COMARCH
Healthcare

REMOTE CARE FOR SENIORS
Professional support for patients and their carers

REMOTE CARE FOR SENIORS

Remote Care for Seniors allows constant monitoring of a patient's principal life parameters by paramedics, and consultations about their state of health and well-being in their advanced years, with treatment provided by a general practitioner, physiotherapist, dietitian, psychologist or other medical specialist. Examinations can be performed by the patients themselves but also by their caregiver or medical staff, at home (for a single patient), in a nursing home, or at a center catering many patients (services dedicated to groups of examined patients). Based on telemetric results, the assigned doctor can contact the patient, order a home visit, or call the emergency ambulance service.

The change in health needs resulting from a progressively ageing society makes it necessary to ensure the provision of integrated care and health services addressing patients in their advanced years. Carrying out remote consultations promotes the maintenance of the high quality of life of seniors, whilst teleinformation technology permits better organized care of and increase effectiveness of diagnostics and therapy.

BENEFITS OF REMOTE CARE FOR SENIORS

For the medical unit

Individual development of treatment plans correlated with the current assessment of health status

Increasing effectiveness of preventive healthcare, diagnostics, and therapy

Reducing the number of clinic visits due to implementation of remote treatment

Reducing costs of medical care for seniors

Increasing patient's adherence to medical recommendations

Improvement of an institution's image and boost for its reputation

For the patient

Improving the quality of life of seniors

Increased sense of safety through easier and faster contact with medical staff

Shortened response time to life and health threats

Improving effectiveness of therapy correlated with its duration

Possibility to monitor life parameters at home

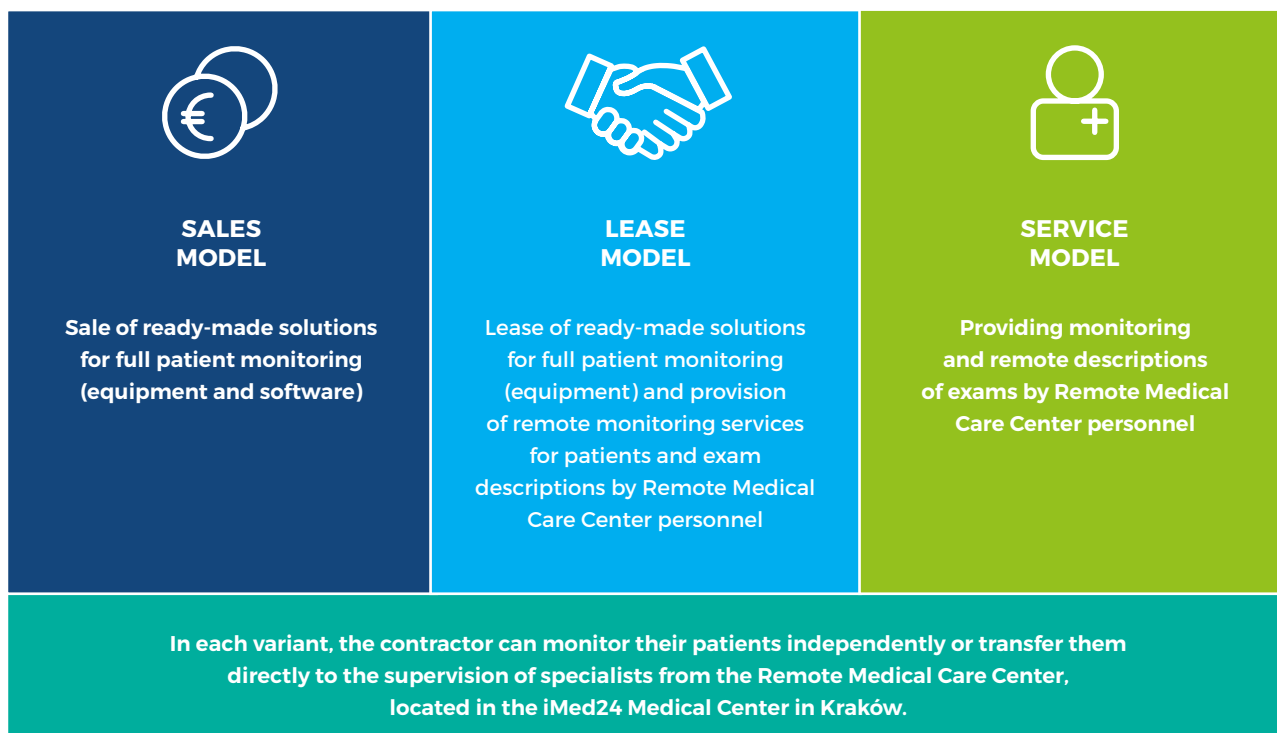**Reminding patients to take medicines and measurements**

BENEFICIARIES

Remote Care for Seniors is widely applied in health care. This solution has proved itself in health facilities, nursing homes, social welfare centers, and senior day care activity centers.

Providing services under the framework of the Remote Care for Seniors is in compliance with the recommendations of the general practicioner who sets individualised parameters pertaining to:

- Selection of medical sensors relevant to the health status of a given patient

- Recommendations of measurements (including their frequencies)

- Dietary recommendations

- Supply of liquids

- Physical activity

- Pharmacotherapy

COOPERATION MODELS

The implementation model of Remote Care for Seniors and its functional scope are adapted to the needs and scale of a specific contractor. Depending on the type of activity, it is possible to use different variants:

SALES MODEL	LEASE MODEL	SERVICE MODEL
Sale of ready-made solutions for full patient monitoring (equipment and software)	Lease of ready-made solutions for full patient monitoring (equipment) and provision of remote monitoring services for patients and exam descriptions by Remote Medical Care Center personnel	Providing monitoring and remote descriptions of exams by Remote Medical Care Center personnel

In each variant, the contractor can monitor their patients independently or transfer them directly to the supervision of specialists from the Remote Medical Care Center, located in the iMed24 Medical Center in Kraków.

Using the Comarch HMA (Home Medical Assistant) device permits conducting remote preventive medicine, diagnostics and treatment of the most widespread health problems occurring in later age, such as:

- Cardiological diseases, including arterial hypertension, circulatory insufficiency, ischaemic heart disease, arrhythmias
- Fainting
- Respiratory diseases
- Chronic pains
- Disturbance in motor activities, loss of balance, falls
- Kidney diseases

- Diabetes and malfunctions of the thyroid gland
- Depression
- Disturbance of cognitive functions of different origin and intensity
- Behavioural disorders
- Deterioration of vision, hearing loss
- Iatrogenic faults

COMARCH E-CARE PLATFORM

Remote Care for Seniors can be provided owing to the Comarch e-Care platform, which allows constant remote monitoring of a patient's health status. The platform enables medical data to be recived and processed from measuring devices which monitor specific life parameters and the condition of a patient. It also supports medical staff in the performance of pre-determined procedures.

COMPONENTS OF COMARCH E-CARE PLATFORM

TELEMEDICAL DEVICE COMARCH HMA

Comarch HMA (Home Medical Assistant) collects data from peripheral devices by wireless connection, and transmits it to the Remote Medical Care Center. Because it can be used with a wide range of medical sensors, including those provided by outside firms, Comarch HMA is a universal device which can constitute a home measuring station and, thanks to videoconferencing, voice- or text-communication, can be the fastest way to estabilish contact between patient and physician.

Examples of pieces of equipment cooperating with the Comarch HMA device:

- thermometer
- manometer
- scales

- pulse oximeter
- peak flow meter
- spirometer

- glucometer
- other advanced equipment, e.g. ventilator

MOBILE APPLICATION mHMA

Besides the Comarch HMA device, there is also the mobile application mHMA which connects the selected medical sensors directly with a smartphone (with Android). The connection with the Remote Medical Care Center is then made directly via smartphone. This solution is dedicated to individual clients.

Technical Parameters of Comarch HMA

PARAMETERS	VALUES
Power supply	18 V; 3,33 A
Dimensions without aerial	92 x 240 x 185 mm
Weight	1500 +/- 10 g
Duration of work when powered from internal storage cell after disconnecting external power pack	30 minutes at temperature of 25°C and 85% relative humidity
Operating conditions	10-40°C, 15-93% RH, 700-1060 hPa
Storage condition	-20-30°C, 15-93% RH, 700-1060 hPa
Supported interfaces	Ethernet, USB
Supported radio interfaces	GSM, Wi-Fi, Bluetooth Low Energy

LIFE BRACELET

Increases the feeling of security among patients and gives them greater independence. It has an emergency SOS button which permits the patients to contact the Remote Medical Care Center and to call for help. The sensor placed in the bracelet automatically detects a fall and makes an emergency call to the Remote Medical Care Center. Owing to the built-in Life Card, medical staff can read the current emergency data of the patient, such as: personal particulars, age, blood group, allergies, diagnosed diseases, prescribed medicines, and next of kin contact details.

E-CARE APPLICATION WITH WEB INTERFACE

Allows connection of telemedicine equipment, receiving and managing data, graphic visualization of data consistent with medical standards, integration with HIS class systems, geographical location of patients, managing work and procedures of intervention personnel, contact with patients through audio and video channels and performing medical consultations in a workflow system.

Comarch Healthcare S.A. has an implemented and certified quality management system ISO 13485 for medical devices. Both the HMA device and the Comarch e-Care platform are medical devices (class I and IIa, respectively) certified for compliance with directive 93/42/EEC.

REMOTE MEDICAL CARE CENTER

The key element of the e-Care system is the Remote Medical Care Center, where the medical staff provide 24-hour monitoring of patients' health status and well-being in the course of everyday activities. In the event of emergencies, staff at the Center analyze data and coordinate further actions.

Brings together qualified medical staff: paramedics, physicians of various specializations, nurses, psychologists, occupational therapists and physiotherapists

Intervenes in the case of automatically detected anomalies (exceeded norms and alarm values), the parameters of which are personalized for each patient, as well as at the request of the patient (triggered by, for example, the use of the "SOS button" alarm device)

Monitors patients' health around the clock, including on holidays

Uses medical workflows (procedures) to enable faster and better directed interventions

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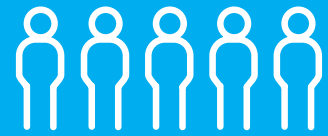## FACTS AND FIGURES ON COMARCH HEALTHCARE

MORE THAN

80 HOSPITALS
USE OUR SYSTEMS

EVERY DAY
ABOUT
30 000 USERS
LOG ON OUR SYSTEMS

MORE THAN
200
OUTPATIENT
FACILITIES
USE OUR SOFTWARE

WE SUPPORT
THE HEALTHCARE SECTOR

24/7
───
365

IN 2015
1500 PATIENTS
WERE COVERED BY OUR
REMOTE MEDICAL CARE

WE PROVIDE
SOLUTIONS
FOR ALL
MEDICAL FIELDS

COMARCH HEALTHCARE S.A.

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