PENLink App

Digital Home Care Support for
Parenteral and Enteral Nutrition

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Description of the initiative

Context

Managing home parenteral and enteral nutrition care can be challenging due to complexity of treatments, the need of precise administrations and the potential complications such as infectioss, electrolyte imbalances, rapid weight loss and others. Traditional methods of monitooring and communication between patients and healthcare providers are often limited, relying on sporadic in-person visits, phone calls, paper-based records. These are often inefficient and lead to delays in patient care and other issues.

Rationale for the initiative: the initative aims to solve and optimize:

1. **Lack of Real-Time Monitoring: Without continuous supervision, issues such as infusion errors, nutritional deficiencies and ohter complications can go unnoticed until becoming serious.**
2. **Patient Empowerment: Many patients struggle with managing complex nutritional regimens, which can lead to non-adherence and/or improper regimens.**
3. **Communication Barriers: The traditional method of communication with healthcare service providers is often reactive rather than proactive. Patients might feel uncertain or delay seeking help. The project aims to enhance both patient and healthccare provider engagement and streamline communication process.**

Objectives and Scopes:

- **Develop a user-friendly app that allows patients to log and monitor their parental or enteral nutrition therapy, including infusioon reates, võlume Intake, adn symptoms.**
- **Integrate real-time tracking and reminders to help patients adhere to their prescribed nutrition regimen, track vital signs, and manage medications and supplements**
- **Implement data analytics features that generale personalized report for both patients and healthcare providers, enabling informed decision-making.**
- **Enhance communication between patients and their healthcare providers, allowing for secure messaging, video consultations, and easy reporting of symptoms or concerns.**
- **Offer educational materials to improve patient knowledge about their nutritional therapy, troubleshooting issues, and managing their health condition at home.**
- **Ensure compliance with privacy and security regulations to protect patient data and maintain confidentiality**

Expected 12-month achievements

- **App Prototype Developent – featured core functionalities such as tracking nutritional therapy, symptom log, reminder notifications. Beta testing with a small cohort of patients.**
- **Pilot Testing and Clinical Triels: Launch of pilot clinical trials with a select group of patients receiving HPN, enteral nutrition, initial analysis of patient feedback**
- **Patient Education Module – covering topics such as managing home nutrtion therapy**
- **Preliminary Data Collection on adherence rates and satisfaction, gather insights from healthcare providers accordingly.**

X **Please tick to confirm the PEN letter of endorsement is attached. Incomplete submissions will not be considered.**

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LOGO of endorsing PEN society

24-Month Achievements

1. **Full-Scale App Launch – official app Launch in Estonia, wider adoptions by patients and healthcare providers. App will become a standard part of home care for these patients**
2. **Expanded Testing – if everything works smoothly, the aim is to proovide information about the app to other Espen members and interested healthcare organizations across Europe**
3. **Enhanced patient Education - continuous updates to education Resources based on user feedback. Wider access to online workshops and webinars**
4. **Data-Driven Insights – refinement of app features based on data collected from a wider user base, adding or improving functionalities and monitoring and possible integration with ohter healthcare technologies.**

Expected Impact

1. **Improved Adherence**
2. **Reduced Complications**
3. **Increased Patient Confidence and Satisfaction**
4. **Optimized Resources on Behalf of Healthcare Providers**

Resource Strategy

1. **App developemnt (15 000)**
2. **Clinical Trials and Testing (8000)**
3. **Patient Education Content (4000)**
4. **Marketing and Outreach (3000)**
5. **Data Privacy and Security Compliance (4000)**
6. **Administrative Costs (2000)**

Preliminary Activities:

We have initiated negotiations with AI/IT technology providers to develop the app within the proposed grant budget. In parallel, we are actively exploring additional sources of financial support to ensure long-term sustainability and potential scaling beyond the initial implementation phase.

Conclusion

The PENLink App initiative offers an innovative, scalable solution that will revolutionize the management of home parenteral and enteral nutrition. By providin real-time monitooring, personalized support, and seamless communications, this app empowers pateints to manage their care more effectively, improves adherence and satisfaction, and reduces complications. This project will set new standards in nutritional therapy

With the support of this grant, we are ready to transfrom patient care and deliver lasting, positive outcomes.

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