

Baby Seal Robot, PARO, for “Mental Health and Psychosocial Support (MHPSS) in Emergency and beyond” for Victims of Natural Disasters in Japan and for Ukrainian Refugees in Poland

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Abstract—Baby Seal Robot PARO has been a psychophysiological biofeedback medical device in the US, EU, the UK, AU, HK and SIN (Fig. 1) [1]. Interaction with PARO can improve pain, anxiety, depression, agitation, insomnia, etc. of patients who are from children to the elderly with various kinds of diseases and disorders (Fig. 2). PARO has been practically used in hospitals, nursing homes, home healthcare, etc.

As “phase free”, PARO has been used for mental health care for evacuees of disasters in emergency conditions such as earthquakes, tsunami, landslides and explosion of nuclear power plants in Japan since 2005 (Figs 3-5).

On the other hand, after Russian invasion of Ukraine in Feb. 2022, there were millions of Ukrainian refugees moved to surrounding countries. There were about 4M in Poland in 2022. On June 1st, 2022, through the Embassy of Japan to Poland, 4 PAROs were donated to 2 medical organizations in Poland: The Medical Univ. of Warsaw and the Mazovian Neuropsychiatric Centers. PAROs were well accepted by the Ukrainian refugees and their supporters in the medical organizations. Interaction with PARO improved moods, anxiety, symptoms of PTSD of refugees and encouraged communication among them and with therapists and nurses in medical practice (Fig. 6). There were more and more demands of PAROs in Poland.

WHO, along with the Inter-Agency Standing Committee (IASC), provide guidance, resources, and support to organizations and individuals responding to humanitarian crises as “mental health and psychosocial support (MHPSS)” in emergencies [2]. This includes developing guidelines, promoting coordination, and advocating for the integration of MHPSS into all phases of emergencies. There are many United Nation Organizations, and each UN organization has its own MHPSS program.

The UN IOM (International Organization of Migration) had dispatched 8 therapists to the 8 Warsaw Family Support Centers, where there were about 2,000 refugees, as their MHPSS program. 8 PAROs were donated to each center in July 2023 and have been used for the refugees.

UNICEF have been providing day-service to child-refugees and their families at “Spilno Hubs” in 7 major cities in Poland as their MHPSS program. 7 PAROs were donated for each Spilno Hub in Oct. 2023 (Fig. 7). UNICEF published a report on PARO in Oct 2024 as the

results of usage of PAROs. It said that about 1,000 refugees interacted with PARO at each Spilno Hub and improved their mental health and psychosocial conditions (Fig. 8) [3].

At this point (July 2025), 22 PAROs have been used for Ukrainian refugees in Poland every day. In Ukraine, as UNICEF run more than 200 Spilno Hubs, there is a potential for UNICEF to use more PAROs there.

REFERENCES

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- [2] WHO, Mental health and psychosocial support in emergencies. <https://openwho.org/emergencymgmt/536361/Mental+health+and+psychosocial+support+in+emergencies> (July 25th, 2025)
- [3] UNICEF, Hope in a Hug-How Paro the Seal Supports Mental Health of Refugee Children in Poland, a report on Oct 10th, 2024



Fig. 1 Baby Seal Robot, PARO, a biofeedback medical device

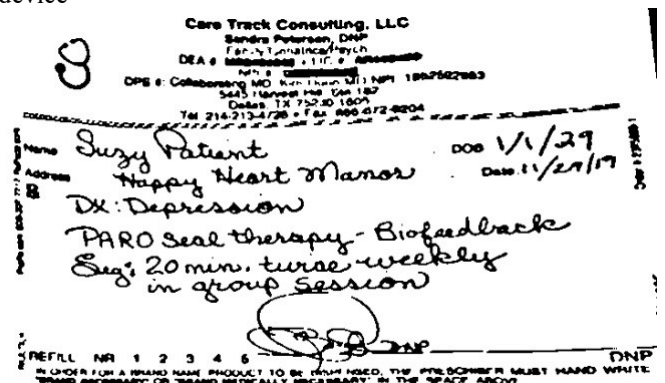


Fig. 2 An example of prescription of “biofeedback therapy with PARO” on a patient diagnosed as “depression” in TX, the US. It means that 20 min as one session, three times a week for three months

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Fig. 3 An evacuee with PARO in front of supporters at an evacuation shelter in Tsukuba, Japan after earthquake, tsunami and explosion of nuclear power plants in Fukushima (April 2011)



Fig. 4 Damaged houses by Earthquake and Tsunami in Noto Peninsula on Jan. 1st, 2024. (picture was taken in Jan. 2025)



Fig. 5 Elderly with dementia and caregivers with PARO at a group home in Noto Peninsula, Japan. They were victims of the earthquake in Jan. 2024 and some of the caregivers were forth to live in tiny temporal houses because of damage to their own large houses. PARO has been improving the BPSD of elderly with dementia and reducing stress of the caregivers both by work and their situations.



Fig. 6 Outpatients of Ukrainian refugees at the Mazovian Neuropsychiatric Hospital in Warsaw, Poland. Interaction with PARO improved their anxiety, stress and other symptoms of PTSD. The picture was taken in June 2022.



Fig. 7 A ceremony of donation of 7 PAROs for 7 Spilno Hubs of UNICEF in Poland in Oct. 2023. The Medical Univ. of Warsaw provided training on PARO to therapists.



Fig. 8. UNICEF in Poland presented a report on PARO on Oct. 10th, 2024. At each Spilno Hub, about 1,000 Ukrainian children and their families had interacted with PARO and improved their mental health and psychosocial conditions.