Good Practices in CARES

*Template*

24/05/2023

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| Please read the ***Good practices guidelines*** [on the CARES OneDrive](https://onedrive.live.com/?authkey=%21AFR4W7I%2D%2De44YJ0&id=3FFC576FC2745BB9%21120&cid=3FFC576FC2745BB9&mid=6B6AB17F0842B4A%21111&mcid=06B6AB17F0842B4A&sd=1) before filling in this template. This template is provided by Interreg Europe: <https://www.interregeurope.eu/submit-a-good-practice> Optional fields are shown in orange. All other fields are compulsory.We have added in pink some additional guidance to help collecting information and filling in the template.Contacts: **lpcares@kujawsko-pomorskie.pl** **/** **l-guerin@gerontopole-na.fr** |

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| 1. **Author contact information**

*[Technical: Contact information comes from your community profile. You can edit it by visiting your user dashboard]**The owner of the good practice should fill in the form. If you submit a good practice, your personal and organisational profile in the Interreg Europe community will be linked to it.* |
| **Name:** | ***Michał Majcherek*** |
| **Email:** | *michal.majcherek@grydsen.pl* |
| **Telephone:** | *+48 660 594 109* |
| **Your organisation** |
| **Country:** | *Poland* |
| **Region:** | *Kuyavian-Pomeranian* |
| **City:** | *Bydgoszcz* |
| **Organisation name:** | *GRYDSEN* |

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| 1. **Organisation in charge of the good practice**

*[If your organisation is not the one in charge of the good practice, you can indicate the relevant organisation in this section of the form. But your contact details will still be linked to the submitted good practice. ]* |
| **Is your organisation the main institution in charge of this good practice?** | ***YES*** */ NO* |

In case ‘**no**’ is selected, the two following sections appear:

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| **Location of the organisation in charge:** | *Country* | *Drop-down list* |
| *Region* | *Drop-down list* |
| *City* | *Drop-down list* |
| **Main institution in charge:** | *Drop-down list of organisations [Technical: it is possible to select ‘other’ to add a new one]* |

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| **Are you involved in an Interreg Europe project?** | *YES /* ***NO*** |
| *If you are involved in more than one project, please choose the project for which you are submitting this good practice.**See our list of* [*approved projects*](https://www.interregeurope.eu/discover-projects/) *or visit this* ***FAQ section*** *for more information.* |

**In case ‘yes’ is selected, the following section appears:**

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| **Please select the project acronym:** | *Drop-down list of Interreg Europe approved projects*  |

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| 1. **Good practice general information**
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| *If you are submitting a good practice as part of an Interreg Europe project, the thematic objective and sub-topic are chosen for you.**If you are not part of an Interreg Europe project, please remember to choose the most relevant thematic objective and sub-topic for your good practice.* |
| **Thematic objective of the practice:** | A tool for the prevention of cognitive fusion disorders through VR cognitive-motor training |
| **Thematic subtopics of the practice:**  | Cognitive skills training |
| **Geographical scope of the practice:** | *Worldwide* |
| **Location of the practice** | Country | *Poland* |
| Region | *Kuyavian-Pomeranian* |
| City | *Bydgoszcz* |

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| **Practice image:** | ***Upload your own (in compliance with the copyright rules) or select one from the pool of pre-defined images. Recommended dimensions: 440 x 450 pixels, 1MB*** |
| **Title of practice:** | VIRTUAL REALITY-BASED COGNITIVE STIMULATION USING GRYDSEN SOFTWARE AS A MEANS TO PREVENT AGE-RELATED COGNITIVE-MOBILITY DISORDER |

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| 1. **Good practice detailed information**
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| **Short summary of the practice:** | The GRYDSEN system is an innovative therapeutic tool utilizing virtual reality to support cognitive and motor functions in older adults. It offers a combination of cognitive, motor, and cognitive-motor training modules tailored to the needs and abilities of seniors. Designed by a team of psychologists, physiotherapists, and health educators, the program emphasizes ecological validity and adaptability to everyday life activities. The system has demonstrated positive outcomes in maintaining mental fitness, improving coordination, and enhancing the overall quality of life for its users. |
| **What thematic area is the GP associated with (put a tick where appropriate)** | **Increased availability of telecare and telemedicine services for the European population, making care fairer within the region** |  |
| **Widespread use of innovative tools for medical care and diagnosis (easy-to-use tools that enable shorter time until diagnosis and possible treatment with the reduction of the number of hospitals stays)** | ✓ |
| **Greater institutional capacity and educated staff (management platforms, coordination centers, staff trainings)** |  |
| **Detailed information on the practice:** | *GRYDSEN is an innovative therapeutic system based on virtual reality (VR) technology designed to support seniors in maintaining their cognitive and motor functions. The program is tailored to the specific needs of older adults, addressing challenges associated with aging, such as cognitive slowing, motor limitations, and sensory changes. The system is implemented in medical facilities, care homes, and therapy offices.**GRYDSEN consists of three main therapeutic modules, all of which are included in every training session:** ***Cognitive Training*** *– This module includes tasks that stimulate memory, attention, and executive functions, such as solving analogies or pattern recognition. These exercises are engaging and adapted to the abilities of users.*
* ***Motor Training*** *– This module focuses on improving coordination, precision, and range of motion in the limbs. An example task is playing a virtual xylophone, which engages both gross and fine motor skills.*
* ***Cognitive-Motor Training*** *– This module combines physical activity with cognitive demands. For instance, users may be tasked with preparing virtual shopping, remembering a list of items, and locating them in a virtual environment, which engages memory, attention, and physical movement.*

*Each training session includes exercises from all three modules, providing a comprehensive therapeutic approach. The training is available at various levels of difficulty, allowing for gradual increases in intensity and complexity based on the user’s progress.**The system was developed by a team of psychologists, physiotherapists, and health educators, ensuring a high level of scientific and practical value. GRYDSEN is available in four language versions (Polish, English, French, and German), making it adaptable to different countries and therapeutic environments.**Clinical trials have confirmed the system’s effectiveness in improving cognitive abilities, motor coordination, reflexes, and concentration. The gamified elements make the therapy engaging and appealing to users. The system’s intuitive operation and ability to tailor tasks to individual needs make it suitable for both healthy seniors and those with mild cognitive impairments.**GRYDSEN can be implemented in hospitals, care homes, rehabilitation centers, and private therapy offices. With the ability to conduct therapy sessions with one therapist supervising up to three stations simultaneously, the system maximizes resource efficiency while minimizing operational costs.* |
| **Resources needed:** | 1. ***Therapeutic Station*** *– The Therapeutic Station is a comprehensive virtual reality therapy set priced at €15,000. The set includes VR goggles with controllers and specialized GRYDSEN software, designed to meet the technical and functional needs of older adults. It also features a 32” or 40” monitor, enabling the therapist to monitor the exercises performed by the patient in virtual reality. Additionally, the set comes with a swivel chair for the patient, upholstered in eco-friendly leather, ensuring comfort during seated exercises and making the chair easy to clean.*
2. ***Trained Therapist*** *– A professional responsible for supervising therapy sessions and assisting participants in using the system effectively. Clear and efficient communication skills are essential to ensure participants understand and feel comfortable during the therapy process.*
3. ***Training and Education*** *– Therapists and support staff must undergo a brief training program to learn how to operate the GRYDSEN system, assist participants during sessions, and handle common technical issues. This training also includes guidance on identifying contraindications, such as severe visual impairments, balance disorders, or conditions like epilepsy, that may limit the use of virtual reality therapy.*
4. ***Therapeutic Space –*** *A safe and appropriately sized room that accommodates the use of VR technology. The space should be free from physical obstacles, with adequate lighting and seating options to ensure participant safety and comfort.*
5. ***Technical Support*** *– Regular software updates and hardware servicing are included to maintain the system’s long-term usability and ensure smooth operation. Institutions implementing GRYDSEN receive comprehensive technical support as part of the package.*
6. ***Implementation in Institutions*** *– The GRYDSEN system can be deployed in hospitals, care homes, rehabilitation centers, and private therapy practices. It does not require additional materials such as printed workbooks or manual tools, making it a cost-effective and self-contained solution.*
7. ***Participant Safety and Guidelines*** *– Prior to therapy, participants are screened for potential contraindications. Those with medical conditions such as severe dizziness, uncontrolled hypertension, or epilepsy may require additional precautions or alternative therapeutic options. Clear instructions and safety measures are provided to ensure a positive and risk-free experience.*
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| **Timescale (start/end date):** | *e.g. June 2012 – May 2014/ongoing*  |
| **Evidence of success (results achieved):** | *Grydsen achieves many awards:* * China International Invention Exposition 2023: gold medal
* Bangkok Intelectual Property Exposition 2023: gold medal
* E-innovate - Bydgoszcz, 2023: gold medal
* "Wizjonerzy Przyszłości" during conference at Warsaw Medical Expo 2023
* *Japan Design, Idea and Innovation Expo, 2022: gold medal*

*EBM:** *Podhorecka, M., Andrzejczak, J., Szrajber, R., Lacko, J., & Lipiński, P. (2021). Virtual reality-based cognitive stimulation using GRYDSEN software as a means to prevent age-related cognitive-mobility disorders – a pilot observational study. Human Technology, 17(3), 321–335.* [*https://doi.org/10.14254/1795-6889.2021.17-3.7*](https://doi.org/10.14254/1795-6889.2021.17-3.7)
* *The research team is actively working on additional studies related to the GRYDSEN system, and several publications are currently in the process of being finalized and submitted for publication. These forthcoming articles will focus on expanding the evidence base for GRYDSEN’s effectiveness and exploring its applications in diverse therapeutic settings.*
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| **Challenges encountered (optional):** | 1. ***Technological:*** *Virtual reality (VR) remains a relatively new technology, and for many users, especially seniors, it is unfamiliar territory. Overcoming barriers related to the acceptance of this technology required educating both therapists and seniors. An additional challenge was the need for regular updates to the GRYDSEN software to keep pace with technological advancements and adapt its features to user needs.*
2. ***Institutional:*** *Gaining the trust of medical and therapeutic institutions required presenting evidence of the effectiveness of the GRYDSEN program and demonstrating its ease of implementation. Furthermore, legal constraints posed additional challenges, as in some countries, purchasing the system through public healthcare services required obtaining special permissions and justifying its therapeutic value.*
3. ***Human:*** *Many seniors face challenges such as visual impairments, balance issues, or other health conditions that may affect their comfort and ability to use VR. To address these issues, the software was tailored to the specific needs of older adults, including larger graphical elements and clear instructions. Additionally, initial resistance to using modern technology among some seniors required additional support and encouragement from therapists.*
4. ***Organizational:*** *Each therapy session requires the supervision of a qualified therapist to ensure safety and effectiveness. However, the GRYDSEN system allows one therapist to oversee up to three therapeutic stations simultaneously, optimizing resource use. Implementing the system also required preparing appropriate therapeutic spaces and creating session schedules to enable multiple users to access the equipment.*
5. ***Legal:*** *Integrating GRYDSEN into healthcare systems necessitated meeting several formal requirements, including obtaining approvals for its purchase under public healthcare provisions. Ensuring compliance with regulations regarding workplace safety, hygiene, and data protection for participants was also a critical aspect.*
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| **Potential for learning or transfer:** | *The introduction of the GRYDSEN therapeutic system provides numerous benefits, making it an innovative, effective, and easily adaptable tool for senior care:** ***Evidence-Based Medicine (EBM):*** *GRYDSEN is developed based on scientific research and medical guidelines for supporting cognitive and motor functions in older adults. Its effectiveness has been validated through clinical trials, ensuring high therapeutic value and credibility.*
* ***Innovative Therapeutic Tool:*** *The use of virtual reality engages seniors in a modern and stimulating way. VR therapy reduces the monotony of traditional exercises, increasing participants’ motivation to engage regularly in the program.*
* ***Regular Training for Mental and Physical Fitness:*** *The system allows seniors to perform regular exercises that enhance memory, concentration, coordination, and reflexes. This comprehensive approach helps maintain a high quality of life and daily independence.*
* ***Ease of Use for Therapists:*** *GRYDSEN is designed for straightforward operation after a brief training session. It does not require advanced technical expertise, making it accessible to a wide range of healthcare workers.*
* ***Efficient Resource Management:*** *A single therapist can oversee up to three therapeutic stations simultaneously, optimizing the use of personnel. This feature makes GRYDSEN suitable even for facilities with limited staffing resources.*
* ***No Additional Materials Required:*** *GRYDSEN operates as a standalone system with no need for supplementary materials such as workbooks, activity cards, or printed manuals. This significantly simplifies the organization of therapy sessions and reduces operational costs.*
* ***Technical Support and Long-Term Accessibility:*** *The purchase of the system includes a lifetime license, regular software updates, and full technical support for organizations and therapists. This ensures smooth and uninterrupted usage over the long term.*
* ***Flexibility in Implementation:*** *GRYDSEN is available in four languages (Polish, English, French, and German), making it highly adaptable for international use. It can be implemented in care homes, sanatoriums, rehabilitation centers, and private therapy practices.*
* ***Adaptability to Individual Needs:*** *The therapeutic tasks in GRYDSEN are available at various difficulty levels, allowing them to be tailored to the specific abilities and needs of each user. This makes the system suitable for both healthy seniors and those with mild cognitive impairments.*

*GRYDSEN demonstrates strong potential for knowledge transfer and implementation across different countries and care settings. Its evidence-based approach, combined with flexibility and ease of use, positions it as a leading solution for enhancing the mental and physical well-being of seniors globally.* |
| **Further information:** | [*https://www.grydsen.pl/*](https://www.grydsen.pl/) |
| **Keywords related to your practice** | *Grydsen, Grydsen lab*  |
| **Expert opinion**  | *[1500 characters]* ***[Filled in by the Policy Learning Platforms experts in case good practice is published in the Good Practices database]*** |