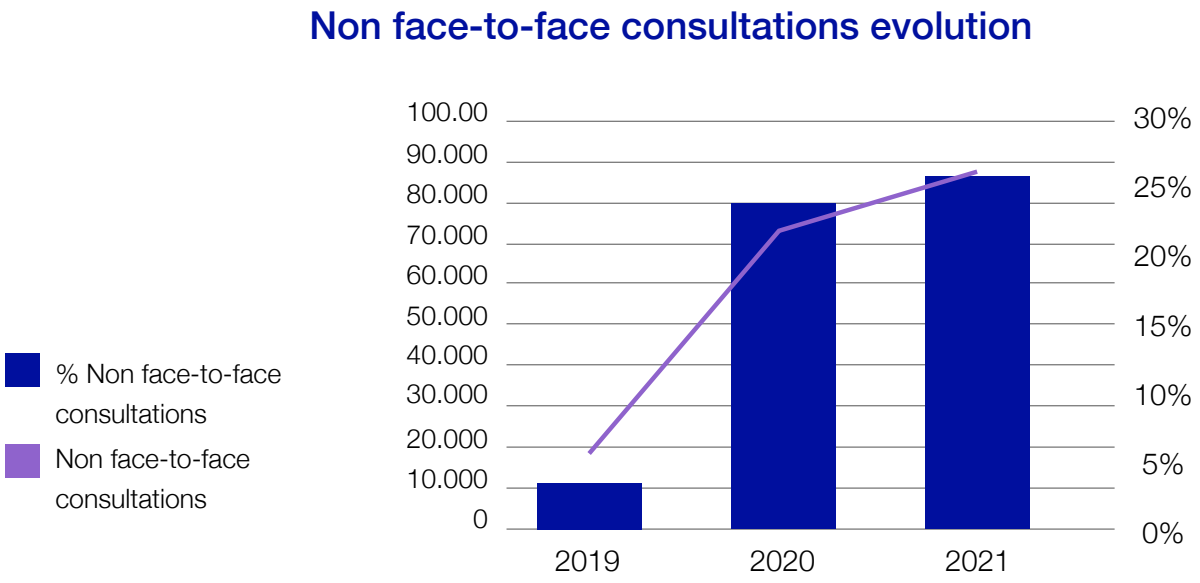


Source: TIC Salut Social Foundation

2.3 Overview of relevant data on ANP in centres

The following is an overview of some of the most relevant data provided by centres in the region concerning their non face-to-face activity. Figure 17 shows the evolution of the percentage of non face-to-face visits to **Althaia - Xarxa Assistencial Universitària de Manresa**, indicating an increase in ANP throughout 2020 and 2021 (26% of all activity in 2021). The most widely used tool is the telephone. Video-consultation is still in the process of deployment so its use, at present, is not yet widespread across all departments. Its highest use can be found in the speciality department of mental health, followed by rehabilitation and endocrinology. The entire centre is equipped with webcams and microphones, meaning that there is no lack of IT infrastructure.

Figure 17. Percentage of non face-to-face visits to Althaia - Xarxa Assistencial Universitària de Manresa



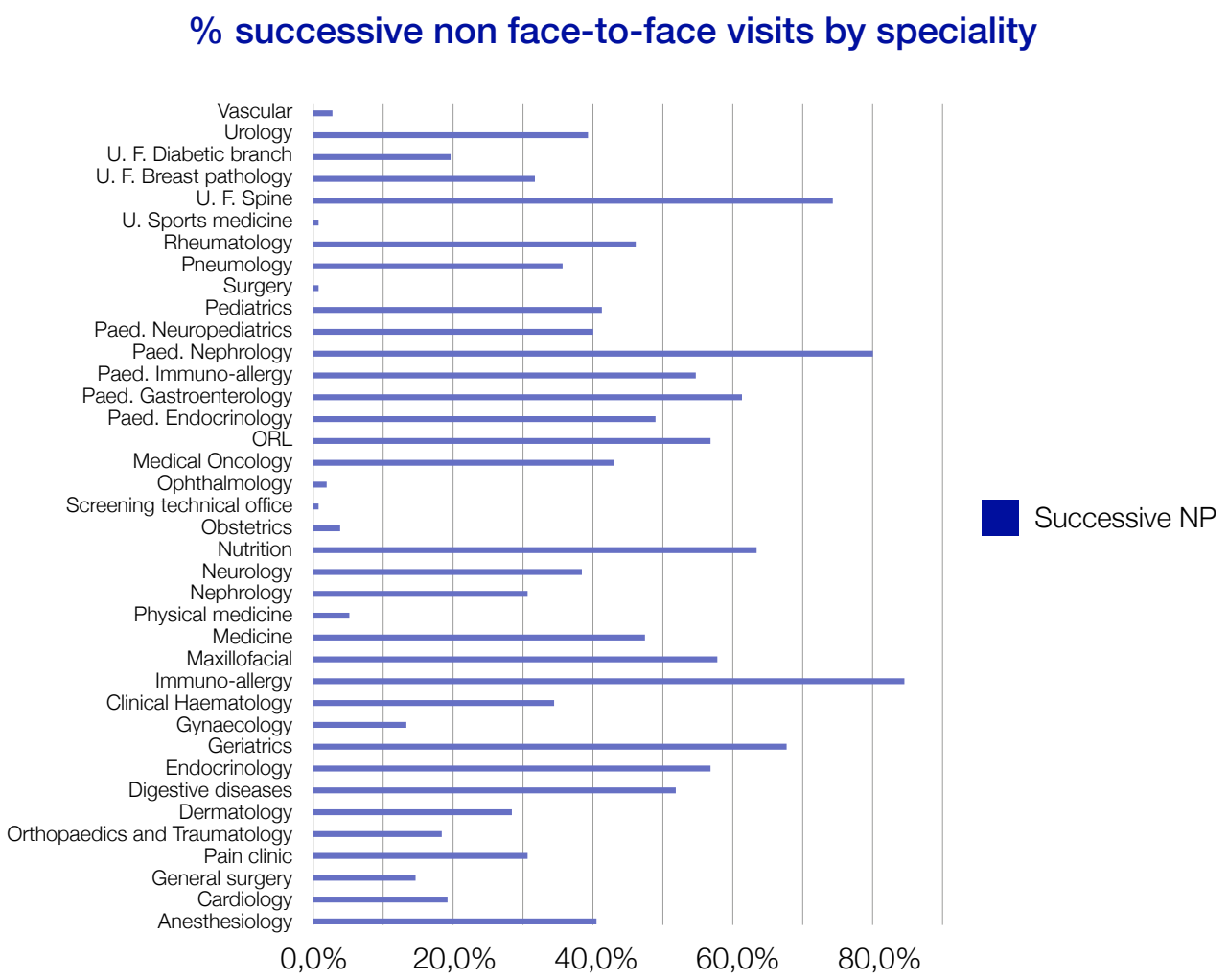
Source: Althaia - Xarxa Assistencial Universitària de Manresa

This centre has undertaken to manage this transition by involving all levels of staff, from management to frontline personnel. For example, in 2020 the Clinical Board drew up a document of guidelines on the use of ANP channels. Informative actions have also been included in the hospital's intranet, with information being provided in the different sections on how to carry out remote consultations and how to use the ANP channels. Finally, some quality control procedures also deserve to be mentioned, such as the requirement for professionals to sign a document stating that they have understood the guidelines for the use of video-consultation.

In the case of the **Hospital Universitari d'Igualada (Consorci Sanitari de l'Anoia)**, great strides have also been made in the implementation and consolidation of ANP services. Figure 18 shows the percentage of successive non face-to-face visits according to speciality in 2021, with ANP accounting for 27% of the total visits over the course of that year. The centre is committed to a change management model that addresses several key aspects, such as the availability of ANP tools, the integration of new channels into the healthcare model, digital skills, the employee portal and the availability of appointment times. Also noteworthy is the development of a questionnaire aimed at the general public and professionals and the implementation since 2007 of a remote dermatology protocol, which can serve as a reference for other departments.

[2]. In 2020 any non face-to-face activity was registered as a result of telephone and video-consultaiotns provided services during the Covid-19 pandemic first wave.

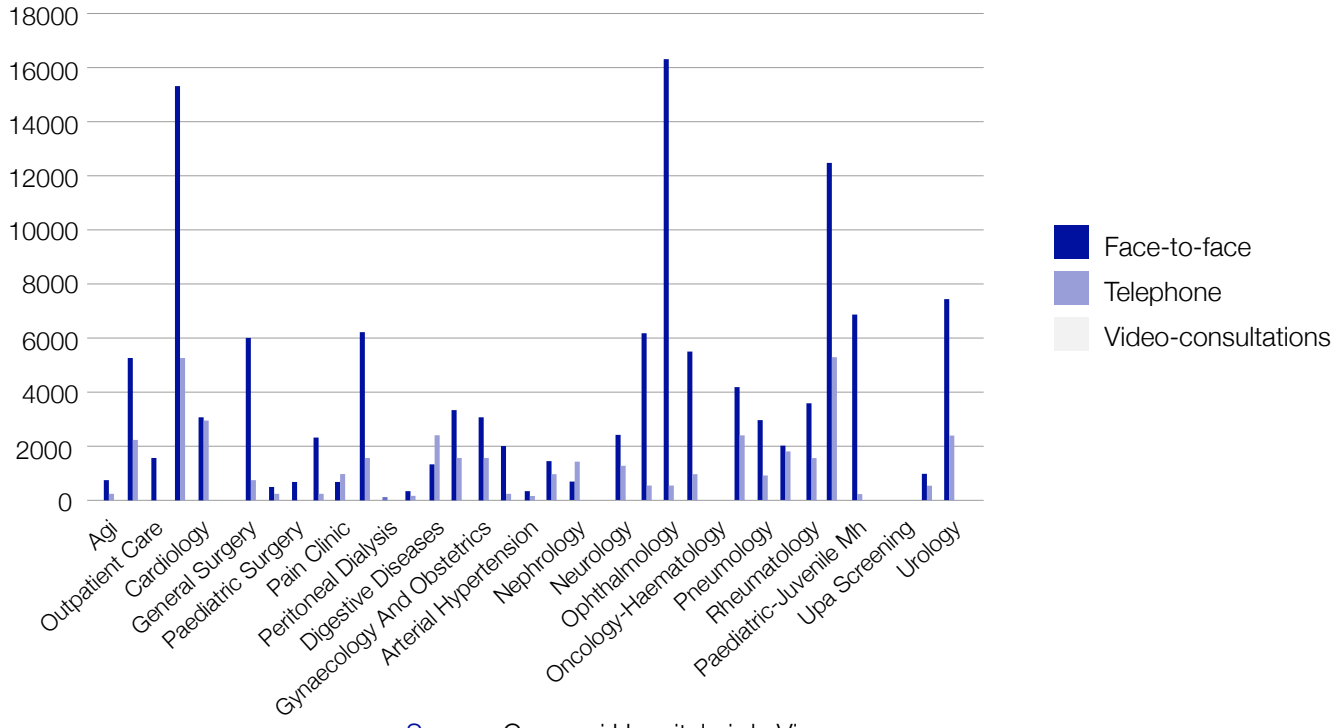
Figure 18. Percentage of successive non face-to-face visits by speciality in 2021 al the CSA



Source: Consorci Sanitari de l'Anoia

As for the **Hospital Universitari de Vic (Consorci Hospitalari de Vic)**, their commitment to implementing the ANP tools is also evident, with the transition being managed through the dissemination among staff of the recommendation documents drawn up during 2021 and the development of a questionnaire aimed at the general public. Also of note is the significant implication of the mental health service, which has carried out a series of specific actions regarding the use and prioritisation of the ANP channels. Figure 19 shows the data on face-to-face and non face-to-face activity from January to November 2021, with the ANP accounting for 25% of the total visits.

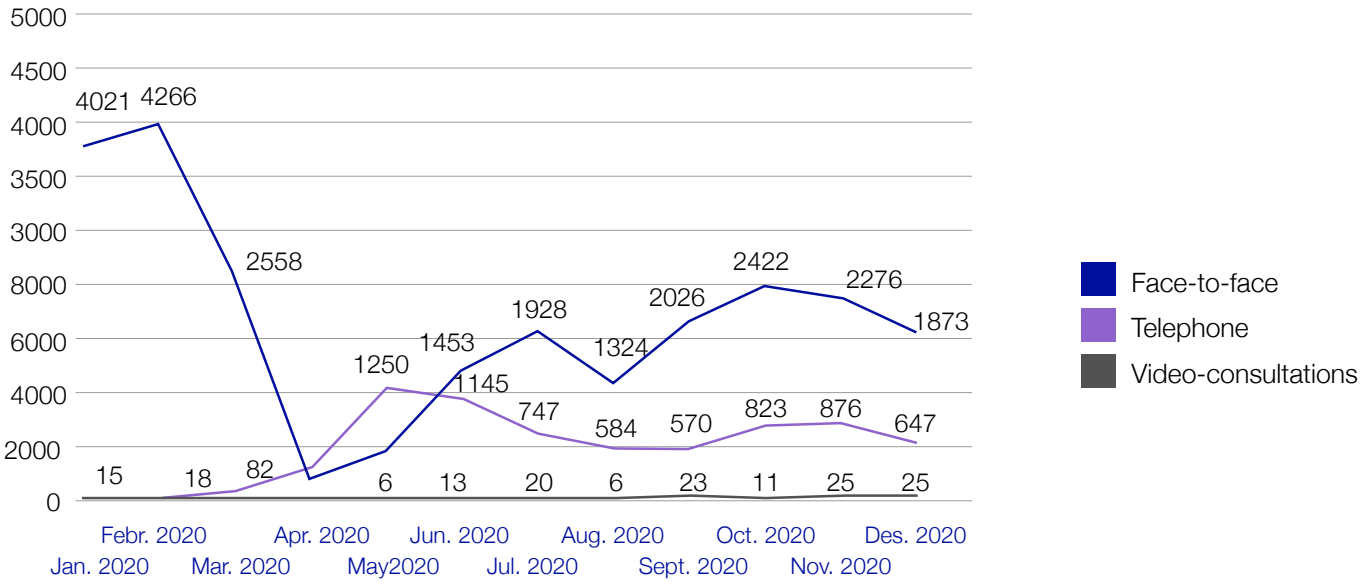
Figure 19. Data from January to November on face-to-face and non face-to-face activity in 2021 at the CHV



Source: Consorci Hospitalari de Vic

Finally, **the Hospital de Berga - Salut Catalunya Central** also evidences the work and commitment undertaken to implement the ANP, which accounts for 18% of the total activity during 2021. Figure 20 shows the outpatient care by channel during 2020. Also of note is the introduction of a questionnaire aimed at the general public to gather their preferences about ANP. In this centre, the use of video-consultation is still at an early stage, as only one speciality uses it (rehabilitation), although it is expected to have a major impact once it is consolidated in other specialities.

Figure 20. Outpatient care by channel during 2020



Source: Hospital de Berga - Salut Catalunya Central

2.4 Types of visits eligible for ANP

To ease the task of identifying the stages of the care process or circumstances in which visits can be offered through non face-to-face channels, visits were divided into the following categories:

- **Diagnostic phase,** including first visits, prognosis, anamnesis, tests and other related activities.
- **Follow-up and treatment**, in relation to the stabilisation and/or progression of the disease, treatment guidelines and adjustments, monitoring and communication of results, among others.
- **Surgical process,** which includes the interventions prior to, related to and subsequent to a surgical intervention.
- **Health awareness**, which includes training activities, prevention, guidelines for healthy lifestyle, educational processes regarding the disease or other related aspects.

The aim of this classification is to promote a cross-cutting vision of the healthcare process from a patient-centred perspective, in order to progressively introduce the new ANP channels, while guaranteeing the quality, accessibility and sustainability of the healthcare services provided at the centre.

Different types of visits and levels of recommendation have been identified for each of the defined categories corresponding to each of the available service channels (face-to-face, telephone, video-consultation, eConsultation). Due to the initial phase of deployment of the ANP channels (except in the case of telephone assistance), no distinction has been made between services or specialities, as the differences are not significant.

Available service channels

The levels of recommendation are to be applied in the decision making process regarding the most appropriate channel for dealing with a specific situation for a given patient and at a given time. In no case should they be considered absolute or fixed values, as they may vary according to the inclusion/exclusion criteria, meaning that it is ultimately left to the healthcare staff to determine the most appropriate channel depending on the situation.

The following table shows some examples (non-extensive book) of prioritisation that has been performed in the various participatory dynamics with professionals from the four hospital centres.

Diagnostic phase	Face-to-face	Telephone	Vídeo	eConsultation
Visit requiring physical examination				
Visit that does not require a physical examination				
Request for further examinations				
Results of further examinations				

Follow-up and treatment phase	Face-to-face	Telephone	Vídeo	eConsultation
Stabilized Chronic disease follow-up				
Post-op follow-up				
Treatment doubts, ePrescription				
Non critical test and analysis results				

Surgical process phase	Face-to-face	Telephone	Vídeo	eConsultation
Pre-Op				
Preparatory instructions Patient management - No OK				

Pre-op group visit (bariatric, prosthesis)				
Resultat d'exploracions complementàries				

Health awareness	Face-to-face	Telephone	Vídeo	eConsultation
First visit educational plan				
Post-op follow-up				
Self-monitoring (OATs, glucose)				
Cancer screening. Non-malignant results				

Inclusion/exclusion criteria

To be able to identify which type of patient is eligible to receive ANP in a given situation, a number of criteria have also been established that include or exclude (without being limiting) certain patient profiles.

Similarly, for healthcare personnel, these parameters can also be established according to aspects such as availability of resources, among others.

Criteria for patients eligibility
Ability to use and availability of technological resources
Patient's degree of understanding (pathology, clinical messages, treatment...)
Mobility (care-dependent patient, institutionalised patient)
Emotional impact of the message to be given
Caregiver's level of involvement (caregiver who lives far away, has other work, etc.)
Level of dependence
Willingness for non face-to-face consultation with healthcare centre
Patient mobility
Family situation
Distance from home to the healthcare centre
Rural situation
Patient's age
Socioeconomic level

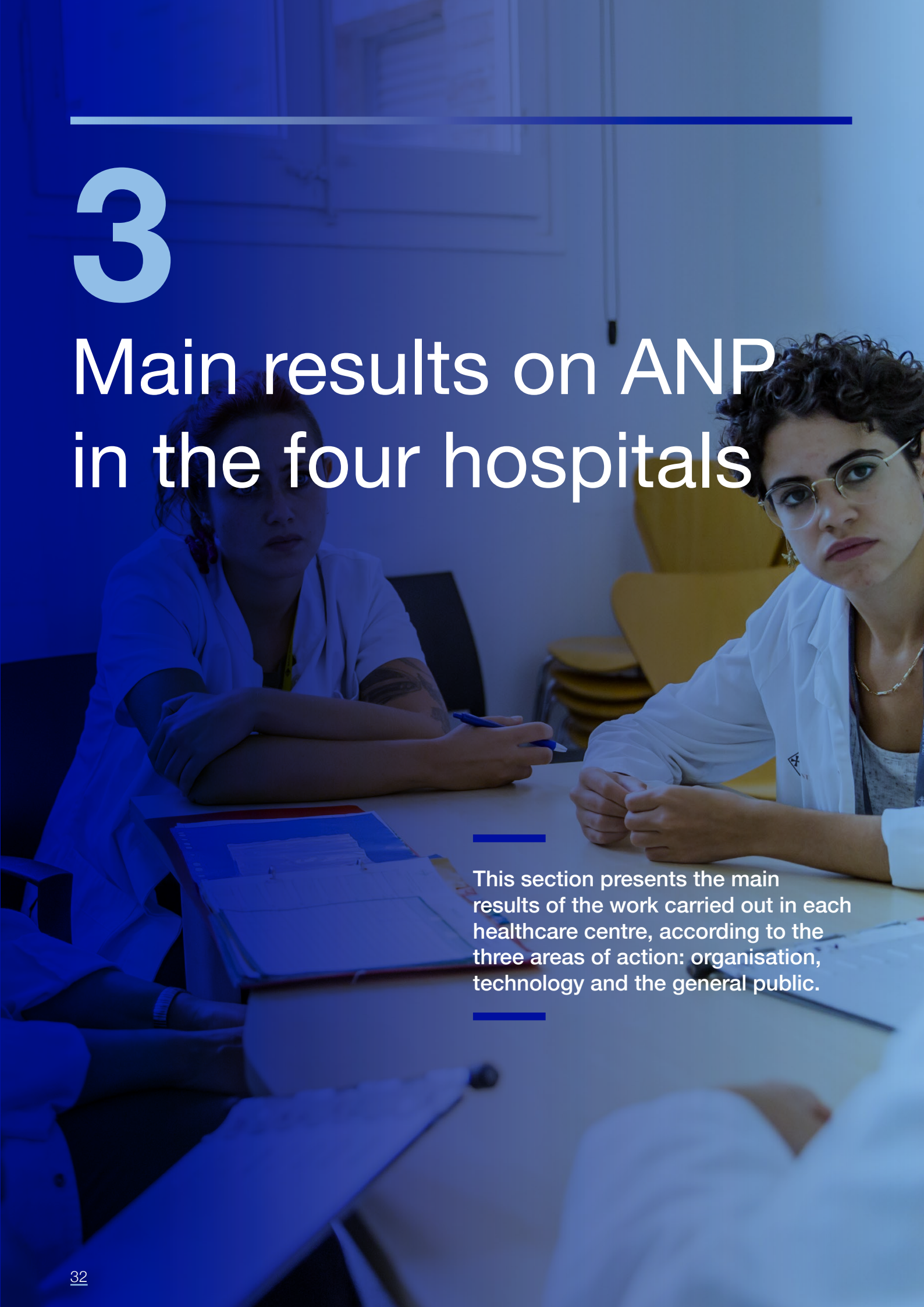
Criteria for professionals
Have sufficient time programmed in the schedule to carry out the non face-to-face activity
In the case of referral, have complete and well structured information on each patient (reason for referral, clinical history, etc.)
Availability of the non face-to-face channel from the provider centre
Training in appropriate conduct for ANP (greeting, active listening, empathy, communication of treatment, communication of bad news, etc.)
Technical training and guide to use each channel correctly
Willingness to have a face-to-face relationship with each patient
Availability of care protocols

Furthermore, some situations have been defined in which it is not recommended to carry out ANP, such as the following:

- Visits in which it is necessary to carry out a physical examination.
- Follow-up visits for serious or highly complex cases.
- Informing of new diagnoses regarding highly complex pathologies.
- Informing of new diagnoses regarding low complexity pathologies without the approval of the person in charge of the case.
- Communicating test results about highly complex pathologies.
- Informing about new treatments without the approval of the person in charge of the case.
- Adjustments to treatments that require special education for the patient.
- When there is a legal or regulatory contraindication.
- When the patient presents difficulties in comprehension, whether due to language, diminished cognitive abilities, etc.

3

Main results on ANP in the four hospitals



This section presents the main results of the work carried out in each healthcare centre, according to the three areas of action: organisation, technology and the general public.

3.1 Organisational aspects of the ANP

At an organisational level, the provision of services through ANP requires the availability of assistance and management processes that integrate this type of care and guarantee the necessary skills among professionals. The centres themselves acknowledge the need to establish comprehensive and consensual protocols in conjunction with healthcare management and IT departments for the use and integration of channels in day-to-day practice.

The ANP should be part of a healthcare model that allows for the combination of both AP and ANP. Aspects related to the health situation of the patient and their particular circumstances (socio-economic situation, digital skills, etc.), as well as the resources available, must be taken into account. Finally, the care plan must be discussed and agreed upon with the patient and an informed consent (IC) must be obtained.

The organisational aspects that have been worked on with the centres are: i) general recommendations to healthcare staff for the use of the ANP; ii) management of demand and schedules; and iii) support for the user. The following is a summary of the approach taken at each centre regarding the organisational aspects of this type of care.

In the case of the Fundació Althaia - Hospital Sant Joan de Déu, two documents were disseminated among the staff via the corporate website:

i) Recommendations on the use of ANP channels, established by the Clinical Board of Physicians, which explains general and specific measures, as well as the advantages and problems that these channels may present.

ii) Guidelines to be followed by healthcare personnel for the use of video-calls, containing a list of suitable and unsuitable situations, exclusion criteria and personal data to be used. Each professional is required to sign at the end of the document to attest that they have read, understand and are aware of the benefits and problems derived from the incorrect use of video-calls.

This centre currently manages appointments by alternating face-to-face and non face-to-face visits. This schedule has significantly reduced the number of people in the waiting rooms and has helped to protect patients during the COVID-19 pandemic. Now that accessibility is less restricted, some services and professionals have redistributed their activity, allocating face-to-face visits to one time slot and non face-to-face visits in another.

Figure 21. Example of a hybrid schedule configuration

Consultaion Day	Time	Schedule	Channel
Day	10:15	PRIMARY COLOME	S
Day	10:30	PRIMARY COLOME ST	ATMETGE
Day	10:45	PRIMARY COLOME	S
Day	11:00	PRIMARY COLOME ST	ATMETGE
Day	11:15	PRIMARY COLOME	S
Day	11:30	PRIMARY COLOME ST	ATMETGE
Day	11:45	PRIMARY COLOME	S
Day	12:00	PRIMARY COLOME ST	ATMETGE
Day	12:15	PRIMARY COLOME	S
Day	15:30	PRIMARY COLOME VIDEO	ATMETGE
Day	15:45	PRIMARY COLOME	S
Day	16:00	PRIMARY COLOME VIDEO	ATMETGE
Day	16:15	PRIMARY COLOME	S
Day	16:30	PRIMARY COLOME VIDEO	ATMETGE
Day	16:45	PRIM PRIMARY ARIA COLOME VIDEO	ATMETGE

Face-to-face Telephone Videocall

Source: Althaia - Xarxa Assistencial Universitària de Manresa

Figure 22 is an example of the configuration of a professional's schedule in which the AP and the ANP are alternated.

The Fundació Althaia Hospital Sant Joan de Déu, through the corporate website, provides pro.fessionals with reference documentation on the use of non-insential care channels. It also includes Guidelines for the uti.lization of video calls, with a collection of appropriate and inappropriate activities, exclusion criteria and personal data to be used.

With regard to user support, Althaia staff are assisted by IT systems to resolve any queries or incidents in the use of the tools so as to be able to attend to everyone through the ANP channels. The system is the same for all other tools, and there is a help desk telephone line, an email address and a ticketing system that can be accessed via the intranet.

The **Hospital Universitari d'Igualada, Consorci Sanitari de l'Anoia**, at present, does not have any ANP protocols in place, except for in the Dermatology department, where the use of telemedicine was introduced in 2007. In the wake of the pandemic, various other areas of specialisation began to provide assistance by telephone. The CSA also made use of the video-consultation modality proposed by CatSalut. As a result, the number of ANP increased considerably with respect to previous months. Each professional gradually adapted the way they dealt with each patient in a consensual way.

L'Hospital Universitari d'Igualada, Consorci Sanitari de l'Anoia has an ANP protocol for the Dermatology Service, where eHealth was established in 2007.

In order to explore the scope of the different ANP tools, the centre drew up a chart in which the healthcare personnel were asked to indicate the types of visits that could be done face-to-face, by telephone and/or by video-call, making it clear whether they were first or subsequent visits. An estimate of the number of visits was also made in order to adjust the schedules. In parallel to this, they were asked to update their services according to the type of visits they had stipulated in their speciality in order to be able to provide the opportunity to schedule a visit in the modality they considered most appropriate (face-to-face, telephone or video consultation). As for video-consultation, the centre endeavoured to install the system on all the computers in the consulting rooms and in the outpatients' area. It also equipped the computers with webcams and microphones.

The **management of schedules** varies according to the speciality, as it largely depends on the number of professionals in each department and on the volume of patients that can be included in this type of care. Since this service was introduced, several pilot tests have been carried out, grouping the non face-to-face visits together and making use of or segmenting the available appointment slots in the schedules. This has led to a duplication in the number of appointments available to the same professional, which is why, from the second half of 2021, work is being carried out with each professional, taking into account the particularities of their speciality in the reorganisation of their schedule, compacting the ANP into blocks with telemedicine visits that vary between 10 and 15

minutes depending on the complexity of the patient, separating time for telemedicine activities and giving them the possibility of carrying out these activities in the form of remote work. This activity has also focused on reorganising physical spaces such as offices or consulting rooms, depending on demand, in order to optimise the available infrastructure resources.

Support for users with regard to technical incidents arising from the ANP channels (telephone and/or video-consultation) is provided by the Information Systems Service.

People working at the **Hospital Universitari de Vic (Consorci Hospitalari de Vic)**, are aware of the advantages of these tools and have not encountered any problems with the centre's own platform. The main impediments to carrying out non face-to-face visits through video-consultation have been due to connectivity issues of the patient and the lack of skills in the use of the ANP channels. The centre has deemed that it is necessary to carry out an assessment of the work stations and of the skills of the specific healthcare staff that will be involved in the ANP project in order to be able to evaluate the need for equipment to carry out the connections and to provide specific training to guarantee the use of the equipment, so as to be able to solve any problems that may arise during the connection.

With regard to **schedule management**, the centre believes that an accurate estimate should be made regarding the amount of time required by staff to carry out the planned non face-to-face visits. One option could be to have additional time between face-to-face and non-face-to-face visits. In this regard, it is also necessary to establish how to manage the waiting time for video or telephone consultations and any waiting times that may be required for eConsultations.

L'Hospital Universitari de Vic, Consorci Hospitalari de Vic it is aware of the advantages of non-insential care channels, which is why a review of the jobs and skills of professionals is planned to assess the need for infrastructure and specific training to ensure the use of tools.

Support for users is implemented by the centre through a series of measures aimed at promoting and facilitating the use of ANP channels, such as, for example, the help desk service. This service solves issues that may arise relating to information and communication technologies. They record incidents in the system, be it a message or a call, remote access, etc. With regard to documentation on the use of the ANP channels, there is a document on the use of video-consultation and personalised training is also offered to the departments that wish to implement it. When a department wishes to introduce a new channel, the infrastructure has to be set up and a small amount of training has to be provided.

Currently, there are no major incidents recorded by professionals. Regarding video-consultation, some department heads have started to implement it and are working with their teams. Some of the aspects that have been detected are:

- It does not provide greater benefits than the telephone call.
- They have encountered that some patients have had difficulties, which has led to time being wasted and they have discontinued the service.

- Other professionals have observed benefits in video-consultation, especially in the field of mental health, and so they have endeavoured to make it work. They have found that some patients respond and progress very well to the video-consultation, whereas others do not.

L'Hospital de Berga, Salut Catalunya Central added to the health record, non face-to-face visits for most of specialities. In some cases, specific ANP agendas have been created.

In the case of the **Hospital de Berga - Salut Catalunya Central,** the centre has undertaken a number of tasks in the area of **general recommendations for professionals**. The centre's HIS (Savac) has been updated with the option for non face-to-face visits in the majority of the hospital's departments, and these have been added to the current schedules or, in some cases, ANP schedules have been created. Essentially, the ANP is mainly carried out by telephone and was initially implemented as a necessity, at the start of the COVID-19 lockdown, and is managed by each department, rather than as part of a comprehensive policy for the deployment of the ANP. The health staff did not receive any specific training and handle telephone consultations like they would any other visit to the HIS. The difference lies in the fact that the means of communication with the patient is carried out via telephone, which is available in each consulting room. Video-consultation is currently only used by one department (rehabilitation), with a single professional being given a guide on how to establish communication with each patient (utilising the tool developed by CatSalut) by means of a bridge application between the HIS and CatSalut's video-consultation application.

Until now, there has been no established policy at the centre to teach healthcare staff about the advantages and limitations of the ANP, nor are there any regulated protocols in place. One of the objectives for 2022 is to create ANP protocols and guidelines for the use of the different ANP channels based on the TIC Salut Social Foundation's recommendations for use. Likewise, during 2022 these channels will be disseminated among all healthcare staff in all the hospital's different departments.

Work is being carried out on the **management of schedules** following the incorporation of the ANP as a new type of visit in staff schedules, and it is being integrated into the HIS according to the model used by each department:

- Only ANP schedule.
- Shared schedule between AP and ANP that can be ordered or interspersed.

Likewise, this type of service is incorporated into the schedule following the AP guidelines, with a time allocated for each one and recording the evolution of the care in the clinical history of each patient. The clinical report written by the ANP professional is uploaded to the Electronic Health Record (HES) in the same way as it is done in AP.

Support for users is provided by the centre's own technical and maintenance team, which deals with computer and telephone issues between the hours of 8am and 7pm. In the case of ANP via telephone, professionals have rarely experienced any technical problems. Rather, patients sometimes experience difficulties in finding answers to their questions. Video-consultation is relatively untested and has only been used through a single computer, with most problems being experienced on the user side.

3.2 Technological aspects

In terms of technological aspects, there is not a huge difference between the different centres, which is why the following section addresses this issue in general terms, without going into the specifics of each centre.

At present, the technological infrastructure of the region's hospitals includes telephone and video-consultation as part of their ANP channels. In the case of eConsultation, this channel is still in the testing phase. In general, the infrastructure of the centres is well prepared for visits through ANP channels. With regard to equipment, in the most part, the centres are equipped with the necessary tools to carry out ANP (telephones, rooms and PCs equipped with webcams and desktop microphones and clinical workstations with integrated video-consultation).

Additionally, the centres also have mechanisms in place to log non face-to-face activity, as the means used is included in the record of the visit, which according to the minimum basic data set (MBDS) can be face-to-face, telephone, video-consultation, eConsultation or prior assessment of the case before the patient's visit. This log does not require any action on the part of the healthcare staff.

As such, it can reasonably be concluded that the centres are technologically prepared to offer this type of care.

3.3 Procedures for offering ANP to the general public

Nowadays, people are more informed and have higher expectations than ever before and it is they, the general public, who are guiding the system to adapt to the use of digital channels. In this sense, patient participation is important in terms of both the systematisation of shared decision-making in the field of health and disease and to incorporate their input in improving healthcare services.

Within the framework of the LATITUD project, an ANP strategy has been developed to facilitate the implementation of digital solutions in the field of healthcare. This strategy is aimed at guaranteeing the equity, quality and sustainability of the healthcare services, from both the perspective of patients as well as the healthcare system [11].

The **Althaia Foundation - Hospital Sant Joan de Déu** is working on a protocol to provide ANP to patients (figure 22), which outlines the flow of information and the sequence of actions to be carried out:

- The EAP or the specialist makes the first visit referral.
- The target specialist assesses and prioritises the referral.
- Depending on the pathology, they may refer the patient to a face-to-face or a non face-to-face visit (telephone or video-consultation).

1. Video-consultation: the specialist who has the option of video-consultation in their schedule must have previously signed the directives established by the institution on this matter. This is an internal document issued by the centre (Directives to be followed by the healthcare professionals for the use of video-consultation):

- When the professional schedules the visit through video-consultation, if the system detects that the user has not given their express consent to carry out the visit through this means, the programme informs the professional of this, requiring them to ask the user if they consent to do so or not.
- In the event that the system detects that the user has already given their consent, the professional can schedule the visit without any additional requirements. The user's consent to using the video-call ANP system is recorded in the HIS, with details of the date and time of the visit.

2. Telephone consultation: the professional will ask the user if they are willing to carry out the visit over the phone:

- If they agree to do so, they will then proceed to schedule the visit, which at this stage is through verbal consent.
- If they do not consent to do so, the telephone consultation will be cancelled and a face-to-face visit will be arranged.

The message templates (SMS and in some cases via the Althaia app) that each patient receives concerning the ANP vary depending on whether the service will be conducted over the phone or through video-call. The texts are as follows:

For telephone assistance:

Mr/Mrs. ..... CIP user ..... you are scheduled to receive a CALL from a specialist of the ophthalmology department of the Hospital St. Joan de Déu de Manresa on 10/01/2022 13:40

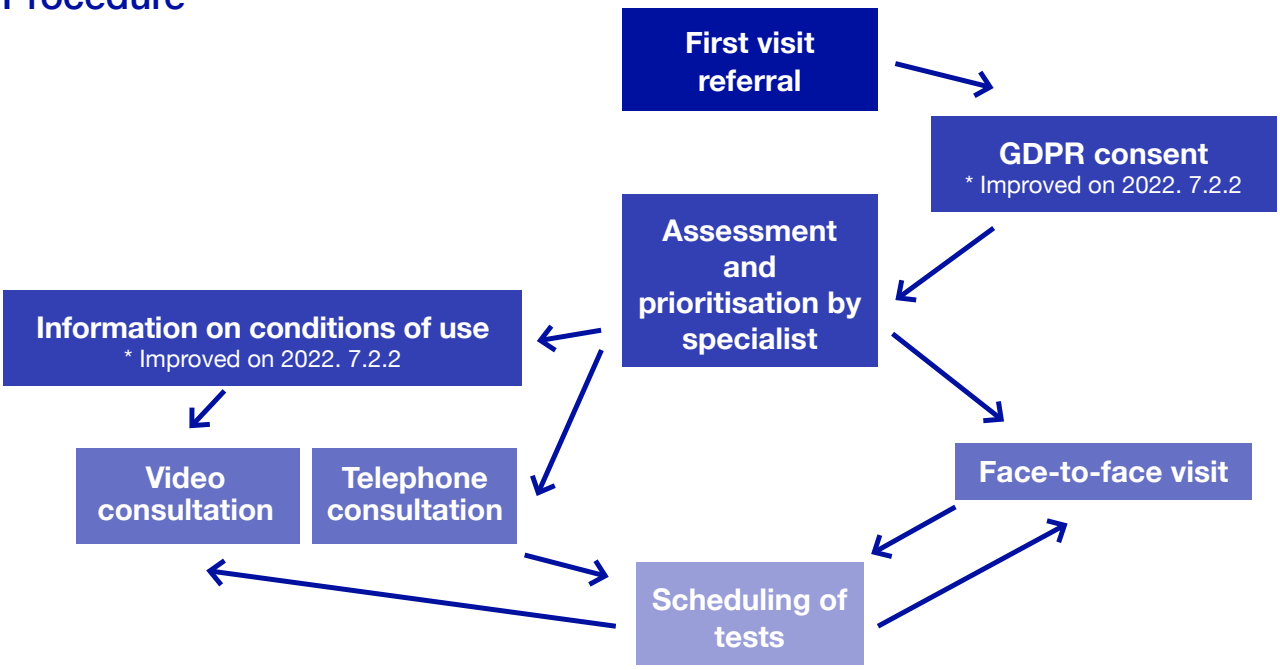
oFor video-consultation:

Mr/Mrs. ..... CIP user ..... you have a video-consultation scheduled on 09/11/2021 14:00, with the ophthalmology department of the Hospital St. Joan de Déu de Manresa. On the date and time indicated you will receive an SMS with a link to make the connection.

Source: Althaia - Xarxa Assistencial Universitària de Manresa

Figure 22. Procedure for offering ANP to patients.

Procedure



Source: Althaia - Xarxa Assistencial Universitària de Manresa

With regard to **gathering the preferences of the general public**, at present the organisation has not conducted any surveys to gauge their opinion, nor has it carried out any dissemination activities to inform users of the advantages of this system or of its conditions of use. One of the improvements that is planned is to identify patients' preferences and evaluate their experience with the ANP channels in order to improve the perceived quality of the service.

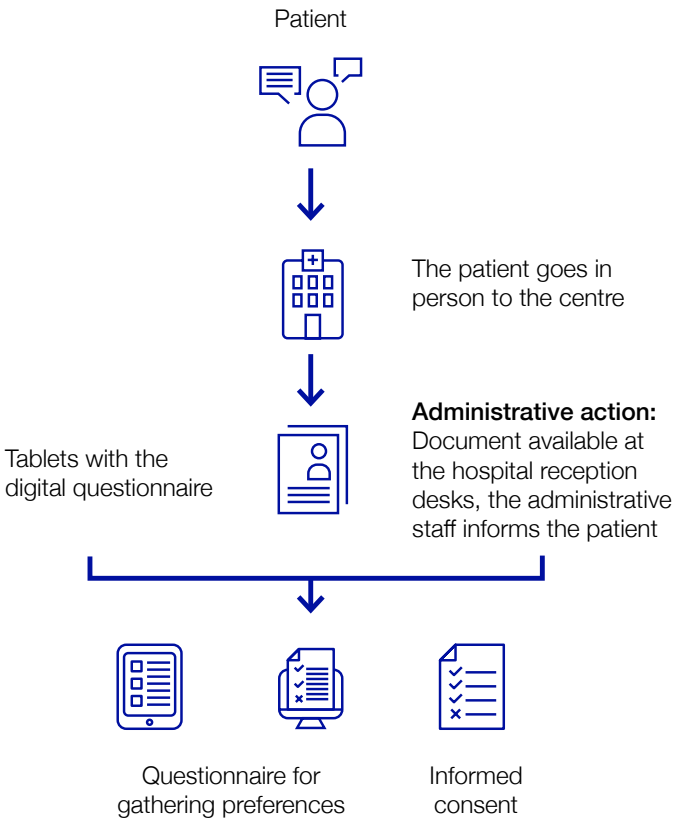
With regard to user support, the **Hospital Universitari d'Igualada - Consorci Sanitari de l'Anoia**, does not have any training content on the CSA website about how the different channels work. Over the course of 2022, the aim is to provide training for users or patients on how to use these new technologies and to encourage their use. To this end, the CSA will provide information material, videos or other resources explaining how the ANP tools work. This material will be available on the CSA website, on the informational screens set up for users and patients, and in paper infographics in the outpatient area.

During the 2022 CSA will make available to users informational material, video or others explaining how ANP tools work.

With regard to **gathering the preferences of the general public** at the CSA, as a means of obtaining the maximum feedback, users of the centre will be given the opportunity to complete the survey directly on the CSA website, or by means of a link in the SMS messages which are sent as a reminder of appointments that have been scheduled, as well as in paper format. The latter will be available at the information desks and at the Citizen's Advice Unit, where a number of boxes will be placed in which they can be deposited after having filled them out.

At the **Hospital Universitari de Vic - Consorci Hospitalari de Vic**, the proposal is to provide a touch screen in the outpatient area and in admissions so that citizens can fill in the questionnaire about their preferences. These preferences should be automatically registered in the CHV's specific programme (SICHV). For this to work, it would require some additional administrative support to provide advice to the public, both in terms of filling out the questionnaire and in resolving specific queries. An information point could be set up to provide support for people to manage their registration in La Meva Salut and to process their informed consent, from 9am to 1pm and from 3pm to 6pm (from Monday to Friday).

Figure 23. Example of a protocol on how to offer ANP. Gathering of preferences and informed consent



Source: TIC Salut Social Foundation

L'Hospital Universitari de Vic, Consorci Hospitalari de Vic, It studies making available to patients a touchscreen in the ambulatory area and admissions to collect the ciutaaniadania preferences from the ANP.

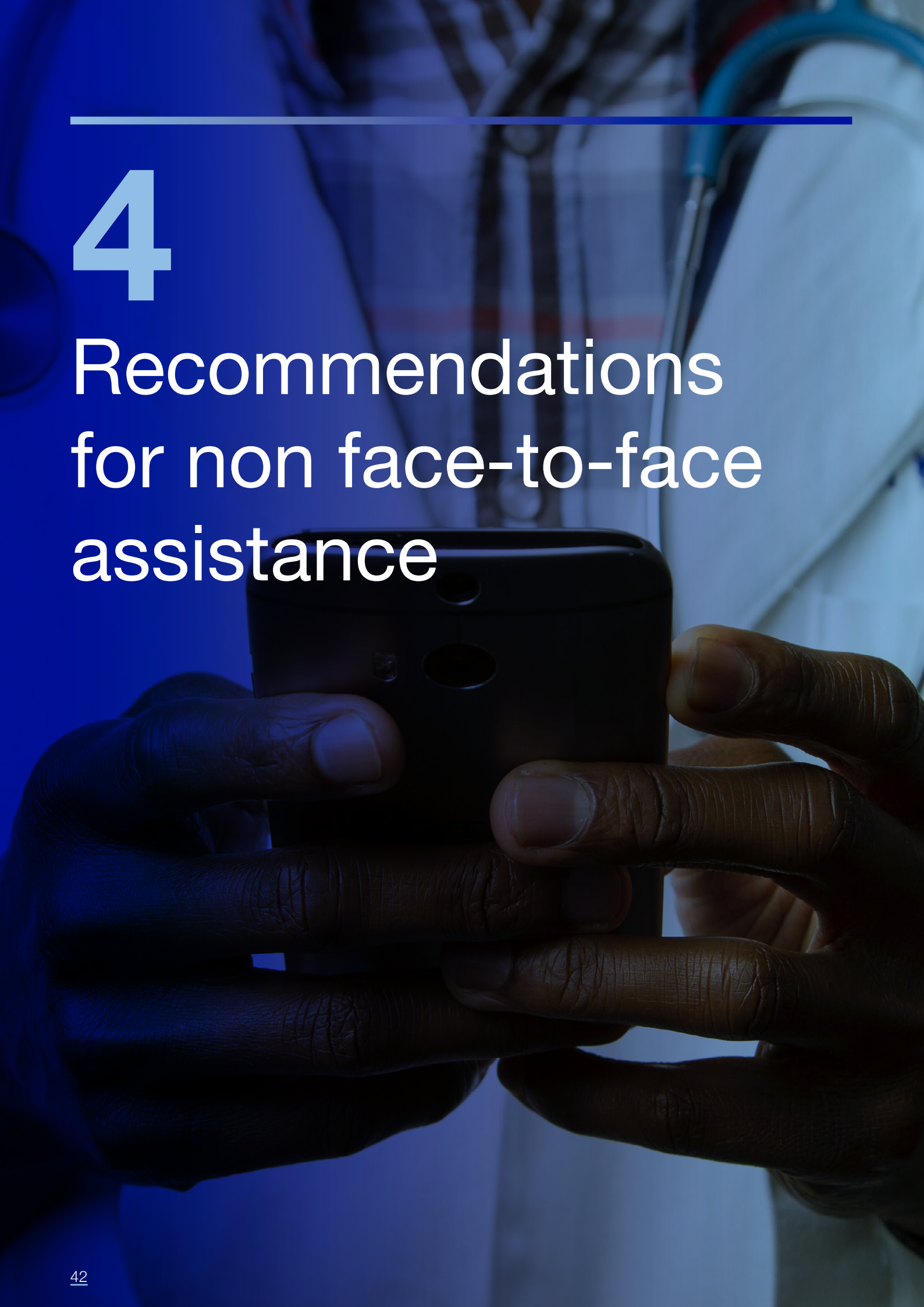
In the case of the **Hospital de Berga - Salut Catalunya Central**, at present, the centre does not have any training or self-training material available for patients to teach them how the different channels of non face-to-face communication with healthcare staff work. It uses informational material, such as the recommendation sheets, which explain how the ANP tools work, which were developed and published by the TIC Salut Social Foundation.

Figure 23 is an example of a **protocol on how to offer ANP and how to obtain the informed consent of the person receiving this assistance**. Informed consent is the free, voluntary and knowing consent of a patient, expressed in full use of their faculties and after receiving the appropriate information, for an action that affects their health to take place. In this case, information is provided on the use of the ANP channels, circumstances in which they will be used, consequences of an erroneous use of the channels, benefits of their use, alternatives and the patient's declaration of having satisfactorily received the information and of having been able to raise any doubts they may have.

The gathering of citizens' preferences is to be carried out through a written and digital questionnaire. Each patient will have the opportunity to fill it out in person at the centre. These questionnaires will include questions of the following type:

- Do you have a mobile phone for personal use?
- Do you think you have sufficient skills to use the ANP channels, such as eConsultation, video-consultation, etc.?
- Do you think you need more information on how to use these tools?
- Do you think that the communication of test results for non-pathological illnesses, analyses, medication changes, etc. are something that can be communicated by telephone?
- Do you think that follow-up consultations for chronic illnesses that do not require physical examination or individual and/or group therapies in mental health can be done by video-consultation?
- If you have enabled eConsultation with your primary care doctor, do you feel comfortable using it?
- Among others.

In addition, informative material will be made available on the ANP tools (telephone, video-consultation and eConsultation) in paper and digital format as well as video material on the criteria for using them.



4

Recommendations for non face-to-face assistance

Based on the results obtained from the work carried out in each centre, a series of recommendations have been identified and grouped into different areas: organisation, technology and awareness among the general public. One of the specific points called for by the indicator was to identify the lines of action for the improvement plan. A template has been provided for each centre to fill in with the key lines of action for successfully deploying the ANP. Figure 24 serves as an example.

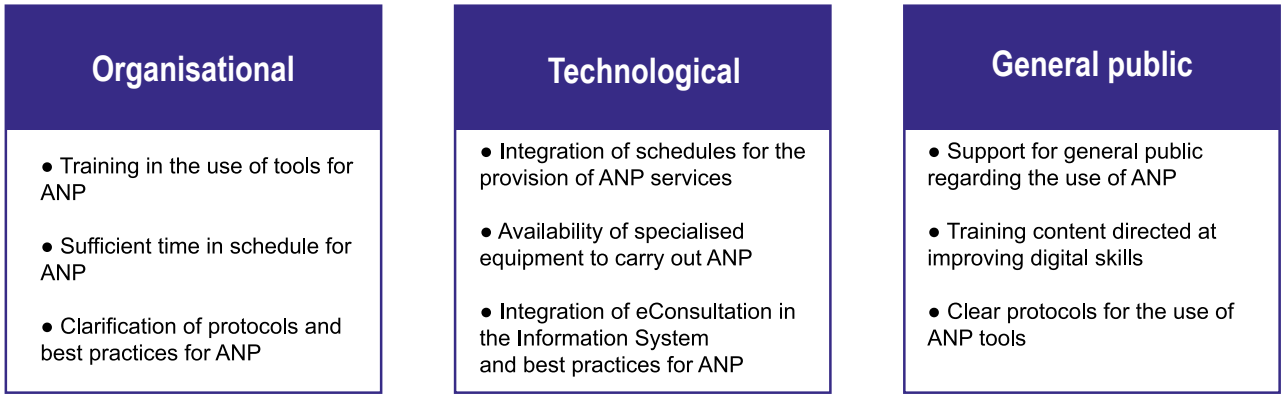
Figure 24. Improvement plan

INITIATIVE FOR IMPROVED ORGANISATION		LINES OF WORK	DURATION
MO1 - Have sufficient time allocated in schedule for ANP		A. Define how the visits are to be scheduled monitors, specific programmes...	2 months
OVERVIEW OF OBJECTIVES AND IDENTIFIED LINES OF ACTION		B. Carry out different configurations in the different services and evaluate the level of adherence and functioning of each of these	10 months
Objectives Define and reach an agreement between the professionals and the management of the centre on how to schedule the time slots in the working day of the professionals to carry out visits through ANP channels. Lines of work or action ● LW_A - Define how the visits are programmed: ✓ Interspersed with face-to-face visits ✓ Reserving whole morning or afternoon time slots ✓ Specific days of the week ● LW_B - Carry out different configurations to different services and evaluate the level of adhesion and functioning of each of these. ● LW_C - Ultimately implement the most successful configuration for each of the selected services.		C. Ultimately implement the most successful configuration for each of the selected services	Indefinite
		CALENDAR OF INITIATIVE MILESTONES	
		Depending on the depth and scope of the different phases, the duration and level of resources required may vary. Below is a first approximation of the resources: Start of the project: to be determined Phase 1: definition ● LW_A - Define the way in which the visits are programmed (M1-M2) Phase 2: design, development and tests ● LW_B - Carry out different configurations to different services and assess the level of adherence and functioning of each of these (M1-M2) Phase 3: evaluation and scalability ● LW_C - Implement in the long term the configuration with the best results in each of the selected services (M12)	
ECONOMIC IMPACT	**ORGANISATIONAL IMPACT**		
· Low · The hospital's system infrastructure has sufficient functionality to schedule non-intended visits. · This task is done by the hospital's own information system team and admissions	· Low · The hospital's system infrastructure has sufficient functionality to schedule non-intended visits. · This task is done by the hospital's own information system team and admissions		
FUNCTIONAL REFERENT	**TECHNOLOGICAL REFERENT**		
Hospital Healthcare Management	Information Systems Department		
REQUIRED PROFILES AND RESOURCES			
Depending on the depth and scope of the different phases, the duration and level of resources required may vary. The following is a first approximation of the resources: *Human resources:* ▪ A representative profile of each department participating in the pilot programme ▪ Healthcare management of the centre ▪ Information Systems Service team of the centre ▪ Admissions *Material resources:* ▪ Fully equipped clinical workstation: monitors, specific programmes...			

Source: TIC Salut Social Foundation

The three key areas for improvement that have been detected in the three centres are summarised in the following lines of work:

Figure 25. Identified areas for improvement



Source: TIC Salut Social Foundation

Below is an overview of the recommendations that have been defined for each of the areas addressed.

4.1 Organisational

The recommendations for improvements in terms of organisation are aimed at consolidating the ANP as a tool at the service of professionals and patients in the healthcare setting that allows them to make the appropriate clinical and therapeutic decisions. These recommendations are a way of guaranteeing the **quality of the ANP**. Nevertheless, by no means is the non face-to-face model intended to systematically replace the face-to-face model of care.

The second key point that has been reiterated in all the lines of work carried out with all the centres has been the need to **allocate time in the schedule for the ANP**. Professionals and the management of the centre should define and agree on how to schedule time in the staff's working day for visits through ANP channels.

Thirdly, we have detected a need for **training and information** to be provided **in these non face-to-face tools**. To this end, professionals and the management of the centre will need to determine and agree on the training required to be able to carry out visits through the ANP channels and ensure the quality of these visits.

Finally, we have also detected a second clear need for **clarification regarding the protocols and good practice in the use of the ANP methods**. This is a matter of communication between professionals and management with regard to the working documents (protocols, instructions, procedures, etc.) needed to standardise and establish guidelines in order to guarantee the quality of the ANP service.

4.2 Technological

The technological recommendations concern the provision of the necessary technological equipment to carry out ANP (monitors, PCs, webcams, etc.), the IT infrastructure of the centre and the integration of the software with the hospital's information systems.

Firstly, we find that specialised care does not currently have an integrated asynchronous messaging system, **eConsultation**, which is why many centres are planning to **integrate this system** in order to provide a new channel of communication between patients and specialised care professionals, to facilitate the monitoring of treatment and avoid or anticipate possible complications that could lead to emergency care.

Secondly, due to the circumstances that required specialised care centres to carry out remote consultations, many now seek to **improve the user-informed consent process for the provision of ANP.** All this with the aim of ensuring that all users benefiting from this ANP model have given their express consent for the use of telemedicine communication tools and that they have received the information provided for in article 13 and related articles of the General Data Protection Regulation (GDPR).

Thirdly, an issue directly related to the organisational framework is the **scheduling integration (specifying the type of channel, service, etc.)**. One option for its implementation would be to define the types of

integration for the different ANP channels, carry out different integrations for each channel and assess the level of adherence and functioning of each of these, ultimately implementing the most successful configuration for each of the selected services.

4.3 General public

With regards to patients and users of the ANP tools, if the ANP model is to be deployed in centres, it is necessary to **identify their preferences and evaluate their experience in order to improve the perceived quality of these tools**. To achieve this, it is important to obtain feedback from the people who have received care through the various ANP channels, as well as from the professionals themselves and, from all this, identify benefits, difficulties and proposals for improvement.

Secondly, it is important to **provide support and advice to the general public** so that they can acquire the necessary skills and knowledge to manage their consultations and carry out procedures in a non-presential manner.

Thirdly, an **evaluation of user-satisfaction regarding the ANP tools** has to be carried out. This will allow the centres to ascertain and subsequently monitor the perception of the general public who use these tools.

És important proporcionar un assessorament al ciutadà en l'adquisició de les competències bàsiques i coneixements necessaris per poder gestionar les consultes i la realització de tràmits de forma no presencial.

Finally, providing users with **self-training materials** can be very effective in certain types of patient profiles that may use digital tools on a more regular basis. Actions such as the creation of self-training materials that can be easily accessed by the public to facilitate access to ANP while at the same time ensuring that patients leave the hospital with sufficient information to be able to use the ANP without excessive difficulty are important lines to follow in order to guarantee a quality, patient-centred ANP.

4.4 Improvement plan

The guidelines and recommendations set out in the previous points have been drawn from the improvement plan initiatives that have been proposed by the centres for the deployment of the MANP over the next few years. Below, Table 1 shows the specific actions that each centre has detailed as a strategic improvement initiative for 2022.

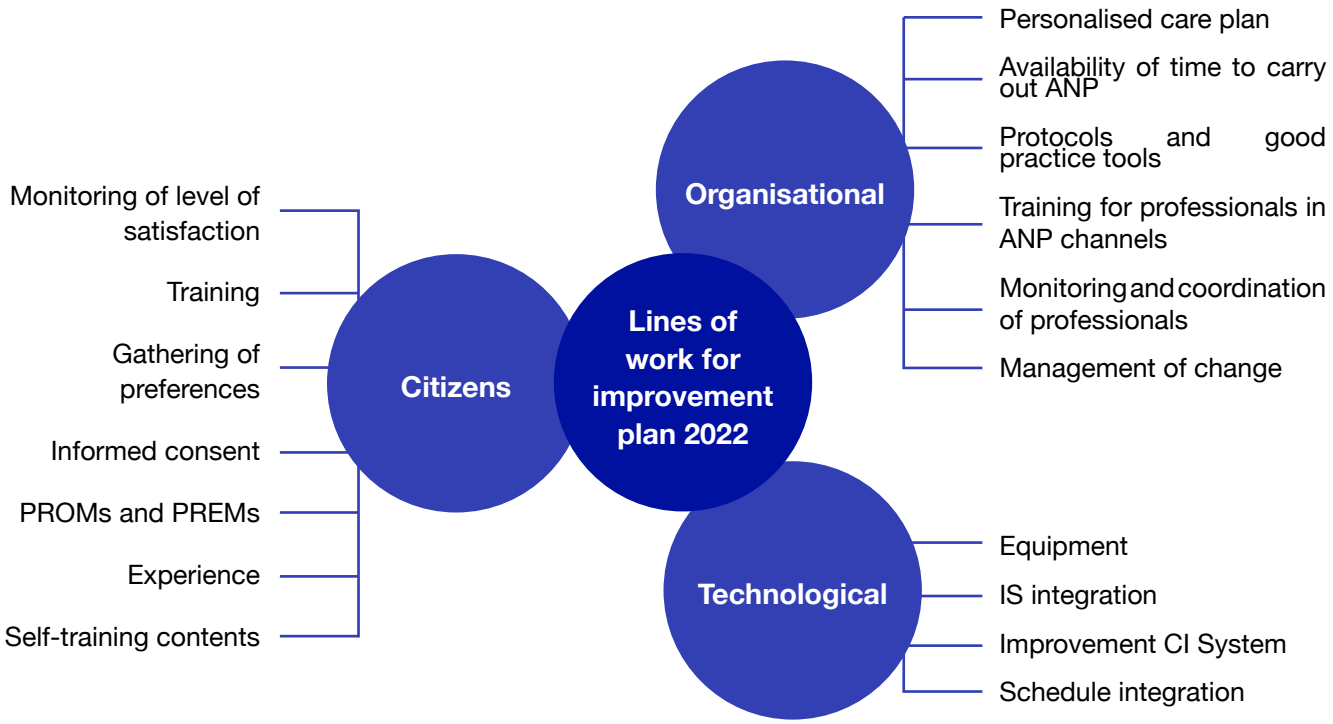
Figure 26 depicts a diagram containing the actions for each of the areas that have been addressed. Thus, it provides a more graphic representation of the most reiterated points identified by all the centres as key elements for the deployment of the MANP in the RSCC specialised care centres.

Table 1. Specific actions identified by each centre

Centre	Organisation	Technology	General public
Fundació Althaia. Hospital Sant Joan de Déu	- Guarantee the quality of the ANP	- Integration of eConsultation in the Althaia IT system - Implementation of improvements in the informed consent system for the ANP	- Explore the preferences of each patient and evaluate their experience with ANP in order to improve its perceived quality
Hospital Universitari d'Igualada. Consorci Sanitari de l'Anoia	- Development of organisational measures adapted to the ANP	- Setting up of the new care model schedule for the surgical departments	- Deploying adapted ANP's organisational mesures
Hospital Universitari de Vic. Consorci Hospitalari de Vic	- Allocate time in the schedule for the ANP - Training in non face-to-face tools - Clarification of protocols and good practice of non face-to-face tools - Monitoring and coordination meetings with professionals participating in the project - Provision of administrative resources to provide support to the general public - Definition of ANP specifications for the different departments (mental health, etc.)	- Schedule integration (specifying type of channel...) - Availability of specific equipment (specific hardware and operational aspects to carry out the ANP...) - Availability of specific workstations in which to use the ANP - Availability of tools (touch screens) to gather patient preferences	- Citizen advice support - Self-training contents - Monitoring of the degree of satisfaction of the users of the non-presential tools
Hospital de Berga. Salut Catalunya Central	- Allocate time in the schedule for the ANP - Training in non face-to-face tools - Clarification of protocols and good practice of non face-to-face tools	- Schedule integration (specifying type of channel...) - Availability of specific equipment (specific hardware and operational aspects to carry out the ANP...)	- Citizen support - Self-training contents

Source. TIC Salut Social Foundation

Figure 26. Diagram of strategic initiatives for improvement plan 2022



Source. TIC Salut Social Foundation

In order to supplement the uses of the collected data in the survey, it is asks about the return that ABSS would like to receive from the Department.

Comparative data between territories, especially between ABSS, and the description of the main statisticians of each Basic Social Service (ABSS) correspond to the usage feedback mentioned by survey participants. It is worth saying that the fact that there are different systems for collecting and registering assistance issues represents a doubtful trustworthy of this comparison. The Department also brings other feedback with the data collected by GABSS, for example, in the justification of the contract program and thus in the fundraising, as well as in the scoreboards created with the data from the Unified Register of Local Authority Data (RUDEL).

Most of the comments collected emphasize the need for the Department mentioned to access the data and to make data holdings of case managers, such as the Hèstia. There is also an emphasis on the fact that it should be avoided, wherever possible, that coordinators and other professionals in ABSS should report data monthly, as this means work added to day-to-day tasks. In this line, some ABSS mention the little usefulness of monthly reporting, since many of the requested indicators are not collected in the same way and therefore require prior review and preparation.

5 Conclusions

5.1 Lessons learned

The effort made by the centres and professionals to adapt the provision of services to the current situation and thus minimise the impact of the pandemic through the deployment of ANP is noteworthy. ANP tools have now been introduced, with varying levels of usage:

- Of the total hospital activity in the region in 2021 (661,584 visits), between 18% and 25% was through ANP, mainly by telephone (166,670), less than 1% through video- consultation (1,380) and a residual use of eConsultation.
- The departments that made the most use of ANP were endocrinology, anaesthesiology, traumatology, rehabilitation, mental health and immuno-allergology.

Telephone consultation is more widespread since it does not require specific skills and is a more conventional tool. Video-consultation has grown in use, although this varies between the different departments. It has a higher level of resolution than telephone consultation, but requires specific digital skills and proper management of the waiting room. eConsultation is less widespread and is still in the testing phase. It is expected to have a similar impact in hospital settings as it has had in primary healthcare centres, which currently records an average of 170,000 eConsultations per week.

In organisational terms, schedule integration is a key factor for the deployment of ANP, as is the definition of protocols and criteria. The main obstacle has been its precipitated implementation as a result of the pandemic, which led to its initial spontaneous use while the change was being managed.

The technological factor, although necessary, is not a major constraint, as there is sufficient equipment available. However, it can be an impediment for citizens with a lack of access to technology and digital skills.

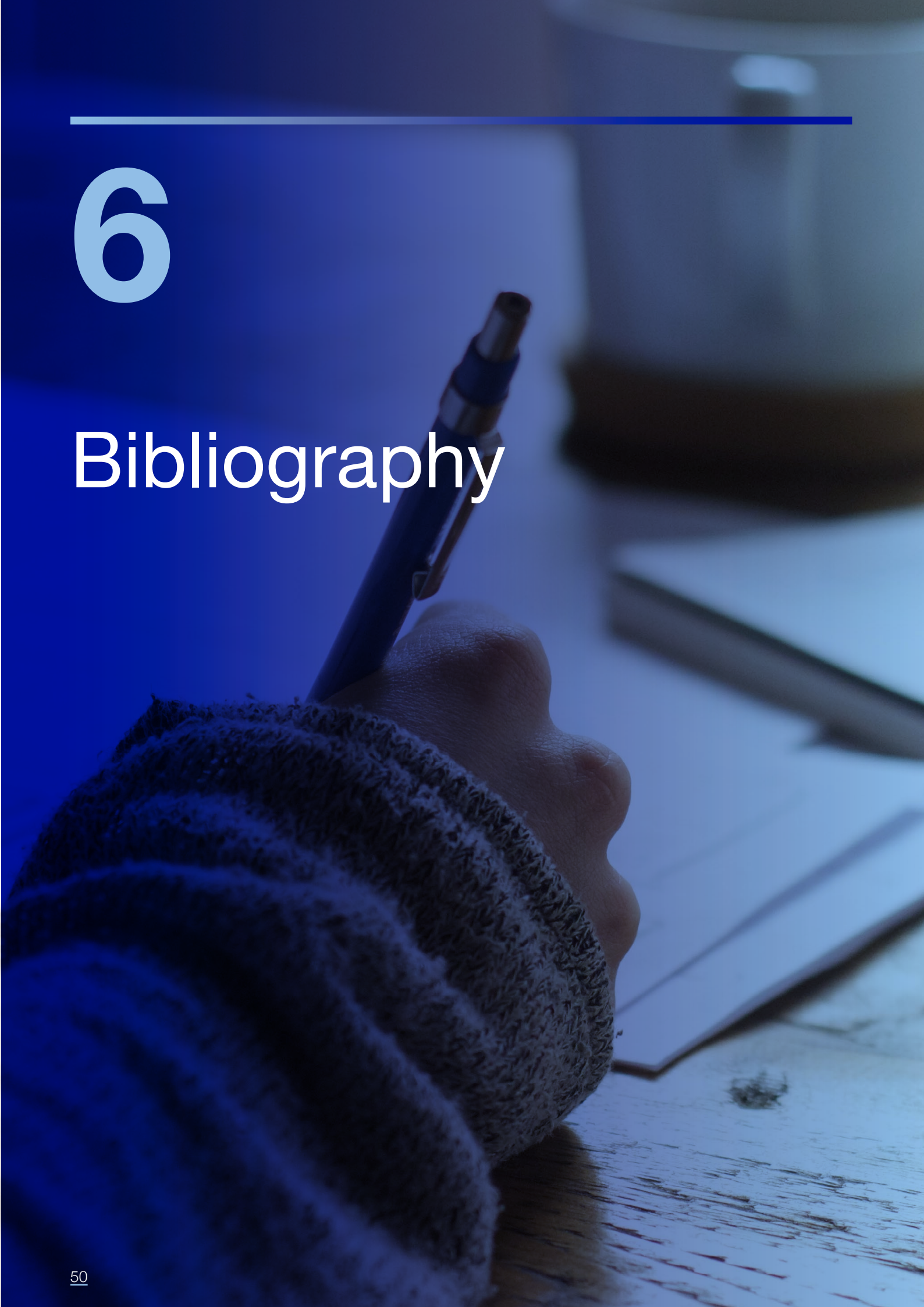
5.2 Future work

The collaboration between the RSCC, the four hospitals in the region and the TIC Salut Social Foundation has contributed towards the implementation of an ANP model that guarantees the quality, accessibility and sustainability of public healthcare services. Key aspects of this include: ANP protocols and criteria, integration of tools and schedules, measurement and evaluation indicators, information and training for users in digital skills, and appropriate management of change.

A proposal for the next steps is to focus on the improvement plan and the strategic initiatives that each centre has established. Each centre has defined its own lines of work, the actions that need to be carried out and the targets for each improvement initiative in relation to the ANP. The aim of this study is to successfully deploy the MANP as part of the centre's range of services, maximising its impact and guaranteeing the quality of care for patients and professionals.

6

Bibliography



- **[1]** Sust, P. P., Solans, O., Fajardo, J. C., Peralta, M. M., Rodenas, P., Gabaldà, J., ... & Piera-Jimenez, J. (2020). Turning the crisis into an opportunity: digital health strategies deployed during the COVID-19 outbreak. *JMIR public health and surveillance, 6*(2), e19106.

- **[2]** Departament de Salut (2018). Pla director de sistemes d'informació del SISCAT. https://salutweb.gencat.cat/ca/ambits_actuacio/linies_dactuacio/tic/pdsis/

- **[3]** López Seguí, F., Franch Parella, J., Gironès García, X., Mendioroz Peña, J., García Cuyàs, F., Adroher Mas, C., ... & Vidal-Alaball, J. (2020). A cost-minimization analysis of a medical record-based, store and forward and provider-to-provider telemedicine compared to usual care in Catalonia: more agile and efficient, especially for users. *International journal of environmental research and public health, 17*(6), 2008. https://www.researchgate.net/publication/340026128_A_Cost-Minimization_Analysis_of_a_Medical_Record-based_Store_and_Forward

- **[4]** Solans, O., Vidal-Alaball, J., Cabo, P. R., Mora, N., Coma, E., Simó, J. M. B., ... & Seguí, F. L. (2021). Characteristics of Citizens and Their Use of Teleconsultations in Primary Care in the Catalan Public Health System Before and During the COVID-19 Pandemic: Retrospective Descriptive Cross-sectional Study. *Journal of Medical Internet Research, 23*(5), e28629.

- **[5]** Seguí, F. L., Walsh, S., Solans, O., Mas, C. A., Ferraro, G., García-Altés, A., ... & Vidal-Alaball, J. (2020). Teleconsultation between patients and health care professionals in the Catalan primary care service: Message annotation analysis in a retrospective cross-sectional study. *Journal of medical Internet research, 22*(9), e19149.

- **[6]** Saigí-Rubió, F., Vidal-Alaball, J., Torrent-Sellens, J., Jiménez-Zarco, A., Segui, F. L., Hernandez, M. C., ... & Solans, O. (2021). Determinants of Catalan Public Primary Care Professionals' Intention to Use Digital Clinical Consultations (eConsulta) in the Post–COVID-19 Context: Mixed Methods Study. *Journal of medical Internet research, 23*(6), e28944.

- **[7]** Departament de Salut. (2021). Regió Sanitària Catalunya Central: resum anual 2020. https://scientiasalut.gencat.cat/bitstream/handle/11351/6514/regio_sanitaria_catalunya_central_resum_anual_2020.pdf?sequence=1&isAllowed=y

- **[8]** Consell de Direcció del Servei Català de la Salut, (2021). Població de referència del Servei Català de la Salut per a l'any 2021. Dades per ABS i UP assignada https://catsalut.gencat.cat/web/.content/minisite/catsalut/proveidors_professionals/registres_catalegs/documents/informe-poblacio-referencia-2021.pdf

- **[9]** Departament de Salut. (2019). Regió Sanitària Catalunya Central: memòria 2018 https://catsalut.gencat.cat/web/.content/minisite/catsalut/coneix_catsalut/memories-activitat/regions-sanitaries/catalunya-central/memoria-rs-catcentral-2018.pdf

- **[10]** Departament de Salut. (2020). Regió Sanitària Catalunya Central: memòria 2019. https://scientiasalut.gencat.cat/bitstream/handle/11351/6515/regio_sanitaria_catalunya_central_memoria_2019.pdf?sequence=1&isAllowed=y

- **[11]** Fundació TIC Salut Social (2020). LATITUD: Estratègia per al model d'atenció no presencial en clau d'innovació digital. https://ticsalutsocial.cat/wp-content/uploads/2021/07/P2_LATITUD_EstrategiaModelAtencioNoPresencial.pdf

- **[12]** Fundació TIC Salut Social (2021). Recomanacions pels professionals sanitaris i les direccions dels centres d'atenció primària. https://ticsalutsocial.cat/wp-content/uploads/2021/07/01_recull_fitxes_atenciono-presencialap_professional_00-v0-4_logos.pdf https://ticsalutsocial.cat/wp-content/uploads/2021/07/02_recull_fitxes_atenciono-presencialap_organitzacio_00-v0-4_logos.pdf

- **[13]** Fundació TIC Salut Social (2021). Recomanacions pels professionals sanitaris i les direccions dels centres hospitalaris, sociosanitaris i salut mental i addiccions. https://ticsalutsocial.cat/wp-content/uploads/2021/07/02_recull_fitxes_atenciono-presencialae_organitzacio_02-tot.pdf https://ticsalutsocial.cat/wp-content/uploads/2021/07/02_recull_fitxes_atenciono-presencialae_organitzacio_02-tot.pdf

Non face-to-face assistance model in hospital, social and mental health

Generalitat de Catalunya. Health Departament. TIC Salut Social Foundation.

Roc Boronat, 81- 95,

08005 Barcelona

secretaria@ticsalutsocial.cat | T. 93 553 26 42

S/Sistema de
Salut de Catalunya

Salut/ TIC Salut Social

althaia
Xarxa Assistencial Universitària Manresa

Salut/ Consorci Sanitari de l'Anoia

Salut/ Salut Catalunya Central

CHV CONSORCI HOSPITALARI DE VIC