

REPORT for NORWEGIAN CHURCH AID

Virtual Reality Project Evaluation

April 2024

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ACRONYMS

CEO	Chief Executive Officer
DSM	Diagnostic and Statistical Manual of Mental Disorders
FSC	Family Support Centre
GBV	Gender Based Violence
HIP	Humanitarian Innovation Programme
KII	Key Informant Interview
LoD	Level of Distress
M&E	Monitoring and Evaluation
MHPSS	Mental Health and Psychosocial Support
MoLSA	Ministry of Labour and Social Affairs
NCA	Norwegian Church Aid
PSS	Psychosocial Support
RTE	Real Time Evaluation
VR	Virtual Reality

1 EXECUTIVE SUMMARY

GBV survivors in humanitarian settings face a number of challenges to accessing the specialised mental health and psychosocial support (MHPSS) services they need to recover, ranging from lack of locally available services, overburdened and underqualified providers, distrust of providers, and stigma against survivors of GBV.¹ In 2022, Norwegian Church Aid (NCA), with support from its Iraq Country Office and funding from Innovation Norway, launched a pioneering pilot project aimed to address these challenges by integrating virtual reality (VR) technology within gender-based violence (GBV) support programmes.

Building on extensive market dialogues and an in-depth needs assessment with women and adolescent girls in Iraq, NCA contracted two companies for their pilot study:

1. **Healium:** A commercial, off-the-shelf VR package consisting of serene, nature-based visualisations. From October 2023 to January 2024, Healium was implemented in group settings with 24 women. Its use in a community context aimed to provide collective therapeutic experiences, fostering a shared sense of calm and restoration.
2. **Fornix:** A more interactive VR experience initially trialled in Norway and later introduced to Iraq. Up to March 2024, Fornix had been used by only two participants in Iraq. Its interactive nature sought to engage individuals in personalised therapeutic narratives.

The primary goal of the pilot was to assess how VR interventions could enhance the quality and availability of psychosocial support for women and adolescent girls who have endured GBV, aiming to answer two critical evaluation **questions**:

1. How did participants experience the VR intervention?
2. What adaptations might be required for scaling up the VR programme?

A **Real-time Evaluation** (RTE) was conducted, focusing on immediate learning and adaptability. Methods included mixed approaches, key informant interviews (KIIs), analysis of monitoring and evaluation (M&E) data, document reviews, and a group discussion. The Heptagon Tool, used for implementation research, was applied to shape questions and guide the group discussion on the appropriateness and feasibility of implementing VR in Iraq.

¹ NCA (2021) Virtual Reality to Promote Resilience, Social Connection and Empowerment to GBV Survivors. Proposal to Innovation Norway.

Key Findings from the RTE are summarised as follows:

- Stakeholder Impressions and Cultural Fit: Stakeholders, including NCA's Iraq country director and GBV managers and a senior representative from the Ministry of Labour and Social Affairs, viewed the VR psychosocial intervention positively, appreciating its potential as a complement to narrative therapy. The contextual relevance of Healium was tailored by caseworkers, who carefully selected visualisations to avoid potential stressors, choosing serene and engaging scenarios instead. Fornix, an intervention in its emerging state, received mixed feedback on cultural fit, suggesting the need for small adjustments to enhance its appropriateness.
- Age-Appropriateness and Usability: The Healium experience was deemed suitable for women and adolescents aged between 15 and 50 years, although concerns were raised regarding younger users' ability to engage in mindfulness. All participants found the VR headgear user-friendly, indicating good usability of the technology. The headbands, unfortunately, were not included in the RTE but were thought to add depth to the users' experience of Healium.
- Reduction in Symptoms/Distress: The Level of Distress (LoD) scales before and after sessions showed a notable decrease in stress levels among participants. In both Mosul and Al Qosh, averaged DSM scale scores decreased by the end of the seven-week intervention, indicating a potential reduction in various psychosocial stressors.
- Level of satisfaction: Almost all (23 of the 24) Healium users indicated that they felt helped and better after the activity and would recommend the service to friends and family.
- Adaptations & Changes: Adaptations during the project were required due to equipment delays and the number of caseworkers available to run individual and control test cases. As a result, Healium sessions were conducted in groups instead of with individuals, as had been planned, and the experimental research replaced by the RTE. Fornix required iterative development and constant feedback during implementation to enhance its relevance.
- GBV Guiding Principles and Ethical Considerations: Throughout the project, NCA adhered to GBV guiding principles and ethical considerations, emphasizing safety, confidentiality, respect, and non-discrimination, particularly during the procurement and implementation phases.
- Private Company Engagement and Digital Development Principles: Lessons from procuring private sector services were documented, with findings underlining the importance of maintaining dialogue and establishing clear communication channels. The project's alignment with the Principles for Digital Development was considered, particularly in terms of sustainability, openness and harm mitigation.

Summary of Recommendations

For GBV Actors Initiating VR Interventions:

- Thorough Preparation and Procurement: Understand the core issues and consult with potential users to ensure VR interventions are appropriate. Use resources like Innovation Norway's procurement tools and the Digital Services Toolkit for guidance.
- Application of GBV Guiding Principles: Throughout the project, adhere to GBV guiding principles, ethical standards and digital development best practice to ensure the safety and empowerment of survivors.
- Sustainability and Capacity Building: Design the project with a focus on long-term sustainability, considering the cost, licensing and capacity building of project staff. In-person training is preferable to ensure the project team is equipped with the necessary skills.
- Informed Consent: Ensure that participants give informed consent after understanding the VR intervention fully, including any potential negative consequences.

During Implementation:

- User-Centred Design and Adaptation: Involve users early in the design phase and make adaptations based on their feedback.
- Clear Division of Roles: Establish realistic roles for staff during pilot testing and long-term implementation, including for technical support and oversight.
- Monitoring and Support: Establish clear outcome indicators with user-friendly data collection tools and train implementers to understand and use monitoring data to make necessary adjustments. Provide ongoing support to those administering VR interventions to use data (including EEG data) to guide their reflective PSS practice and case management plan.

For M&E and Research:

- Comprehensive Evaluation Framework: Define outcomes, indicators, and means of verification clearly. Correlate separate data sets to gain insights into trends and the effectiveness of interventions.

Specific to NCA:

- Reflect on Pilot Results: NCA should strategise on the integration of Healium and Fornix with case management based on pilot outcomes.
- Improve VR Criteria and Training: Document guidelines with selection criteria based on who would benefit most from VR solutions and train implementers on how to apply and use these measures effectively. Group training of caseworkers is preferable to individual training.
- Expand Visualisation Options: Negotiate with VR providers for more trauma-sensitive and culturally relevant content to increase the range of options for humanitarian contexts.

- Cost-Benefit Analysis: Conduct an analysis to assess the financial viability of VR in humanitarian GBV services and its effectiveness in symptom alleviation.

Reflective Overview

- Assessment of VR Solutions: The pilot study's short implementation period precludes definitive conclusions about the readiness of the VR solutions — Healium and Fornix — for scale-up. Positive impacts noted during the pilot indicate potential for both solutions within GBV interventions.
- Healium: The pilot data for Healium points to its effectiveness in reducing stress among users in Iraq. Recommendations include further piloting Healium with individual users and refining the way emotional regulation is measured to assess long-term benefits as part of a comprehensive suite of therapeutic interventions.
- Fornix: Fornix's unique design showed potential, but it requires expanded usage in the current context, with careful monitoring, to determine its value to target users. The pilot was affected by staff changes and ambitious timelines, but the observed engagement of two Fornix users suggests the tool may offer benefits worthy of further exploration.
- Implementation Insights: Both interventions were user-friendly for case workers with no prior VR experience, though Fornix required a few days' training. NCA Iraq's capacity to manage the pilot effectively is likely attributed to the training received, the oversight provided by the GBV manager and support provided by the project innovation officer, in addition to the caseworkers' extensive field experience.
- Recommendations for Future Application: Adaptations to enhance the long-term impact of both VR interventions are advised. Continuous engagement, feedback and tailored training are essential for maintaining the quality of care and maximizing therapeutic potential. Integration within a broader psychosocial framework, alongside other support mechanisms, is recommended for both Healium and Fornix.

2 INTRODUCTION

In 2022, Norwegian Church Aid (NCA) embarked on a pilot project to test a virtual reality (VR) protocol and intervention within established gender-based violence (GBV) programming. In partnership with NCA's Iraq Country Office and with funding from Innovation Norway, NCA contracted two private companies to provide virtual reality technologies for caseworkers to apply in their therapeutic work with women and adolescent girls.

The first, Healium, is a ready-made "off-the-shelf" package of nature-based visualisations and was tested in group settings from October 2023 to January 2024 with 24 women. The second, Fornix, an interactive virtual reality experience, was tested with a select group in Norway, and used in Iraq with only two participants as of March 2024. Because the total number of participants who experienced the VR interventions is limited, the findings are very preliminary.

This report provides a summarized account of how these interventions were implemented in two Iraqi settings. NCA's interest in the potential scale-up of the intervention as part of its GBV programming required a review of both the process (product innovation, procurement and planning for the intervention) as well as the actual on-the-ground implementation of the VR technology and a rapid analysis of the emerging short-term outcomes for girls and women.

3 EVALUATION PURPOSE

To assess the suitability of VR as an intervention for GBV survivors in a complex humanitarian context, NCA asked the Tsunagu team to consider two primary evaluation questions:

Evaluation questions

- a) How did the women and adolescent girls who participate in the pilot at the Norwegian Church Aid Family Support Centres (FSCs) experience the VR psychosocial intervention?
- b) What adaptations to the project would be useful to assist NCA and its private sector partners as they consider scale-up of the programme using VR?

4 EVALUATION APPROACH AND TOOLS

4.1 Real-time evaluation (RTE)

Given the humanitarian context and the short timeline for delivering an evaluation (approximately seven weeks), the Tsunagu team applied a real-time evaluation (RTE) design. The primary objective of an RTE is to provide immediate (real-time) feedback, in this case to NCA and related staff implementing the VR programme. RTEs are often used in contexts that are prone to change, to identify options for improving programme performance, and promote learning and adaptive management while programmes are being implemented. An RTE, in a humanitarian context such as Iraq, is designed to help make decisions about whether to continue (or not) with the VR intervention(s), and/or whether to extend it.

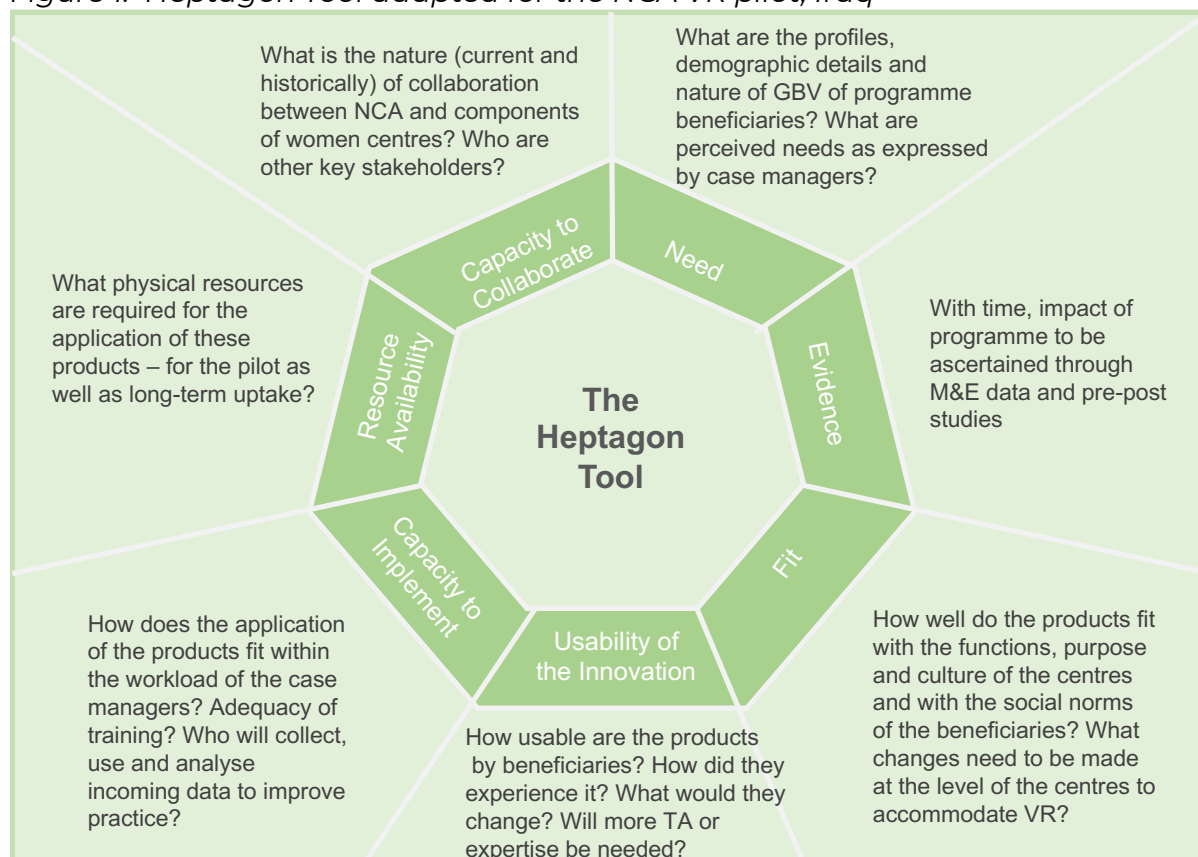
During RTEs there is often a greater emphasis on process than on outcomes with less focus on impact and sustainability and more on immediate lesson learning. Ideally, RTEs are implemented in close collaboration with monitoring and evaluation focal persons and using pre-existing indicator-based data, although this was not the case for this intervention. Instead, a series of measures and different types of mental health data about participants were collected to ascertain if the intervention was likely effective in the short term.

4.2 Informing scale-up

Because there is interest in scaling up these interventions, feasibility and possible replication was assessed by employing the **Heptagon Tool**² used for implementation research planning (see Figure 2.) The tool helps organizations evaluate the fit and feasibility of implementing programmes or practices in a given context. This tool is designed to facilitate discussion and ensure diverse perspectives are represented. The tool can be used at any stage in a programme's implementation to determine its fit with the local context. However, it is most often used during the exploration stage, the period when a site is identifying possible new programs or practices to implement. To effectively use the tool, it is critical to identify key stakeholders internal and external to the organization who have diverse perspectives on the need and possible programmes or practices to address the identified need. Suggested team members include leaders, managers, direct practitioners, representatives from the focus population and community partners. Due to a variety of factors, including religious holidays and the unanticipated closing of some of the sites where the VR was tested, findings from the group discussion are limited as staff were under-represented.

² Van Dyke, M., Kiser, L., and Blase, K. (2019). Heptagon Tool. Chapel Hill, NC: Active Implementation Research Network. See: www.activeimplementation.org/resources

Figure 1: Heptagon Tool adapted for the NCA VR pilot, Iraq



4.3 Mixed methods

To understand how the intervention was deployed and overall participant experiences, a mixed methods approach for data collection was used. Each method is described below. Due to practical and ethical reasons, VR beneficiaries were not interviewed personally, so all data is secondary. Data was obtained through interviews with service actors, a group meeting, monitoring and evaluation data, and project documents.

Key Informant Interviews (KIIs): KIIs were held with 17 service-related actors and subject experts who participated in and influenced the pilot at different levels and phases. (See **Annex A** for the list of interviewees.)

Questions focused on participants' past and current roles, how the two VR programmes were designed and delivered to address the identified needs of the beneficiaries, and their opinions on the extent to which the VR interventions met the identified challenges of the Iraqi women and adolescent girls. They also explored any recommendations for future implementation of these interventions.

Seven (7) of these were conducted in Arabic and 10 were conducted in English; all interviews were held virtually and recorded with consent.

Interviews in English were transcribed; Arabic interview data was comprehensively captured as notes in English for analysis. Most interviews (n=13) focused on Healium due to delays in training and subsequent implementation of Fornix. Only four (4) interviews were completed to ascertain beneficiaries' experiences with Fornix.

Monitoring and evaluation (M&E) data: A password-controlled platform was created for upload of NCA's anonymized M&E data. Ethical and safety measures were applied to create a safe data space where designated Tsunagu associates had access. Two groups of six (n=12) women in Al Qosh and two groups of six (n=12) women in Mosul had completed seven Healium sessions, with the following data collected for all 24 women's experiences (see Table 1):

- i. Biographical registration data which includes each participant's reasons for applying to participate in the VR pilot.
- ii. Diagnostic and Statistical Manual of Mental Disorders (DSM) Level 1 Cross-Cutting Symptom Measure data at baseline and endline for each participant.
- iii. Pre- and post-session self-reported Level of Distress (LoD) scales for each person participating in each Healium and Fornix session.
- iv. Client feedback surveys after the seventh and final session for the Healium participants.

The same data tools were used with the two (2) women who experienced Fornix, but the data has not yet been made available to the consulting team.

Table 1: Monitoring and Evaluation Data Sources

Data source	Healium in Al Qosh	Healium in Mosul	Fornix in Al Qosh
i. Biographical registration data which includes the participants' reasons for applying to participate in the VR pilot	12 women	12 women	no data
ii. Diagnostic Systematic Manual for Mental Disorders (DSM) data at baseline and endline for each participant	12 women	12 women	no data
iii. Pre and post-session distress scales for each person undergoing a Healium and Fornix session	12 women	12 women	no data
iv. Client feedback surveys at the end of the 7 th and final session for the Healium participants	12 women	12 women	no data

Document review: Project documents from Phase One — including on-site selection, records of market dialogues, applications to Innovation Norway,

and tendering-contracting processes — were reviewed. Needs assessments detailing psychosocial phenomena that women and girls experience in Iraq provided important insights into the lived experiences of the potential VR users.

Documentation of Phase Two was considerably less comprehensive, due to staff turnover in the sites where the interventions were tested. These gaps are reflected by the absence of updated memos to the steering committee from February 2023 forward and no available record of correspondence between Healium and NCA on how implementation would take place.

Group discussion with the Heptagon Tool: In a final group meeting Tsunagu Associates met with select staff members to validate evaluation findings and consider the potential for future interventions using the VR technologies. The Heptagon tool helped shape comprehensive sets of questions while providing a stakeholder-informed pathway forward with recommendations. The tool was used to explore the core roles of key staff, the needs of intended beneficiaries, cultural fit and usability, the capacity and resources required to implement, satisfaction levels, aspects related to overall management and collaboration with the private sector.

The meeting was held with six (6) of the key informant interviewees, three (3) of whom were actively engaged with the implementation of both VR programmes, two (2) who held management positions and one (1) who had a GBV technical advisory role. (See Annex A for more detail.) This meeting was held virtually, with simultaneous translation for the Arabic-speaking participant, and was recorded and transcribed in English.

4.4 Limitations

Challenges in fluid and fast-changing contexts limited the range of data

Although the RTE was designed to accommodate humanitarian settings and identify operational problems during an ongoing pilot, the unexpected closure of one Family Support Centre (FSC) (Mosul) where only one VR solution had been tested limited the range of data available for the RTE. Furthermore, only one KII was possible at the FSC before it closed, which limited RTE insights on VR experience in Mosul to that one source and the data collected from beneficiaries. Furthermore, the pending withdrawal of NCA in Iraq will limit the options to scale the VR solutions in Iraq, though further testing of the VR solutions in Iraq will reportedly continue through the end of 2024.

Availability and quality of data

Despite having Arabic- and English-speaking researchers in the Tsunagu team, (managing the sensitive data and ensuring that all elements were correctly, ethically and safely gathered, and then electronically collated took time. Each page for each user for every completed form had to be manually

anonymised, scanned and uploaded onto a shared platform, where they were filed and translated by Tsunagu and then entered into Excel spreadsheets. The Tsunagu team found missing questions or pages for the DSM and the feedback survey, which required follow-up before analysis was possible. The Tsunagu team also often found confusing dates, missing dates, double entries, missing case numbers and places where stickers to disguise names were stuck over data, all of which had to be clarified and corrected prior to analysis. These multiple steps in the process increased the risk of unreliable data, which took time to minimise.

Furthermore, the pre- and post-qualitative interviews (listed in the VR/Innovation 2023 Results Framework in [Annex E](#)) were not conducted as interviews, so they did not yield a separate set of qualitative data to inform the RTE on the users' experience of VR. Instead, caseworkers opened discussions with users who had written comments on the LoD indicating the need for personal contact with the caseworker. These discussions were reportedly held in the group setting, where a quiet one on one conversation was possible³, but were not comprehensively recorded as qualitative data for analysis.

NCA intended for two VR companies to provide additional indicators/questions to scales, but this did not happen. Though changes in Electroencephalogram (EEG) brainwave information, an indicator provided by Healium, would have been available had the headbands arrived in time for the pilot in 2023. This data is being collected with subsequent users, but the EEG dataset was unfortunately missing in the RTE.

Timeline

The implementation of Healium and Fornix VR interventions were delayed. While all phases include the pilot testing of both Healium and Fornix products, the Fornix pilot was minimal, developing alongside project design with prototype testing evolving iteratively and after the Healium intervention. As such, user data was generated from only two (2) users, but this data was dated February, whilst the testing took place in March, and therefore was deemed unreliable.

Attribution

The Level of Distress data is useful but should be considered cautiously in terms of attributing the reduction in stress entirely to the VR project — there may well be other variables such as the group effect, attention from the caseworker and time out of home that could influence the results. Further research is required to determine the discrete impacts of Healium and Fornix solutions on the users' psychosocial well-being.

³ KII #4

4.5 Ethical and security measures

The evaluation was guided by the “Do No Harm” principle (i.e., avoid constituting a risk to participants in the study); no women or girls who participated in the trial were contacted directly by our evaluation team.

Due to the limitation of time, the nature of the users (mostly GBV survivors) and the remote data collection, the team made an ethical decision not to directly engage with the users to avoid causing any harm. However, the team used the feedback and monitoring data NCA collected from the users.

4.5.1 Data protection and security

Tsunagu engaged in the highest level of data protection for this evaluation, in accordance with Tsunagu’s data protection policy. In addition to our data protection policy, Tsunagu followed the following data protection recommendations of the Iraq GBV AoR⁴:

- *For all M&E activities, utmost attention was paid to the handling of information related to an identifiable individual.*
- *Due to its high sensitivity level, all M&E data related to Response services was collected, stored, used and shared in strict accordance with Gender-Based Violence Information Management System (GBVIMS) guidelines.*
- *The following basic principles were observed:*
 - a. Respect the country’s ethical standards and ensure that data is collected with the knowledge and understanding of the individual providing the information.*
 - b. Only collect data used to inform programming.*
 - c. Beneficiaries are informed of the purpose of the data collection and agree to participate in a confidential manner. At any time, the individual can opt out or skip any questions they do not want to answer.*
 - d. Beneficiary data were shared with Tsunagu, in line with the agreement signed by Tsunagu and NCA.*
- *Electronic files, such as beneficiary lists and filled forms, were password-protected.*
- *Incidents related to data breach or lost, or stolen questionnaires will be immediately reported to senior managers.*

All data collection undertaken by NCA or on behalf of NCA complied with the [General Data Protection Regulation \(GDPR\)](#).

5 Project overview

Survivors of GBV in humanitarian settings face multiple challenges to their recovery, including a lack of locally available, sensitive services and often overburdened or underqualified service providers. NCA, an international development agency that specialises in the provision of GBV services in

⁴ UNFPA, Global Communities, GBV AoR Iraq, ‘GBV Monitoring and Evaluation Toolkit, Iraq’ (first edition), January 2022

such contexts, learned about VR through various humanitarian actors experimenting with the medium, including Mercy Corps, a humanitarian aid counterpart, which had successfully applied virtual reality in its programme with youth in Iraq. Inspired, NCA took proactive steps to explore the potential for VR as part of a menu of psychotherapeutic interventions for girls and women who are survivors of GBV and/or have been displaced within conflict-affected communities.

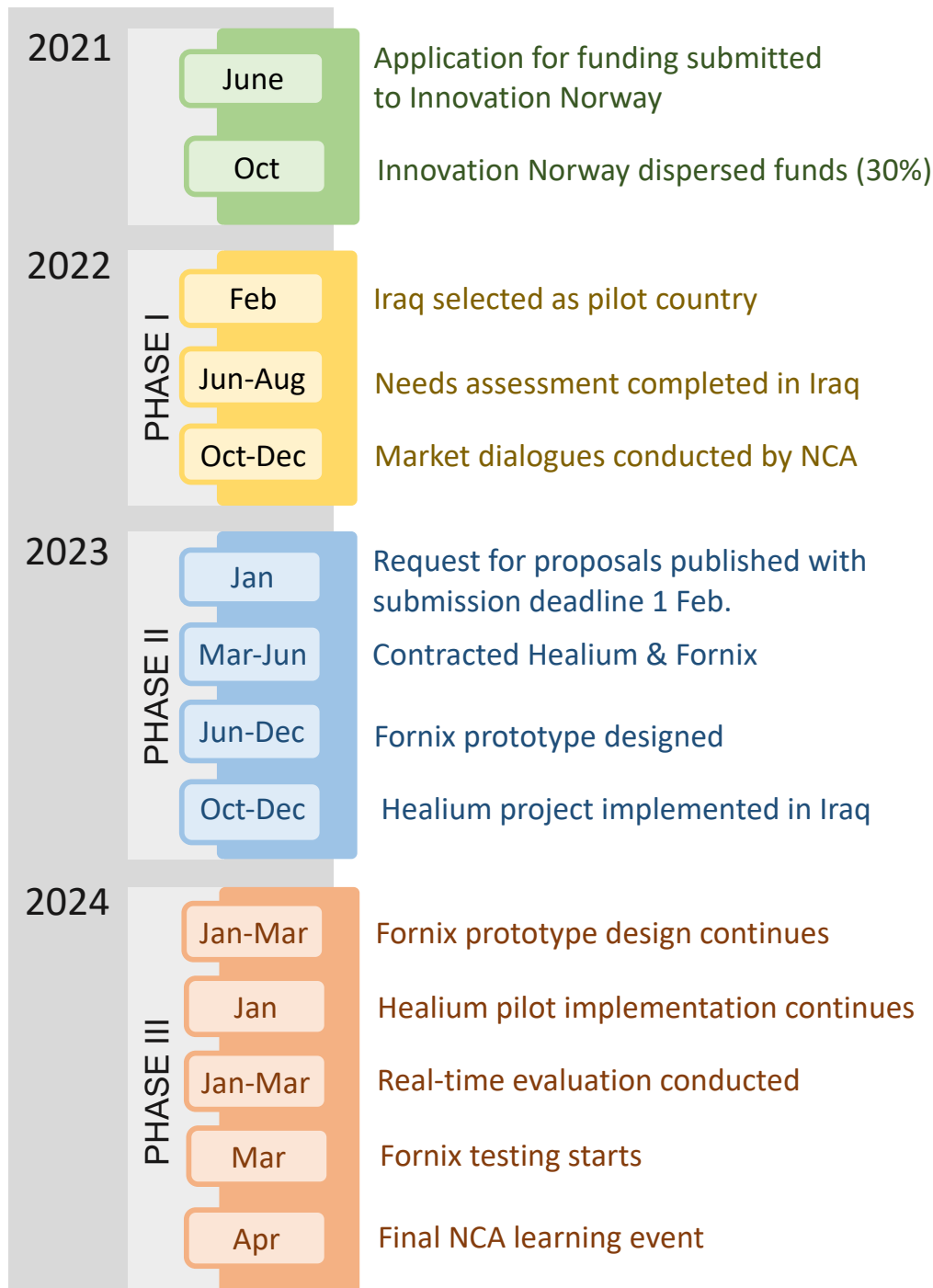
NCA first investigated and identified among its global caseworkers the mental health issues they faced in supporting girls and women suffering from GBV, including shame, self-blame and isolation. NCA subsequently applied for funding from Innovation Norway to procure VR design services for pilot testing with *“the aim to develop a therapeutic intervention (the “solution”) that is delivered through VR to help overcome these identified issues and, ultimately, help survivors heal from trauma, reconnect with their communities, and work toward social change.”*⁵

The project timeline (See Figure 1) depicts the three phases of the project: compiling parameters for the pilot and contacting suitable companies (Phase 1), implementation (Phase 2) and real-time evaluation (Phase 3).

⁵ NCA proposal to Innovation Norway, Oct 2021.

Figure 2: Timeline of NCA VR Project, Iraq

NCA Humanitarian Innovation Project (HIP)



5.1 Phase I and II: Needs assessment and procurement process

Having secured funding for a Humanitarian Innovation Programme in 2021, NCA began the project in 2022 by selecting a suitable country for the pilot project. Clear criteria, including the need for an established and willing GBV team, helped NCA identify Iraq.

From June to August 2022, NCA performed a needs assessment in order to:

- Identify, prioritise and better understand psychosocial problems that GBV survivors face in the cultural context;
- Better understand how VR can be leveraged to support or improve therapeutic interventions;
- Better understand risk factors and success criteria related to project implementation;
- Better understand the potential target users of a VR-based therapeutic intervention; and
- Identify the kinds of technology considerations, workarounds and/or design that will be necessary to implement a VR intervention in these locations.

The needs assessment also included observations of the FSCs' physical and staff capacity to support the VR interventions.

NCA intended to use **the Innovation-Friendly Procurement Process**, which is driven by end-user needs, rather than detailed product specifications; therefore, end users are involved early to clearly define and prioritise their own needs, which allows for the market to develop ideas of how they can contribute to relevant solutions. As such, NCA included findings from the needs assessment in the procurement process — the market dialogue, Request for Proposal and contracting process.

For example, NCA tendered for the VR solutions to meet 48 specifications, covering various themes including the following:

- Targeting specific psychosocial problems related to GBV
- Ensuring data security and safe delivery by paraprofessionals
- Following GBV Guiding Principles and feminist, survivor-centred and empowerment-based principles
- Providing culturally relevant and accessible information for survivors with diverse GBV experiences
- Hardware and software specifications including the possibility of use without consistent wifi
- Scalability of the VR solutions

In addition to the above, the NCA terms of reference for potential VR solution bidders specified that the VR programmes should include therapeutic activities tailored to the survivors' needs and address the psychosocial effects of their trauma experiences. The following psychosocial problems were identified as central areas of distress for the Iraqi women and adolescent girls: depression, overthinking, sadness, isolation and fear of shame.⁶

⁶ NCA 2022 Needs Assessment Report.

In June 2023 NCA contracted with Healium for their nature-based mediation experiences and with Fornix to produce an interactive and animated virtual reality for caseworkers to integrate into client sessions. By December 2023, the Tsunagu consulting evaluation team set out to design a Real-Time Evaluation that was both feasible in the context of Iraq, as a humanitarian setting, and specifically, one that would meet the relatively short timelines NCA proposed to complete the work.

5.2 Phase II and III: Project preparation and adaptation of the VR interventions

Because this project uses two different VR interventions, NCA used two different processes to prepare and adapt each VR intervention into the Iraqi context.

Healium is an off-the-shelf product, meaning the technology is already developed. The product has a menu of settings/choices to enable rapid adaptation to local contexts. Healium technology includes goggles and electroencephalogram headbands.

Fornix is an interactive solution, which requires practice for people who are not experienced in video gaming.⁷ The solution required substantial testing and retesting before the product could be offered as a contextually relevant VR experience for GBV survivors living in Iraq.

5.2.1 Setting up the Healium VR product pilot in Iraq

Healium was contracted by NCA in June 2023. There were gaps between contracting Healium and the team's preparation in Iraq and, thus, in project implementation. Due to staff turnover within NCA and time-lag between the procurement and delivery processes, Healium was required to repeat its training for new NCA staff.⁸

During a two-week visit to Iraq in October 2023, an NCA GBV/mental health and psychosocial support (MHPSS) consultant worked with the FSC psychologist, caseworkers and the innovation project officer to prepare the ground for the VR pilots, and more immediately for Healium specifically.

The initial task was to select five (5) appropriate Healium visualisations that would assist Iraqi women and adolescent girls to emotionally regulate through calming the nervous system. The selection, as described by the NCA consultant, considered the following:

⁷ KII #10

⁸ KII #09

“Relaxation is culturally defined, and in the context of Northern Iraq, which has experienced years of war and gender-based violence, traumatic triggers abound, it becomes essential to truly identify calming words that will not trigger the Iraqi survivors in this project.”⁹

Five (5) out of 36 available Healium visualisations were thus purposefully selected for the target group, excluding scenarios likely to trigger anxiety.

Initially, there was a plan to have a control group and also conduct it in an individual session format, which would have been possible had the project started earlier than October 2023. Hence, due to limited number of caseworkers and a fixed project timeline (endline 31 Dec 2023) the plan was changed into a seven-week programme to be applied in group format, and the control group was not created.¹⁰

Four (4) caseworkers,¹¹ a psychologist and the innovation project officer were trained in the use of headsets (goggles) in administering VR experiences in order to:

- Create safe and calm environments for VR interventions within psychosocial support;
- Administer pre- and post- assessments; and
- Support participants who become dysregulated and facilitate participants to integrate emotional regulation skills learned through the VR into their daily lives. (See [Annex D](#) for seven-week programme and [Annex E](#) for training programme).

The Healium chief executive officer supported both the Iraq trainees and the NCA consultant to set up the pilot on the ground, providing translated training manuals and step-by-step guidance on the use of headsets.

Prior to the launch of Healium in Iraq, NCA had engaged FSC participants in focus group discussions about the VR initiative. When NCA mobilised interest through public announcements, requesting participants for the pilot, there was already some public interest in the Mosul and Al Qosh communities.

Figure 3 showed how the Healium Participants learned about NCA's services. The form (see [Annex J](#)) does not refer specifically to the VR experience, but the caseworkers reportedly¹² briefed the users to primarily consider their VR experience when completing the survey.¹³ The majority (14 respondents) heard about it through a neighbour or member of their

⁹ Thomas, S. (2023) Final Consultancy Report, VR Healium Iraq Project. Pg 1.

¹⁰ Thomas, S. (2023) Final Consultancy Report, VR Healium Iraq Project.

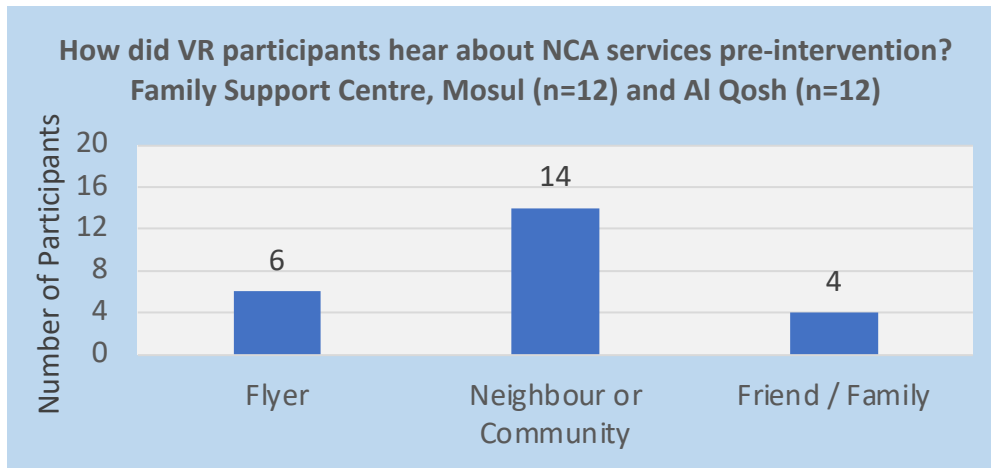
¹¹ One is from Mosul, which subsequently closed; two are from Sinjar and were not included in the RTE; and one is from Al Qosh.

¹² KII #16

¹³ The data comes from the final feedback survey which was completed by 24 Healium participants. Respondents shared how they first learned of the services.

community, while six (6) read about it in a flyer and another four (4) learned about the services through friends or family.

Figure 3: Healiium Participants: Source of Pilot Information (n=24)



NCA explained to applicants that the goal of the group was to learn how to relax through the VR experience. If applicants were interested in joining the VR pilot, they had to agree to participate in the seven-week pilot, to sign a consent form and to complete a DSM-5 Cross-Cutting Symptom Measure Form. Based on the DSM results, applicants were either selected for the VR experience or referred on for case management and/or higher-level of MHPSS. Some of the women selected were known to the FSC through their previous engagement with therapeutic activities such as art or narrative therapy.

In October 2023, the pilot was initiated with 24 women — 12 in Mosul and 12 in Al Qosh (see Figure 3). Whilst the DSM served as a screening tool against the exclusion criteria for Healiium users (severe dysregulation and depression and epilepsy), inclusion criteria were not clear. For the future, it is recommended that the inclusion criteria be clarified for rollout. (See [Annex C](#) for the selection criteria.)

5.2.2 Setting up the Fornix VR product pilot

Fornix was contracted to provide a tailor-made product for GBV survivors in Iraq, and given its therapeutic content and activities, recruitment for the intervention was limited to women who were already participating in NCA's existing case management.

The Fornix solution required an iterative design process (“design-test-feedback-iterate”), which involved several rounds of testing, followed by feedback and revisions to design. To accommodate this, the Fornix project plan stipulated two (2) training rounds, the first in September 2023 and the

second in November 2023, when it was expected a finished product would be available.

However, this plan changed due to staff turnover at NCA headquarters. Fornix reported that they worked with three successive NCA focal points at various stages in the research and design process, which impacted their project planning and time management. Additionally, Fornix expressed concern that the original agreed-upon timeframe seemed unrealistic for the delivery of a tailor-made, culture-specific VR product to address specific psychosocial issues within a complex humanitarian context.¹⁴ The situation was also complicated by the fact that Fornix's interactions with the caseworker, who was to test the solution with her clients, had to be translated by the project innovation officer.

As of April 2024, only two (2) women have used the Fornix solution during their psychosocial support sessions with a caseworker using a private space. These women were selected by the single caseworker trained in Fornix, in consultation with the innovation project officer and NCA's GBV MHPSS consultant.¹⁵

6 Key Findings

6.1 Experiences of the VR psychosocial intervention

This section addresses the evaluation question:

How have the women and adolescent girls who participated in the trial at the NCA Family Support Centres experienced the Virtual Reality psychosocial intervention?

6.1.1 Overall stakeholder impressions

Overall impressions from stakeholders about a VR psychosocial intervention in the given context were positive. A senior representative from the Ministry of Labour and Social Affairs (MoLSA) expressed general confidence in NCA's psychosocial work with GBV survivors and therefore believes that the pioneering project with VR is likely to be a viable alternative to traditional narrative therapy.

Similarly, NCA Iraq Office senior management confirmed that the initiative was well-received: *"The feedback from the community on the introduction of this technology was positive."*¹⁶ Other humanitarian aid stakeholders and

¹⁴ KII #11 and KII #12

¹⁵ KII #1

¹⁶ KII #5

an education institution in Iraq who were consulted on the VR pilot as it relates to their communities, responded positively to the idea.¹⁷

6.1.2 Cultural and contextual fit

IOM¹⁸ reports that “in Iraq, nearly 1 million women and girls are at risk of some form of gender-based violence (GBV). Around 26 per cent of Iraqi women report having already experienced violence at the hands of an intimate partner — and Iraqi experts say many cases go unreported. This, coupled with the fact that inequitable gender norms forbid women to discuss their problems with their husbands or in public places leaves few options for women who suffer from the effects of GBV.” This context requires consideration when introducing any intervention with women and adolescent girls.

For Healium: Caseworkers selected five (5) of the 36 available VR visualisations, enhancing the initiative’s cultural relevance. In the process, caseworkers first excluded scenes with potential stressors such as male voices, darkness, isolation, underwater settings, thick forests, abandoned spaces, unidentifiable animals, cliffs, floating and smoke.

Instead, settings such as the beach and lively and sunny scenes with plants, flowers, animals, birds or butterflies were selected, allowing beneficiaries to more calmly “move” and experience the selected settings. The titles of selected visualisations in Mosul and Al Qosh were: Waterlily Canal, Butterfly Island, Tulips: Valley of Colour, Beach, and Sparkling Harbour.¹⁹

These choices were re-examined in post-implementation interviews, with both caseworkers reporting positively about the women’s experiences:

Overall impressions:

“Beneficiaries are eager to try new things. It might be overwhelming or something strange in the beginning, but after that they became familiar with how to regulate their emotion, and how to manage their stress and their psychological wellbeing. It made me quite optimistic about it being continued in both case management and psychosocial support.” (KII #1)

“When we live in a war situation and struggle with camp life for so long, our imagination can’t take us to those beautiful places like it used to imagine ... a tool that can transport us there is a powerful tool.” (KII #17)

“Healium was popular because it is easy to use, does not require a high skill level and is beneficial for everyone, to the extent that people from different departments in the FSCs have requested access to it.” (KII #16)

“Women used to say ‘wow — we’re going to a different world,’ and they used to talk about it to their family. They used to say it reduces negative thoughts and sleep problems. Women wanted to do it more than once a week.” (KII #2)

¹⁷ KII #4

¹⁸ Gold, Darah. Nov 2023. IOM blog. <https://weblog.iom.int/survivors-saviors-leaders-not-victims-tackling-gender-based-violence-iraq#:~:text=In%20Iraq%2C%20nearly%201%20million,say%20many%20cases%20go%20unreported.>

¹⁹ KII #17

“Very beautiful and positive. It was useful — for relaxation. A sense of inner peace ... had a positive impact on people. It’s new and allows them to see things with their own eyes and move to a different place.”²⁰

“Women’s experiences were very positive. After all sessions they used to talk about how they felt, and it was always positive. They used to say the experience stayed with them and they used to look forward to the next experience.”²¹

Feedback data on cultural and contextual fit from the Healiium users through the endline survey was limited to a question on language, to which 23 of the 24 respondents indicated that they experienced no barriers. (See figure 8.) Impressions of the users’ experiences were therefore limited to the observations of the caseworkers, as reported above.

For Fornix: Feedback around the cultural fit of the Fornix product is mixed, with some respondents saying it is culturally appropriate as is and others suggesting that there is need for improvement. For example, some details, such as the use of radio music, could be re-considered for appropriateness. *“That radio only plays some very random basic tunes,”²²* as it takes time to get the copyrights to use current and culturally appropriate music.²³ The chess game in the communal space was also cited as a cultural issue, as Iraqi women do not typically play chess.²⁴ The Fornix solution includes private and communal spaces, but unfortunately the RTE concluded before the communal space could be tested.

Prior to implementation, the Fornix product relied on testing and users’ feedback to ensure the product was relevant and appropriate. The product was tested with Iraqi user representatives living in Norway; however, feedback from NCA in Iraq was more useful, given the proximity to the intended end users. During training activities, the caseworker and the innovation project officer had a *“door open to Fornix for technological assistance,”* but also to adjust components *“to fit the needs and also their social norms.”²⁵*

Fornix indicated that overall, more comprehensive and consistent feedback from NCA staff throughout the entirety of the project would have been useful. Due to NCA staff turnover Fornix was required to revisit design decisions made at the onset of the contract, which contributed to the delay in delivery of the solution. Additional feedback is likely to be collected as the intervention is used with more women and adolescent girls. Adding a

²⁰ KII #2

²¹ KII #3

²² KII #10

²³ KII #12

²⁴ KII #4

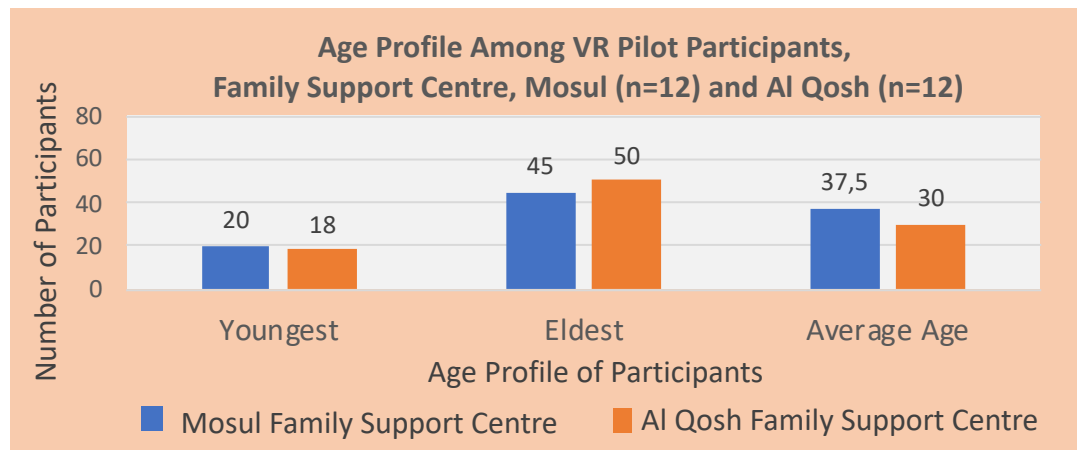
²⁵ KII #1

simple format feature to the M&E system to capture immediate feedback from caseworkers after each session/use would address this gap.

6.1.3 Age-appropriateness

Participants in Mosul were aged between 20 and 45 years with an average age of 37.5 years. In Al Qosh, the women were between 18 and 50 with an average of 30 years (see Figure 4).

Figure 4: Age Profile of Healium Respondents in Al Qosh and Mosul



Overall, respondents reported that Healium experiences were suited to the women users between 18 and 50 years. However, two (2) of the subject experts expressed some doubts about whether women under the age of 20 would be able to consciously develop relaxing mindfulness through their virtual experience, potentially limiting the positive outcomes for that group.

Healium implementers, on the other hand, did not notice a significant difference between the younger users (age 20) and older users (age 50) in terms of how they benefitted from the Healium experiences. The same implementers believed that the technology would not be suited to girls under the age of 15. But there was no consensus on suitability for girls under 15. Apparently the goggle manufactures do not recommend usage for people under 13 years of age, given limited research on this younger population.²⁶ That said, the same expert also noted that *“more and more research is coming out that shows there are no long-term effects, and it's used in paediatric hospitals as well, but that's from the goggle manufacturer.”*²⁷

²⁶ KII #9

²⁷ KII #9

6.1.4 Usability for survivors with diverse experiences²⁸

None of the M&E tools applied in the VR pilot included questions on the usability of the VR experience, so the question of usability for survivors with diverse experience requires further research. This will be particularly useful once the electroencephalogram headbands are introduced and detailed data on the users' physical reactions will be available for correlation against users' perceptions of usability. For this initial pilot, the caseworkers confirmed that all participants (n=24) found the headgear (goggles) easy to use, despite their age or previous experiences.

Since there was no biographical data or any other data to inform the question of diverse experiences among the participants, the evaluators drew on the information from users' intake forms. (See [Annex I](#).) The intake forms²⁹ asked for participants' age and posed three open-ended questions related to their reasons for participating in the VR experience, their stress levels and how they typically deal with their own stress.

A summary of the answers to **the three open-ended questions** in the **Healium** users' intake forms at both FSCs is provided below. Participants sometimes listed more than one item per answer.

Three open-ended questions in the intake form:

1. *What are the main reasons why the client is interested to participate in an emotional regulation/relaxation group?*
2. *What are the things in the client's life that make it hard for the client to relax and to manage their strong emotions? (For example these can be feelings, thoughts, memories, people, places and things)*
3. *What has the client tried to relax and to regulate her emotions? What worked and what did not?*

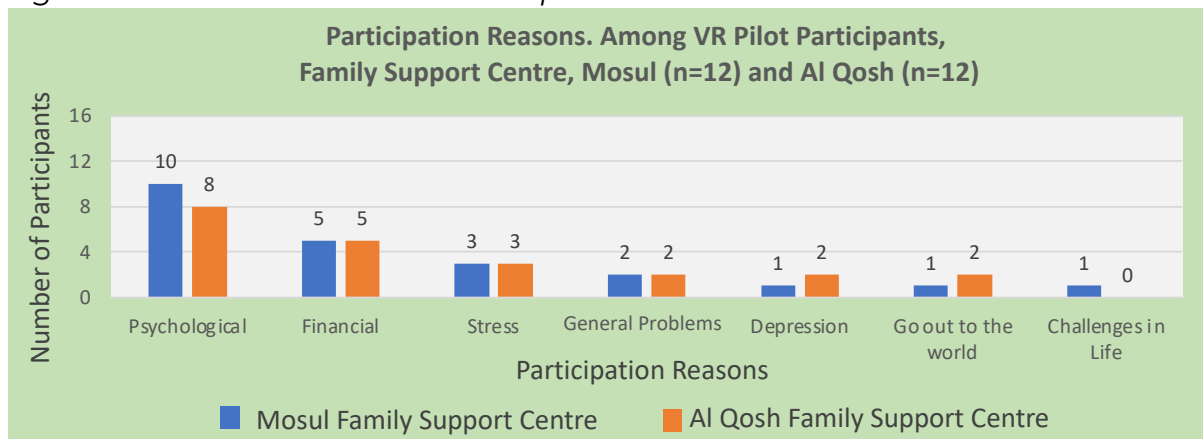
1. *What are the main reasons why the client is interested to participate in an emotional regulation/relaxation group?*

The predominant reason given by users in Al Qosh and Mosul for their desire to participate in Healium was psychological issues. The second-most common reason was stress due to financial problems, while the third was general problems and worries and the fourth was "the stress of living." There were isolated cases of depression and a desire to escape from misery and uncomfortable things in life.

²⁸ "Diverse experiences" refers to the those listed in NCA's 2022 needs assessment: "Depression, Overthinking/Anxiety, Sadness, Isolation/Loneliness and Fear of Shame were the top five psychosocial problems identified by women, adolescent girls and GBV survivors in NCA's centres in Iraq."

²⁹ The intake forms and the users' responses were translated from Arabic to English by the evaluation team.

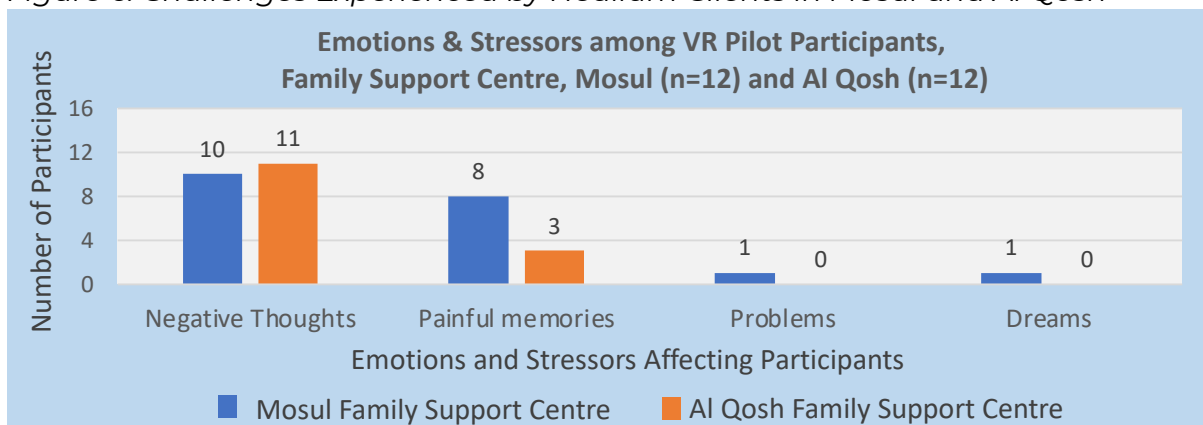
Figure 5: Reasons for Clients' Participation in Healium



2. What are the things in the client's life that make it hard for her to relax and to manage her strong emotions (for example these can be feelings, thoughts, memories, people, places and things)?

Participants listed negative thoughts and painful memories as the main reasons for their level of distress. Only one client identified current problems, and another dreams, that prevent them from relaxing and managing their emotions, as main stressors.

Figure 6: Challenges Experienced by Healium Clients in Mosul and Al Qosh



3. What has the client tried to relax and to regulate her emotions? What worked and what did not?

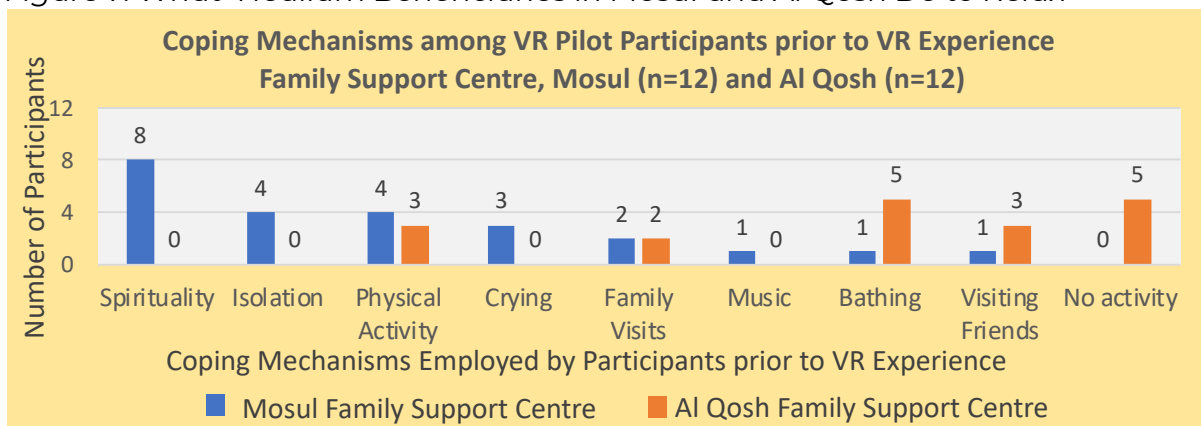
Eight (8) of the 12 participants in Mosul wrote about relaxing through a form of spiritual activity, including reading or listening to the Qur'an, praying and visiting a holy place. One-third of the women in Mosul preferred isolation for

relaxation, and another third enjoyed physical activity such as walking or going to the park. About one-quarter said they cried to relax, and two women said they liked to listen to music, with one specifying that she preferred melancholic music. Only one woman said she relaxed by visiting family, while another reported visiting friends to relax.

In Al Qosh, five of the participants said they preferred bathing to regulate their emotions, and another five said they did not do anything in particular. One-quarter listed physical activity, while another quarter said they visited friends. Two said they liked to visit family to help them cope.

Although the form asks the question “What worked and what did not?” it does not allocate space for answers. Hence there is no available data that speaks to whether their existing coping strategies worked for them.

Figure 7: What Healium Beneficiaries in Mosul and Al Qosh Do to Relax



While there appear to be many individual expressions of dysregulating experiences, psychological stress is pervasive in the group, commonly caused by negative thoughts and painful memories. Attempts to regain emotional stability are made mostly through spiritual activities, isolation and physical activities.

The **Fornix** solution was designed by technological experts, in-house psychologists, and experts who work with trauma patients. The product itself includes two spaces, one private and another communal, with a range of therapeutic activities in both spaces. M&E data was not available for the two Fornix VR users in this pilot. Interviews, however, discussed usability, and respondents indicated that for the two users in this Fornix pilot the solution was versatile and, with the guidance of the caseworker, became user-friendly.

6.1.5 Levels of satisfaction

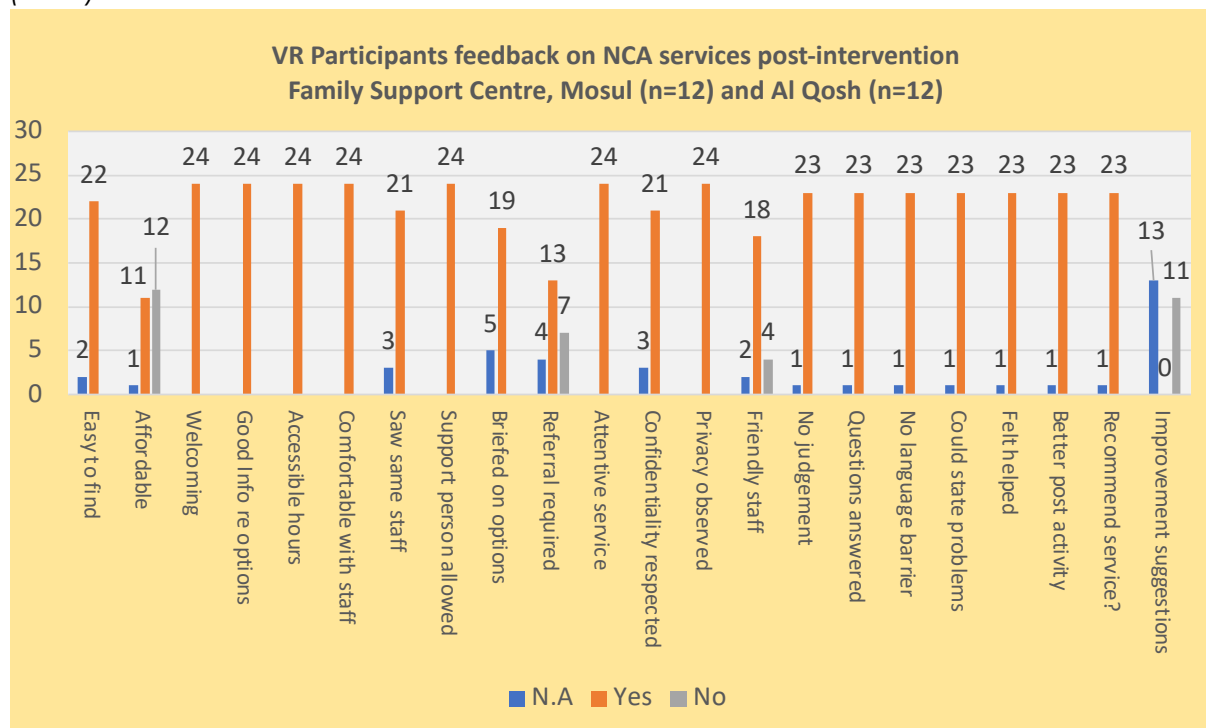
Healium users (n=24) provided information on their levels of satisfaction in the standard NCA service forms. Whilst these forms (see [Annex J](#)) did not

ask questions pertaining to the VR experience specifically, users were reportedly advised to refer to their Healium experience when completing it. The forms were completed after the seventh Healium session.

The feedback was very positive, with 23 of the 24 users (n=23) reporting that they felt helped, they felt better after the activity, and they would recommend the service to a friend. The remaining user (n=1) did not answer those questions. Explanations for their affirmative answers were provided, and these can be found in [Annex K](#).

All 24 users felt welcomed and comfortable with the staff, and no users had suggestions for improvement to the programme. If not done already, it is recommended that the full set of feedback data be interrogated further, as there seem to be some cost implications for the respondents; 12 users did not find the service affordable.

Figure 8: Healium Beneficiaries' Opinions Post Participation in Al Qosh and Mosul (n=19)



Caseworkers and data collected indicate **full retention** in all four (4) Healium pilot groups. Given the relatively low retention level with clients in GBV services, the caseworkers believe that Healium offers an exciting, practical and encouraging resource.

NCA staff in Iraq insist that women benefited overall from the sessions, and RTE data confirms this. An outstanding example of positive change was reported by a woman who, prior to the VR sessions, had several psychosocial problems, according to a key informant. After a Healium session, the key

informant said, the woman “ ... became more open [and] more resilient to the problems and to the negative feelings. ... the problems she had with sleep, stress and anxiety, she was able to [overcome], and she became more able to regulate her feelings.”³⁰

Fornix: Available data on use is limited. A caseworker who administered Fornix reported in interview that women had a very positive experience, they liked having a private space and were able and happy to choose activities that suited them with the caseworker’s support.

6.1.6 Reduction in Symptoms/Distress

The NCA VR Innovation Project Results Matrix (see [Annex E](#)) lists the following means of verification to measure the percentage of women and girls who report a reduction in symptoms/distress after using the two VR solutions:

- Level of distress (LoD) scales (see [Annex F](#))
- Client³¹ records (see Section 1.4 of this report)
- Qualitative interviews pre- and post-
- DSM symptom scale (baseline and endline) (see [Annex G](#))
- Client feedback form (see [Annex J](#))

All of the above were used in all four Healium groups (n=24), with the exception of the qualitative interviews. The intention was to use the same tools for the Fornix pilot, but in this initial pilot run the data was not available for analysis.

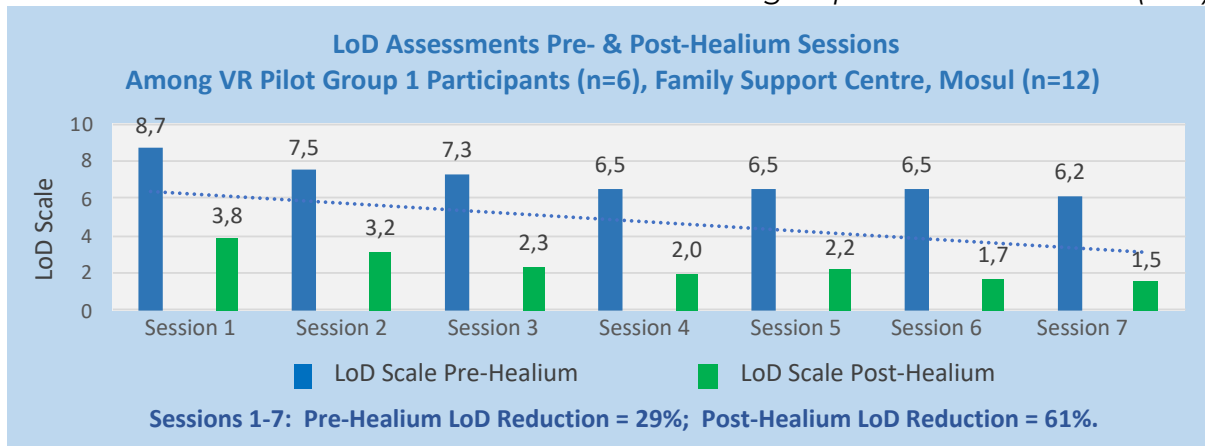
Level of Distress Scales: A self-reported Level of Distress scale was completed by each participant before and after participating in each Healium Session. These scores were averaged out per member, per session and per group. The analysis at individual level is included in [Annex L](#).

In Figure 9, the difference in stress levels before and after Healium experiences for Mosul group 1 are notable. The average stress level prior to first session, 8.7, dropped to 6.2 in the last session, and the stress levels measured after each session dropped from an average of 3.8 after session 1 to 1.7 after session 7.

³⁰ KII #1

³¹ “Client” and “beneficiary” are used interchangeably in the analysis of M&E data.

Figure 9: Average Level of Distress Pre and Post Intervention for each of seven Healium Sessions: Mosul group 1 (n=6)



In figure 10, the overall stress levels appear to be higher than group one, but like group 1, the difference in the before and after participation for group 2 are noteworthy for each session. Over the seven sessions, it appears the cumulative average effect reduced stress prior to participation (from 9.0 to 7.7) and reduced post-intervention from 3.5 after session 1 to 2.7 after session 7 (see Figure 10).

Figure 10: Average Level of Distress Pre- and Post-Intervention for Each Healium Session: Mosul group 2 (n=6)

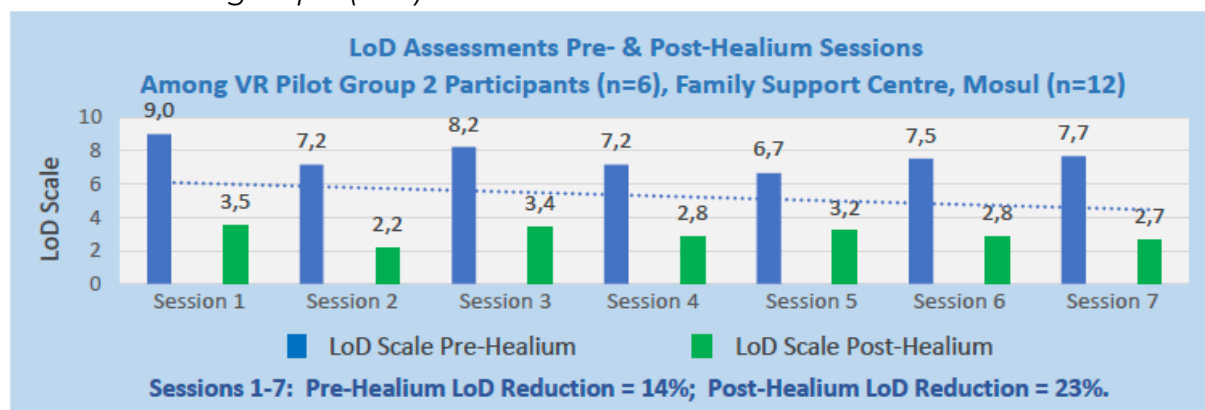
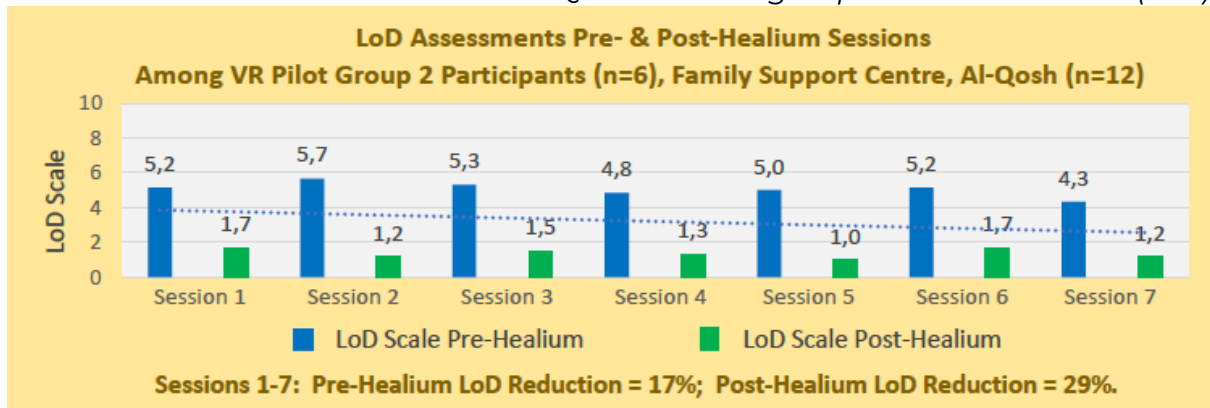


Figure 11 illustrates patterns of average levels of distress in Al Qosh following the same trends as in Mosul, with, however, one major exception. The baseline levels of distress appear to be lower in Al Qosh than in Mosul across all sessions, both pre- and post-intervention. However, trends overall remain promising with evident decreases in stress from 5.2 to 4.3 pre-intervention and 1.7 to 1.2 post-intervention.

Figure 11: Average Level of Distress Pre- and Post-Intervention for Each Healium Session: AI Qosh group 1 (n=6)



In Figure 12, similar to group 1 in AI Qosh, there is a clear reduction in stress recorded after each session, and cumulatively across all seven sessions, with 5.7 recorded pre-session 1 and 3.7 recorded pre session and the post implementation scores reducing from 2.2 post-session 1 to 1.3 post-session 7.

Figure 12: Average Level of Distress Pre- and Post-Intervention for Each Healium Session: AI Qosh group 2(n=6)

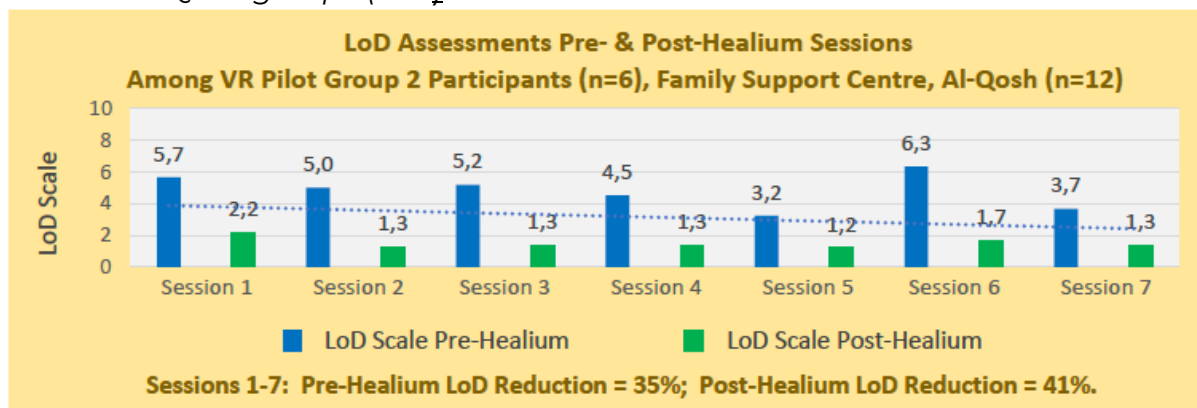
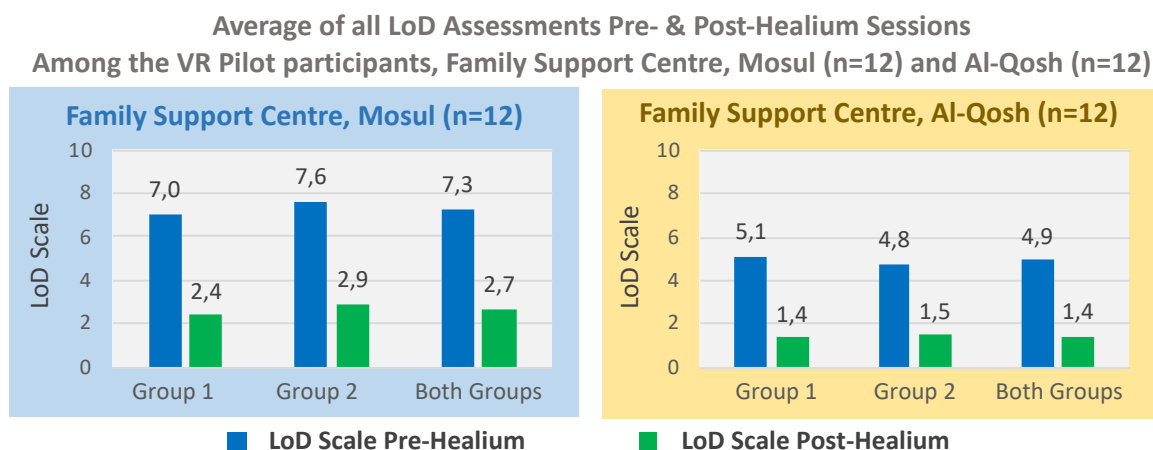


Figure 13: Average Level of Distress across all Healium Sessions for Mosul (groups 1 and 2) and AI Qosh (groups 1 and 2)



The figures above provide the average pre and post intervention for each group in the two different FSCs as well as the average for each FSC. Looking at the group averages, the overall stress levels in Mosul (7.3 pre reduced to 2.7 post-intervention) are higher than Al Qosh (4.9 pre- reduced to 1;4 post-intervention), which may be indicative of different contextual socioeconomic pressures in the two communities. Individual Participant LoD scores are provided in [Annex L](#).

DSM Symptom Scale: Women participating in the Healium VR pilot were administered DSM measures before and after the seven-week intervention. These measures could be used in future full-scale implementation research and evaluation as potentially useful tools to assess the efficacy of the VR intervention. Although the measures could enhance clinical decision making, they should not be used for clinical diagnosis.

In most cases, in both Mosul and Al Qosh, **averaged scale scores decreased** by the end of seven weeks. (See Figures 18 and 19.) There are, however, observational differences in the percent decrease, as well as average scores, across symptoms and across the two FSCs. For example, users in Mosul showed the highest average scores in repetitive thoughts and behaviours and sleep problems pre-intervention, whereas in Al Qosh disassociation and depression were rated highest.

Changes in the severity of symptoms were more dramatic in Mosul than Al Qosh. This highlights the importance of cultural and clinical context and the range of symptoms that need to be considered in therapeutic packages incorporating, but not limited to, VR. Further correlational research interrogating the effectiveness of VR for the alleviation of DSM symptoms is suggested.

Figure 14: DSM Symptom Scales among VR Pilot Participants, FSC, Mosul

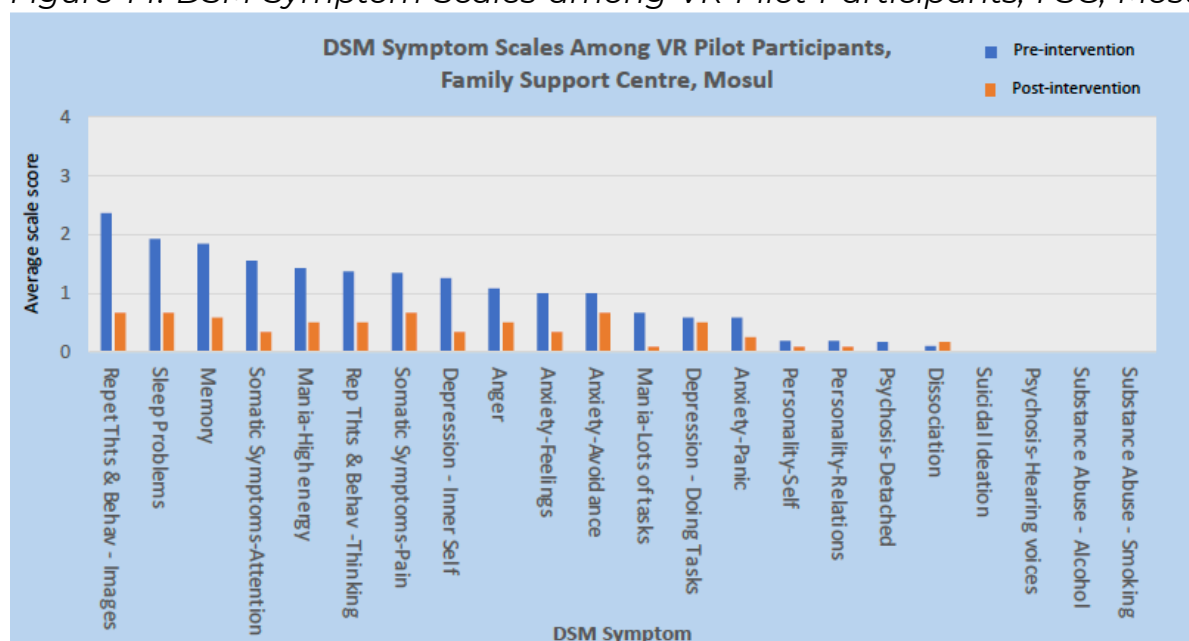
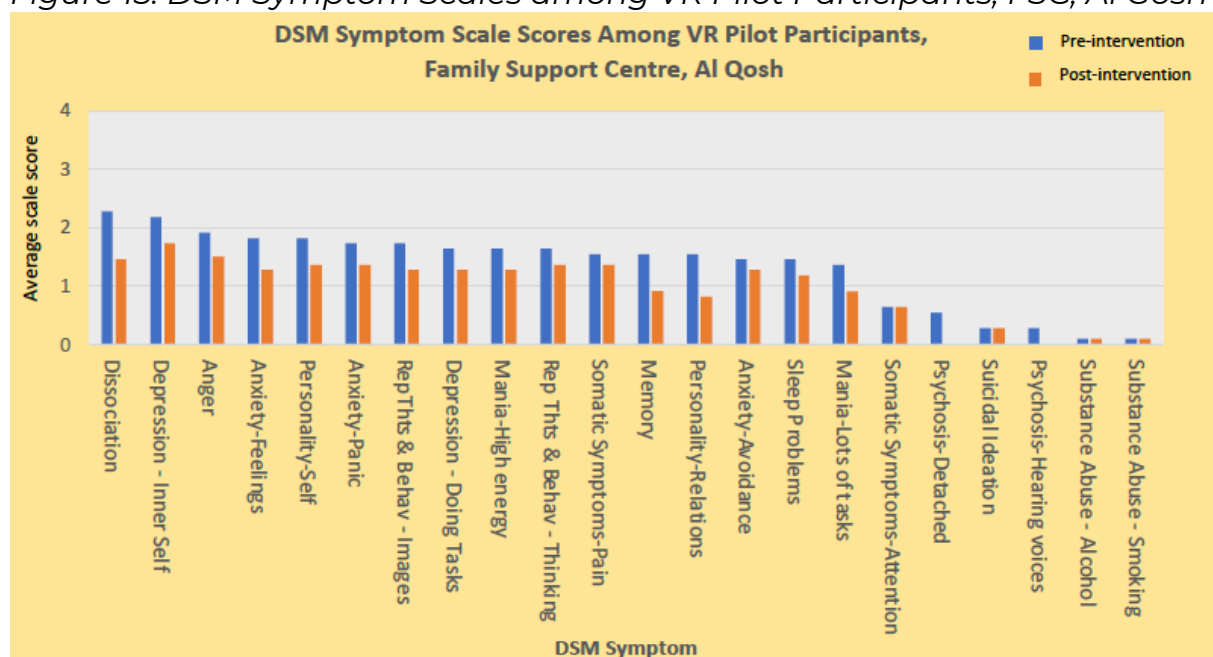


Figure 15: DSM Symptom Scales among VR Pilot Participants, FSC, Al Gosh



Levels of discomfort: Prior to the intervention, suggestions on how to prevent discomfort included exclusion criteria for participation (e.g., not including recently traumatised women or girls) and an informed consent and orientation process. Three notes related to discomfort were recorded. One Healium visualisation user cried and needed to take a break. The caseworker reported that the participant was sad because the beautiful views made her miss her family. After resting she resumed watching. Another Healium user had a fear of water imagery, but she was easily able to switch to a different visualisation. Of the two Fornix user beneficiaries, one incident of dizziness was reported, but it disappeared when the caseworker helped her to sit, after which the woman voluntarily resumed her session.

6.2 Adaptations to virtual reality psychosocial interventions

This section answers the question:

What adaptations to the project would be necessary to scale up the VR psychosocial intervention?

This section will discuss the following issues:

- Whether any adaptations were made during the project implementation
- The level of integration of GBV guiding principles and ethical considerations into the project
- Usability of the VR interventions
- Caseworker capacity

- Data management system
- Adherence to the principles for Digital Development

6.2.1 Changes and adaptations during implementation

The project has been adapted/changed in the course of implementation. Section 4 explained the process of adapting the VR interventions according to the culture and needs of the users. This subsection explains changes necessitated by project limitations (delays, unavailability of equipment, and the capacity of the team).

User data from Healium: Neither of the VR interventions collected biorhythmic or personal data from the user. Electroencephalogram headbands that usually accompany the Healium experiences and assess brainwaves were not available for the first phase of implementation covered by this evaluation, though they have since arrived in Iraq. They were only used for Healium groups that began in January 2024, but data from these groups were not available for the RTE.

Fornix’s application and equipment will not collect any data from users. Fornix can identify where goggles are located and whether they’re being used, but no other user information will be collected.

Changed from individual to group sessions: Individual sessions were planned for the Healium pilot, but due to the number of caseworkers and the limited timeframe, the pilot pivoted to group sessions. Feedback on the group format for Healium users was positive. It appeared to reduce staff workload and simultaneously offered a setting for mutual support among users. These are two positive conditions that should be considered in future discussions on scaling up the Healium intervention. As one caseworker said: “Healium made it easier to run group sessions — we would give one experience per session. The only challenge is that women wanted more.”³²

Programme adaptations and adaptability: The NCA GBV MHPSS consultant (October 2023) was instrumental in compiling the seven-week pilot programme, ensuring it provided clear activities and outcomes and user-friendly data-capturing tools for the caseworkers in each session. The consultant also played a key role in the development of participant selection criteria and the training programme.³³

Participants’ positive feedback about the packaged programme was confirmed by the overall reduction of stress (LoD scores) in the same users. (See section 5.2.7.) It should also be noted that the innovation project officer

³² KII #2

³³ KII #17

played a valuable role in helping to set up each session, including preparing the room and equipment, which suggests that any replication should consider designating someone to play this role. (See the recommendations section on testing Healium with individual users.)

6.2.2 GBV guiding principles and ethical issues

At the procurement and contracting phase

As described in Section 4, NCA included 48 requirements in the RFP, one of which was the adherence to the GBV guiding principles as described below:

*“The solution should be in line with GBV Guiding Principles. **Please describe how the solution is in line with GBV Guiding Principles and/or how you will adapt it to be in line with GBV Guiding Principles.** The GBV Guiding Principles are: Safety (physical and psychological), Confidentiality, Respect, Non-Discrimination, Feminist-Informed, Survivor-Centered, and Empowerment-Based. Details on the Guiding Principles can be found within the global Interagency Minimum Standards for GBV in Emergencies Programming.”³⁴*

Moreover, survivors’ opinions were reflected in the design and the RFP through the needs assessment, as the findings from the needs assessment were incorporated into the RFP and its requirements.

Ethical technological standards were also specified in the NCA terms of reference for the contracted companies, as a key informant noted: *“We talked with the supplier about security and also the user needs to be assured that someone cannot hack in or use their input or their personal views. So that was highly emphasized and is also in the contract.”³⁵*

During the adaptation and implementation

Key informants and participants in the group meeting validated NCA’s programming alignment with the Minimum Standards for Prevention and Response to GBV in Emergencies (GBV Minimum Standards).³⁶ NCA applied survivor-centred approach to the VR pilot and included oversight roles in the VR pilot to ensure “Do No Harm” in the pilot.

For example, participation in the pilot and the use of VR was voluntary, and participants were required to provide informed consent after learning what to expect from the experience. *“We explain what they’re going to be part of,*

³⁴ Annex 2 to the Request for Proposals.

³⁵ KII #15

³⁶ The Minimum Standards for Prevention and Response to GBV in Emergencies (GBViE) are a set of 16 standards that provide practical guidance on how to prevent and respond to gender-based violence in emergencies. The standards are intended for agencies working on specialized gender-based violence programming and cover aspects such as coordination, assessment, protection, health, psychosocial support, and justice. The standards aim to promote the safety and well-being of women and girls in emergencies.

*and if they don't want to be part, and drop out immediately, then that's their prerogative,*³⁷ a senior NCA representative said.

The caseworkers were trained in the use of VR generally and in how to set up and monitor a *safe and calm environment*, how to support participants, and how to integrate emotional regulation skills-learning. Confidence in the ability of caseworkers to identify and deal with dysregulation amongst the Healium and Fornix users was consistently expressed by key NCA role-players (GBV manager, project innovation officer, NCA GBVMHPSS technical advisor). The trained caseworkers monitored users' levels of stress at the start and end of each Healium and Fornix session. Users were informed about risks such as dizziness, dysregulation and seizures to allow for self-exclusion. They were able to withdraw their consent to participate at any time.

Oversight to the principle of "Do No Harm" is provided by the GBV manager in all FSCs, through monthly meetings with caseworkers, field visits to FSCs and regular reporting to country director. Notably, *"Fornix includes clinical psychologists in their team to ensure the clinical aspects are in place from the beginning and throughout the development process."*³⁸

Built-in safety measures in the VR interventions

In keeping with NCA safety and ethical standards, Healium is a *scientifically backed* intervention that is proven to help regulate emotions and enhance relaxation and thereby an *ethical choice*, which was furthermore tailored to the needs and contextual preferences expressed by potential end users, caseworkers and subject experts. Furthermore, Healium ensures data security through their GDPR³⁹ compliant status.⁴⁰

Fornix's team includes clinical psychologists who were involved at all stages to ensure ethical clinical aspects are in place. The psychologists involved are themselves using VR in their work with their clients.

Fornix emphasized its desire to create a safe product and space for users which takes into account caseworkers' diverse backgrounds and experience, as well as the psychological problems that users face. Key informants assessed that the product is *"basically very safe to use regardless of the background of the person who is administrating ... so hence the focus on the type of activities that we made in the solution."*⁴¹

The Fornix solution includes a private space that users can fully control—other people, including caseworkers, cannot change anything in the space. Access to the spaces women and adolescent girls use is secured through a

³⁷ KII #5

³⁸ KII #4

³⁹ GDPR: General Data Protection Regulation

⁴⁰ KII # 9; KII #14; KII #10; NCA Needs Assessment 2022

⁴¹ KII #11; KII #12

short PIN code, a safety measure that accommodates low literacy rates. Women and adolescent girls can engage in activities, or example painting, in the spaces with full privacy and in a nonconfrontation and non-stigmatizing environment, which may aid in improving self-expression. Feedback from the two sessions was positive about the private space.

6.2.3 Usability of technology

*“The VR technology, specifically Healium, was considered fascinating and immersive ... was engaging and potentially easy to use for both staff and beneficiaries who experienced it,”*⁴² and therefore **requires no adaptation for Healium**. It can be taken elsewhere as an ‘off the shelf’ model for psychosocial relaxation and emotional regulation purposes.

Healium: Overall, caseworkers found Healium easy to use, and they enjoyed having something “tangible.” There were no reported complications with the technology during the Healium sessions. The hands-on face-to-face training and clear guidelines provided by the NCA consultant with virtual support from Healium’s CEO prepared FSC staff well. The simplicity of the technology — a set of goggles — and accessible log-in instructions were straightforward. Training was cognizant of risks; for example, in the case of dizziness, caseworkers learnt how to help participants recalibrate with a few minutes’ break from the visualisation and applying breathing techniques.

Fornix: Fornix is not necessarily intuitive to people who have not previously used video games or similar VR applications, potentially making its use more challenging for older women. For the caseworker, the use of Fornix technology required several practice sessions to first become proficient with the equipment and then to learn and be comfortable with all the steps required to interact with the virtual reality environment. Prior to the VR testing, the caseworker was uncertain of the intended users’ ability to use VR, but ultimately found it **more user-friendly than expected**.

Fornix’s chief clinical officer, who uses VR within her practice, reported that with client’s consent she streams the session to see what her clients are doing in the VR environment, but this option had not yet been used by caseworkers in the FSCs in Iraq as of the time of the RTE.⁴³ However, caseworkers wearing headsets and entering the VR environment together with the intended beneficiary could be further explored as a way to support usability. To date, the communal space in the Fornix VR experience has not

⁴² KII #5

⁴³ KII #4; KII #11; KII #12

been tested with users, so feedback on its usability within an electricity-constrained setting will be important to document.

Since Fornix was tested with just two users and the stress-level data for these participants was not available for this report, evaluators' ability to determine adaptation requirements is limited, but key informants highlighted some potential considerations. Both the user and caseworker need internet access to be able to stream and interact with each other during a session, which was mentioned as a potential constraint by Fornix as well as NCA staff in Iraq. It would seem necessary to look into this issue as a potential adaptation requirement, which was confirmed by the Fornix clinical officer:

"...if I have patients, I always do the streaming so that I can see what they're seeing. But internet has been an issue, so I actually don't think that they'll be streaming because I don't think they have internet for that. You need an internet connection to be able to stream. So they'll just have to rely on asking, what are you seeing right now?"⁴⁴

At a meta level, NCA in Iraq expressed concern about the "system" requiring technical support from NCA headquarters or VR service providers, which are not always accessible. The issue of access, which includes technical support, requires unpacking for sustainability and scale-up purposes.

6.2.4 Usability of virtual reality as a psychosocial support intervention

As a psychosocial intervention, Healium **shows promising results in terms of a "feel-good," relaxing emotional regulator.** Data on the reduction of stress levels reported in section 6.3.7 supports this finding.

Not to undermine the suggested benefits of the programme, a few key informants expressed concern about the limitations of virtual reality. Especially a less-interactive programme such as Healium may not engender self-practice of mindfulness or personal mental health awareness. For that reason, it was suggested that Healium, applied in groups or individually, should not be a stand-alone intervention but **part of a set of therapeutic interventions within a robust GBV programme.**

No data on the use of Fornix in Iraq is available yet. It is suggested that timely feedback from the caseworker, the NCA team and Fornix is critical to ascertain its usefulness to caseworkers as part of their psychosocial support interventions.

⁴⁴ KI I#11

6.2.5 Capacity of caseworkers and NCA in Iraq to apply VR interventions

NCA confirms⁴⁵ that its approach to ensuring caseworkers were adequately equipped to offer a VR-based psychosocial intervention was twofold. First NCA provided foundational training to caseworkers on its general psychosocial support approach, called “Integrating Therapeutic Interventions with GBV Case Management.” The training was led by one of NCA’s Arabic-speaking roster members with an MHPSS specialization. Second, caseworkers were to be trained and oriented to using VR generally; how to introduce it to clients and help them prepare to use it, including through explaining VR’s risks and benefits, and debriefing with users after a session; developing appropriate selection and exclusion criteria; and orienting caseworkers to appropriate M&E tools. Lastly, caseworkers were to be trained on the use of each solution (i.e., Healium and Fornix) and its method of delivery (e.g., a group model for Healium; one-on-one use in case management for Fornix). Another NCA roster member who is a GBV specialist trained the NCA caseworkers on VR generally simultaneously with the training on Healium and its group model designed to save time and resources; the Fornix solution was not yet ready at the time of training, so the Fornix training was delivered later by a Fornix clinician as a training-of-trainers: —Fornix trained the innovation project officer in English, and the officer in turn trained a caseworker in Arabic.

Both companies, Healium and Fornix, preferred in-person training in Iraq. When this was not possible, they instead provided step-by-step online support, initially daily, to the Iraq based teams. The CEO of Healium was the single point of contact on the use of the platform and application tutorials. Similarly, Fornix provided online one-on-one, step-by-step guidance for the innovation project officer on the use of the interactive VR platform in addition to a written, English-language manual. The training informed Fornix’s iterative development of its solution.

“So basically during the training Fornix was working on some measurements and some improvements in their programme. So each time I was updating the experience ... and I recommend to include [the caseworker] and see how she will interact with it and if there is anything to be changed and to fit the needs, to go with social norms, all things that need to be improved. So worked together on the training.”⁴⁶

The innovation project officer also described the training as “intense,” requiring three full days of online interaction with NCA as well as an email chain of exchanges prior to training, whilst all the while practicing how to use Fornix and overcoming related challenges. In turn, the innovation

⁴⁵ KII #16

⁴⁶ KII #1

Feedback on capacity strengthening actions

“The training of staff was conducted by consultants brought in by NCA, which local implementation staff found fantastic and effectively communicated.” (KII #10)

“Caseworkers faced challenges navigating the VR device and technology, but they are very qualified. Eligible to do the activities.” (KII #4)

“They are hardworking, enthusiastic, ask questions, seek answers, know what is happening on the ground and have the ability to introduce the VR and keep the beneficiaries for regular sessions ... and have two groups on a waiting list.” (KII #1)

project officer conducted in-person training for the caseworker, who also required a few days to learn and practice how to use the solution.

Healium provided a manual in Arabic. Otherwise, language posed challenges as the only English-speaking person engaged in Iraq (the innovation project officer) translated for both programmes, which, for Fornix, meant a two-step process to training.

In addition to the support from Healium headquarters, NCA contracted a GBV consultant to train the Iraq-based team on VR and Healium specifically. A combination of practice with headsets, learning how to wear and use the headsets to access the visualisations in relaxation exercises and use of the M&E system proved useful in capacitating caseworkers.⁴⁷ Confidence in caseworkers’ ability to apply VR interventions was expressed in several KIIs.

There was general consensus amongst those interviewed that the capacity of the country office in Iraq was adequate. The NCA Iraq team had a well-established GBV programme with case workers trained in the survivor-centered approach, the six-step case management processes, an effective referral system and oversight provided by the GBV manager.

The case workers and NCA Iraq team not only had adequate capacity but were on the whole very positive about piloting a new technology. Interviews with those working in Iraq showed that the following helped secure buy-in and commitment:

- A dedicated local project manager ensures clear roles and responsibilities within the pilot location, reducing potential duplication. This role in Iraq also helped provide relevant and contextual feedback to the private partners of the project.
- Demonstrating benefits of new technologies to beneficiaries as well as to staff: Caseworkers were very positive about trying a new technology and about the novelty of VR. Demonstrating benefits not only to beneficiaries but also to the staff helps secure buy-in.

The innovation project officer played a critical role in the success of this pilot. However, dependence on a single bilingual officer for multiple roles (M&E,

⁴⁷ KII #17

VR technician, trainer, translator, interlocuter between NCA in Iraq and suppliers/VR designers, public liaison, reporter to NCA, practical and administrative assistant to caseworkers in the application of VR pilots) poses risks in terms of worker burnout as well as continuity and loss of knowledge and expertise should she leave the project.

6.2.6 M&E and data management system

Analysis of the M&E data available for the VR innovation project in Iraq provides useful insight into the beneficiaries' experience. However, the RTE was unable to ascertain the extent to which this data is routinely used by the caseworkers themselves, and whether they have any additional case management notes that reflect the effectiveness of the interventions. This factor should be considered for strengthening in any future scale-up — and to inform further evaluations.

It is suggested that observational notes be kept on associations between the VR and any shifts in depression, anxiety and any other conditions of relevance to each user's psychotherapy. NCA could consider including notes on issues such as discomfort within the caseworker's feedback notes. (See recommendations.)

It is not clear to what extent the project results framework⁴⁸ was owned and applied by the pilot implementers, as it was not mentioned by anyone apart from the NCA consultant.⁴⁹

The indicators included increased psychosocial functioning, increased feelings of social connectedness and coping skills for emotional distress learned. Whilst three of the means of verification were applied, one critical means (pre- and post-intervention qualitative interviews) was not applied, and the summative feedback form was too generic with no specific reference to the VR experience (including usability), indicating that insufficient data was collected. Once data was collected, it was unclear if caseworkers were able or instructed to gauge and respond to the outcomes to ensure that users were integrating emotional regulation skills in everyday life beyond the VR experience.

6.2.7 Engagement with private companies

Valuable lessons in procuring services from the private sector were documented during and prior to securing Healium and Fornix as project contractors. (See [Annex M](#): NCA's Lessons Learned in the procurement process.) Findings in this RTE reflect the need to continue the dialogue and ensure that the voices from all relevant parties are considered in plans for implementation beyond Iraq.⁵⁰ Furthermore, a consistent and updated

⁴⁸VR Innovation 2023 Results Framework shared by NCA GBV MHPSS consultant S. Thomas.

⁴⁹ KII #14

⁵⁰ KII #9; KII #10

point of contact within NCA is recommended for consistent and predictable communication with private companies.

6.2.8 Adherence to the Principles for Digital Development

As described in the report, NCA took various measures from the inception of the project till the end to make the pilot safe and effective. The table below shows the RTE’s findings related to how the project aimed to adhere to the Principles for Digital Development, a new set of guidelines for use in information and communication technology for development (ICT4D). (See: <https://digitalprinciples.org/>.)

Principles	NCA’s measures
Understand the existing ecosystem.	NCA compiled a list of over 120 VR/technology companies, academics, research institutions, humanitarian actors, MHPSS & GBV specialists, and others from around the world who were relevant to this project. NCA used this mapping to create a mailing list to invite stakeholders to information sessions. ⁵¹
Share, reuse, and improve: Build on what works, improve what works, and share so that others can do the same.	NCA studied the VR-assisted therapeutic interventions as they designed the project. ⁵² NCA also intended to make use of its experience from this project, thus conducting the RTE. But the operational study and M&E system could have been strengthened from the beginning of the project to capture the lessons learned more comprehensively and scientifically.
Design with people.	NCA conducted a participatory needs assessment at the beginning of this project. The findings were used to select the VR suppliers. The NCA team in Iraq was involved in the adaptation process but potential users themselves were not. However, the case workers knew the needs of survivors (potential users) and their contexts, which was well-reflected in the selection of five programmes in Healium.
Design for inclusion.	NCA included 10 requirements related to accessibility in the RFP to make the VR intervention accessible to all, including those who have disabilities. However the RTE cannot

⁵¹ NCA, Lessons Learned from the Market Dialogue Phase: Therapeutic Virtual Reality for GBV survivors in Iraq.

⁵² NCA’s proposal to Innovation Norway.

	determine if the VR interventions were inclusive and accessible to persons with disabilities.
Build for sustainability.	<p>NCA intended to scale up the project in Iraq and other humanitarian contexts. The RTE didn't ask this specific question but there are a few lessons learned coming from the RTE related to the sustainability.</p> <p>The licenses from Healium and Fornix are held by NCA exclusively, and the VR equipment is to be retained by NCA. Because of this arrangement, whilst Iraqi GBV programmers expressed interest in continuity and scaling the use of VR, particularly Healium, this will not be possible due to the upcoming closure of the country office and the impossibility of transferring Healium licenses to third parties.</p> <p>NCA's <i>Lessons Learned from the Request for Proposals & Contracting Phase</i>⁵³ also indicates the importance of including scaling potential in selection criteria and asking suppliers to be more "specific about the ways their products can be scaled." For example, ask suppliers about "the ease of scaling, especially for new languages. Additionally, ask suppliers if and how getting the current contract would reduce cost for scaling in the future, especially when scaling to a new country, context or language. This was particularly challenging to assess for suppliers with proposals that were highly contextualized to Iraq. Also ask companies whether they would be able to match future scaling grants with private capital."</p>
Establish people-first data practices. People-first data practices prioritize transparency, consent, and redressal while allowing people and communities to retain control of and derive	The RTE cannot conclude whether NCA established people-first data practices in the project as this question was not included in the scope of study. However for the needs assessment, NCA used informed consent in their data collection and they shared back the findings with those who participated in the assessment. This principle could be strengthened along with the M&E and data management systems in future.

⁵³ NCA, *Lessons Learned from the Request for Proposals & Contracting Phase: Therapeutic Virtual Reality (VR) for GBV Survivors in Iraq*.

value from their own data.	
Create open and transparent practices.	This was not asked in KIIs, and we cannot draw conclusions related to this principle.
Anticipate and mitigate harms	<p>NCA considered potential risks from the design stage and took adequate measures to mitigate risks. For example, the case workers were trained to monitor for <i>safe and calm environment</i>, how to support participants and to integrate emotional regulation skills learning which proved to work to effectively respond to reported discomfort during the VR pilot. All users voluntarily returned to the VR pilot.</p> <p>NCA also created a steering committee chaired by NCA's Iraq country director and maintained a risk matrix that was periodically reviewed and updated by a technical working group and the steering committee.</p>
Use evidence to improve outcomes.	NCA could have strengthened the application of this principle to the project. The M&E system was too weak to measure the outcomes of the VR interventions. The allocated time was insufficient for measuring outcomes and making necessary changes to the VR interventions. It is not clear to what extent the project results framework ⁵⁴ was owned and applied by the pilot implementers, as it was not mentioned by anyone apart from the NCA consultant in KIIs. The RTE could not determine whether this data is routinely used by the caseworkers themselves, and whether they have any additional case management notes that reflect effectiveness levels of the interventions.

7 OVERALL REFLECTIONS

Data from this short implementation period is insufficient to conclusively say whether either of the VR solutions is ready for scale-up. Overall, the pilot shows a positive impact and potential for the future, and it should be continued if possible. But scaling up would require adaptations to the

⁵⁴VR Innovation 2023 Results Framework shared by NCA GBV MHPSS consultant S. Thomas.

project and further research conducted in advance. Ideally, Healium should be piloted in a humanitarian setting again, taking the recommendations for improved measures in terms of internalized emotional regulation skills into account, and also considering testing Healium with individual users. (See the recommendations section for more information.)

Fornix requires more users in the current context with a trained caseworker in Al Qosh, closely monitored to determine whether any adaptations are required before being tested again in another humanitarian setting for general scale-up to other GBV programmes in humanitarian contexts.

However, Healium data promises usefulness and a positive reduction in stress within GBV psychosocial support interventions in Iraq. Beneficiaries and programme implementers recommend inclusion of Healium in FSC services in future. Adaptations to how it is used to enhance long-term effects on mindful emotional regulation are recommended, as is its deployment as part of a wider suite of therapeutic interventions.

Fornix's design requires strong ongoing engagement and continuous feedback among Fornix developers, NCA and users. Its application was negatively impacted by staff turnover and an overly ambitious timeline. Still, from what was observed with the two users in this RTE, the results are promising and worth exploring further.

The two solutions serve different purposes and are therefore not comparable. Healium is used to help users relax and regulate emotions through visualisation experiences, while Fornix is interactive, encouraging users to occupy and use the virtual reality environment to express deeper feelings. For Healium, although easier and quicker to apply and use, the choice of visualisation is limited to what the designer offers. Fornix is designed specifically for users in Iraq. Tailoring it to be usable in other humanitarian contexts would require a protracted research and design period, and it is questionable whether it could be applied to another context. However, the potential impact for the user of Fornix is potentially more sustainable as it is self-determined and more engaging than Healium. For both solutions, effectiveness depends on the caseworker-facilitator's capacity to help users engage therapeutically with the technology, reflect on their experiences, and integrate what they have learned into their daily lives. This element of these interventions is critical and needs to be considered when planning replication or scale.

Both VR interventions were relatively easy to use for caseworkers who had no prior experience with VR technology. NCA Iraq had adequate capacity to manage the VR pilot. This could be due to the training, but also to their wealth of experience as caseworkers, which might have impacted the quality of care, particularly in their ability to apply a survivor-centred approach to the VR interventions.

8 RECOMMENDATIONS

This section proposes recommendations to NCA and those organisations that want to explore VR interventions for GBV survivors.

8.1 For GBV actors who want to explore VR interventions for GBV survivors

Preparation for procurement:

- Gain a deep and insightful understanding of the problem before deciding if the VR intervention is an appropriate solution to your problem. In consultation with the potential users — both survivors and the project team, e.g., caseworkers. As Elhra’s humanitarian innovation guide⁵⁵ states, “the more time spent on understanding the problem, the less the likelihood of developing an inappropriate solution.”⁵⁶
- Once the VR intervention is identified as a suitable or potentially suitable intervention, conduct a thorough mapping of the VR solutions ecosystem, identify the actual need for VR interventions with the potential users (e.g., needs assessments), conduct a capacity assessment of the project team, and conduct the Market Dialogue with potential suppliers to identify the most suitable VR solutions to your context. Make use of existing guidance on the procurement, such as Innovation Norway’s tools for procurement (<https://hip.innovationnorway.com/article/tools-and-resources>) and the Digital Services Toolkit (<https://www.techsafety.org/digital-services-toolkit>), which includes the Selecting a Digital Services Vendor Checklist, from the National Network to End Domestic Violence (NNEDV).
- Make use of existing good practices and principles related to digital services and innovation when you design a project. For example, in addition to three tools mentioned above, use the Principles for Digital Development (<https://digitalprinciples.org/>) to check whether your project design is in line with current guidance and make any necessary adjustments.
- Define the purpose of the project (for whom and why) and compile a clear plan for project delivery, that includes clarification of beneficiaries and project implementers and how the project is to be delivered.
- Discuss with donors from the beginning to allow adequate time to prepare, adapt, implement and evaluate the VR interventions. One or two years is not sufficient, based on NCA’s experience, to engage in the entire innovation-friendly procurement process.
- Determine how to use the VR interventions, e.g., as a stand-alone intervention or part of existing psychosocial support to GBV survivors

⁵⁵ See: <https://higuide.elrha.org/toolkits/get-started/>

⁵⁶ Ibid.

based on the intended outcomes, needs of potential users, and capacity of the project staff. This should be reflected in the specifications.

- Integrate adequate budget and time to strengthen the project team's capacity. In-person training is always preferable, and even more so in the case of acquiring technical skills while learning how and when to apply them in a therapeutic relationship. Where in-person training is not possible, allow time for practice and reflection between sessions, and provide accessible material in the trainer's first language for reference. Identify the most suitable capacity-strengthening modality, considering individual training, mentoring and other methods.
- Consider the workload of the project staff, while NCA's experience showed that the workload was manageable for caseworkers who also continue to provide case management and other work, the requirements and the capacity of staff may vary in other use cases. Define clear roles and responsibilities of each project staff member in your VR project. For group-based VR interventions, consider two facilitators per group.
- Design a project for sustainability. Ask the supplier for a detailed sustainability plan that includes costs, licensing, and handover to other users, i.e., the government or local GBV service providers. (See the scaling tools from Tinkr (<https://hip.innovationnorway.com/article/tools-and-resources>) and the Principles for Digital Development for more information.)

Application of GBV guiding principles, safeguarding and ethics

- In addition to the above recommendations, consider as “must have” requirements in any request for proposals/quotes the application of GBV guidelines and existing tools and principles related to safety and digital development, including specifications related to safeguarding. This topic should also be discussed only during the Market Dialogue.
- Apply a survivor-centred approach throughout the planning, adaptation, implementation and evaluation of the project. The survivor's interests, safety, dignity and recovery should always be the primary consideration.
- Include key requirements related to GBV guiding principles, safeguarding and ethics in contracts with suppliers and discuss how to monitor adherence to the requirements.
- Know the limitations of the VR intervention you use and create clear inclusion/exclusion criteria for identifying participants in the VR intervention.
- Especially for a pilot project, make sure that your organisation (i.e., the project team) has adequate experience in GBV programming in order to respond to any unintended negative consequences. Ensure there is a clear and effective referral pathway in case users need support, such as higher level of mental health support and protection.

- Identify the age-appropriateness of the VR intervention you use and set an age target. Take additional measures to safeguard adolescents who participate in the VR intervention.
- Identify potential risks of a VR intervention and risk mitigation measures. If the risks are higher than the intended outcome, do not proceed with a VR intervention.
- Informed consent or assent (in the case of a child) is a **must**. Make sure that applicants to a VR intervention know what they are going to experience and understand the limitations and potential negative consequences of the VR intervention (for example, dizziness or distress) before they consent to participate. Make sure they know they can withdraw their consent at any time. In addition, make sure that they give informed consent on how their data, such as monitoring data, is collected and used.

During implementation

- Adapt a VR design together with the intended users. Connecting with local communities in the intended country much earlier in the design phase and prioritizing at least one site visit to ascertain issues of fit and adaptation would have been ideal and is recommended for future use in other contexts.
- Identify a clear and realistic division of roles for short-term pilot testing and long-term implementation. Early on, more staff/skills are required, including for: overall administration, coordination and communication of the VR pilot within a country programme; VR technical support, guidance and advice; M&E generally, and sufficient capacity building in terms of use of VR for psychosocial support purposes. Ideally, such a project would also include sector wide participation in working and steering committees to build buy-in.
- Capacity building is not just training. Make sure caseworkers (or others administering a VR intervention) and supervisors participate in regular support and feedback/debriefing sessions.
- Make sure monitoring data and observations from staff who administer VR interventions are regularly analysed and used to make any necessary course corrections and to continue improving the intervention.
- Monitor the stress level of the users and provide necessary support to those who experience distress.
- Apply the GBViE Minimum Standards for data management, but also take extra precautions in data collection and management, especially if some data will be collected by the suppliers.

M&E and research

- For each of the project components, define outcomes, indicators and means of verification.
- Ensure availability of means of verification and capacity to administer the means of verification.

- Create consistent, but anonymous, identification coding to enable correlation between different sets of data. For example, biographical data could be correlated with distress data to provide insights into trends within biographical data such as age, marital status, residential area and parental status.

8.2 For NCA:

- NCA GBV advisors and caseworkers should be encouraged to a) **reflect on the results of this pilot** and determine whether the Healium intervention was sufficient for user healing, social connectedness and learning to cope and, if not, refer to case management and b) recommend a strategy for Healium in conjunction with case management for scale-up purposes. Fornix, on the other hand, was clearly designed to be part of psychosocial support within case management. Further testing on the process to effectively infuse this solution into case management for enhanced well-being of users is recommended.
- For future pilots, NCA would get more satisfactory results from an evaluation if it a) establishes more clarity on intended outcomes from the VR pilots **for whom and how** the VR would deliver these outcomes; b) identifies indicators with appropriate measures (qualitative and quantitative) and instruments to gauge their intended outcomes and c) trains implementers to **apply and use these measures in case-management**. Measures should clarify criteria for any form of VR. The Healium criteria are expressed in terms of who should not be included as opposed to who would benefit from the visualisation experiences and how to identify them. Selection for Fornix was determined by the caseworker in consultation with Fornix and NCA and would therefore also benefit from documented guidelines on who would be most suited to interacting with that solution within their PSS programming.
- Further VR pilots would benefit from **experiential capacity building on intentional use of VR** to support learnings on emotional regulation and general self-awareness of mental health. This capacity strengthening should also be built into pilot measures with clear indicators on uptake and use of the knowledge and skills gained through the application of the technology.
- Consider negotiating more **trauma-sensitive and culturally relevant visualisation experiences** with Healium to increase the range of visualisations available for countries such as Iraq.
- The cost of introducing VR to GBV services in humanitarian contexts was questioned by a few interviewees. Although it was recognised that set-up costs are likely to be higher than long-term maintenance of effective VR therapies, it is probable that the overall innovation would have more traction in humanitarian GBV services if a **cost-benefit analysis** is performed.

- Changes in the severity of symptoms were more dramatic in Mosul than Al Qosh. This highlights the importance of the cultural and clinical context and the range of potential symptoms that need to be accounted for as part of a broader therapeutic package incorporating VR, but not limited to VR. Further **correlational research interrogating the effectiveness of VR for the alleviation of DSM symptoms** is suggested.

ANNEX A: LIST OF INTERVIEWEES

Position	Location	Group participant Yes/No
NCA Innovation Project Officer	Duhok	Yes
NCA Caseworker 1 (Healium and Fornix)	Al Qosh	Yes
NCA Case Worker 2 (Healium)	Mosul	No
NCA GBV manager in Iraq	Duhok	Yes
NCA Country Director	Duhok	Yes
Case Manager	Duhok	No
Assistant Case Manager	Duhok	No
MoLSA employee	Duhok	No
Healium CEO	USA	No
Fornix CEO	Norway	No
Fornix Clinical Officer	Norway	No
Fornix Scientific Officer	Norway	No
NCA GBV Technical Advisor	Kenya	Yes
GBV MHPSS Technical Advisor (ex NCA)	Lebanon	No
NCA Senior Advisor, Procurement	Norway	No
NCA GBV MHPSS Consultant (1)	Germany	Yes
NCA GBV MHPSS Consultant (2)	USA	No

ANNEX B: LIST OF PROJECT DOCUMENT REVIEWED

- Drollinger, John. Oct 2022. Innovation Norway – GBV Virtual Reality. Steering Committee Memo.
- Drollinger, John. Oct 2022. Update – Project Status. Innovation Norway – GBV Virtual Reality. Steering Committee Memo.
- Drollinger, John. Oct 2023. Procurement Recommendation. Innovation Norway – GBV Virtual Reality. Steering Committee Memo.
- Fornix. Undated. A Therapeutic Virtual Reality Experience for Survivors of Gender-based Violence. Guidelines.
- Fornix. Undated. A therapeutic VR-experience for survivors of gender-based violence. Tutorial. https://drive.google.com/file/d/1CcMn_fTxinDJ1ZNFeE7YsncF1hI6OrJp/view
- Fornix. Undated. Part 2: Proposed solution.
- Fornix. Undated. Project and progress plan.
- Healium. Stories. <https://www.tryhealium.com/stories/>
- Healium. 2023. Butterfly Island. <https://www.youtube.com/watch?v=T9yXtDX8XIE>
- Healium. 2023. Healium Beach. <https://www.youtube.com/watch?v=OgJzxmzx30U>
- Healium. 2023. Sparkling Harbor. <https://www.youtube.com/watch?v=2NTBblfglDO>
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ANNEX C: HEALIUM SEVEN-WEEK PROGRAMME

1. Week of Recruitment & Screening (Week of October 29)

- a. Recruitment (via telephone and in person). Explain the goal of the group, their need to commit to all of the sessions and go through the selection criteria with client.

(The goal of the group: To assist participants to learn how to reduce stress and to manage strong emotions through learning grounding and relaxation skills through a virtual reality experience)

b. If the client meets the selection criteria:

- i. Ensure the client commits to attending all group sessions
 - ii. Have client sign the consent form
 - iii. Complete the DSM-5 Cross-Cutting Symptom Measure Form with client
 - iv. Explain VR and Healiium and show the client (on laptop or phone) the 5 visualizations they will be experiencing. Explore possible triggers.
 - v. Show the participant the headset, explain how it will feel, have them to try it on.
- c. If a client does not meet selection criteria (due to severity of symptoms) refer client to NCA psychologist for counselling sessions OR externally to see the psychologist outside of NCA.

2. Week One: (Week of November 5)

- a. Create a calm, relaxing space for the group (reduce noise, set up chairs, place pillows, play calm music, set up VR headsets)
- b. Do pre assessment
- c. Welcome participants to the group and do introductions and ice breakers
- d. Explain the goal of the group: To assist participants to learn how to reduce stress and to manage strong emotions through learning grounding and relaxation skills through virtual reality experiences
- e. Remind clients of their commitment to come for 7 weeks
- f. Offer psychoeducation on the impact of stress and trauma long term
- g. Explain why relaxation and visualization helps us emotionally, mentally and in our relationships
- h. Explain that you will do an assessment before and after each group and then again at the end of the group sessions to understand impact of VR on them.
- i. Explain what is VR (use examples and tell stories)
- j. Explain what Healiium is. Explain that participants will have 5 visualizations that they will experience in this group. Each week they will experience a different one.
- k. Show the participants (on a laptop) the 5 visualizations that they will be experiencing over the VR group process
- l. Explain risks and benefits (i.e.. headaches or dizziness the first time), possible emotional reactions, expected length of session and what happens when participant puts on headset
- m. Demonstration of VR and answer questions from participants
- n. Pass around 1 VR headsets and have women try it on and test it several minutes
- o. Debrief, explore reactions and answer questions
- p. Teach 1 relaxation technique for participants to practice at home this week
- q. Encourage participants to practice this technique during the week
- r. Thank participants, say goodbyes
- s. Do post assessment

3. Week 2, VR

- a. Create a calm, relaxing space for the group (reduce any noise, set up chairs, place pillows, play calm music, set up VR headsets)
- b. Do pre assessment
- c. Welcome and check in with group participants (explore their current mood, the past week, how are they feeling, how did they handle situations where their emotions were intense/out of control, how do they manage stress now, what was it like to practice relaxation techniques)
- d. Review the relaxation/grounding techniques practice participants did at home, explain why it is important to practice these skills and explore areas they got stuck. Explain each week they will receive relaxation skills to practice at home
- e. Hand out VR headsets with a Healium visualization already loaded and ready to watch
- f. Do a Healium VR visualization with participants
- g. Debrief and discuss the visualization experience
- h. Give a practice assignment for all participants to work on this week when stressed or struggling to sleep etc...
- i. Close with a short breathing, grounding or visualization exercise
- j. Do post assessment

4. Week 3, VR

- a. Create a calm, relaxing space for the group (reduce any noise, set up chairs, place pillows, play calm music, set up VR headsets)
- b. Do pre assessment
- c. Welcome and check in with group participants (explore their current mood, the past week, how are they feeling, how did they handle situations where their emotions were intense/out of control, what was it like to practice relaxation techniques)
- d. Review the relaxation/grounding techniques practice participants did at home, explain why it is important to practice these skills and explore areas they got stuck. Explain each week they will receive relaxation skills to practice at home
- e. Hand out VR headsets with a Healium visualization already loaded and ready to watch
- f. Do a Healium VR visualization with participants
- g. Debrief and discuss the experience
- h. Give a practice assignment for all participants to work on this week when stressed or struggling to sleep etc...
- i. End the group with a short breathing, grounding or visualization exercise
- j. Do post assessment

5. Week 4, VR

- a. Create a calm, relaxing space for the group (reduce any noise, set up chairs, place pillows, play calm music, set up VR headsets)
- b. Do pre assessment
- c. Welcome and check in with group participants (explore their current mood, the past week, how are they feeling, how did they handle situations where their emotions were intense/out of control, what was it like to practice relaxation techniques)
- d. Review the relaxation/grounding techniques practice participants did at home, explain why it is important to practice these skills and explore areas they got stuck. Explain each week they will receive relaxation skills to practice at home
- e. Hand out VR headsets with a Healium visualization already loaded and ready to watch

- f. Do a Healium VR visualization with participants
- g. Debrief and discuss the experience
- h. Give a practice assignment for all participants to work on this week when stressed or struggling to sleep etc...
- i. End the group with a short breathing, grounding or visualization exercise
- j. Do post assessment

6. Week 5, VR

- a. Create a calm, relaxing space for the group (reduce any noise, set up chairs, place pillows, play calm music, set up VR headsets)
- b. Do pre assessment
- c. Welcome and check in with group participants (explore their current mood, the past week, how are they feeling, how did they handle situations where their emotions were intense/out of control, what was it like to practice relaxation techniques)
- d. Review the relaxation/grounding techniques practice participants did at home, explain why it is important to practice these skills and explore areas they got stuck. Explain each week they will receive relaxation skills to practice at home
- e. Hand out VR headsets with a Healium visualization already loaded and ready to watch
- f. Do a Healium VR visualization with participants
- g. Debrief and discuss the experience
- h. Give a practice assignment for all participants to work on this week when stressed or struggling to sleep etc...
- i. End the group with a short breathing, grounding or visualization exercise
- j. Do post assessment

7. Week 6, VR

- a. Create a calm, relaxing space for the group (reduce any noise, set up chairs, place pillows, play calm music, set up VR headsets)
- b. Do pre assessment
- c. Welcome and check in with group participants (explore their current mood, the past week, how are they feeling, how did they handle situations where their emotions were intense/out of control, what was it like to practice relaxation techniques)
- d. Review the relaxation/grounding techniques practice participants did at home, explain why it is important to practice these skills and explore areas they got stuck. Explain each week they will receive relaxation skills to practice at home
- e. Hand out VR headsets with a Healium visualization already loaded and ready to watch
- f. Do a Healium VR visualization with participants
- g. Debrief and discuss the experience
- h. Give a practice assignment for all participants to work on this week when stressed or struggling to sleep etc...
- i. End the group with a short breathing, grounding or visualization exercise
- j. Do post assessment

8. Week 7-Closure Session

- a. Do pre assessment
- b. Create a calm, relaxing space for the group (reduce any noise, set up chairs, place pillows, play calm music, set up VR headsets)

- c. Remind participants this is the last session
- d. Explain case management, counselling and referral services to participants who still need support
- e. Welcome and check in with group participants (explore their current mood, the past week, how are they feeling, how did they handle situations where their emotions were intense/out of control, what was it like to practice relaxation techniques)
- f. Review the relaxation/grounding techniques practice participants did at home, explain why it is important to practice these skills and explore areas they got stuck. Explain each week they will receive relaxation skills to practice at home
- g. Request participants to think about their favourite VR visualization and choose one image or scene.
- h. Explain to participants they will be painting that one image or scene.
- i. Hand out paint and paper and have them paint that image.
- j. Have the participants come back together, share their painting with the group. Explain what their painting is of and why they chose it.
- k. Encourage participants to hold onto their painting and use it when they need to travel back into a calm place.
- l. Have participants go around room and share one thing they will take away from this group experience
- m. Do post assessment
- n. Complete the DSM-5 Self-Rated Level 1 Cross-Cutting Symptom Measure with client (23 questions)

Review relaxation, grounding and mindfulness sections of the ITI manual for techniques to use in this VR group.

Practice/Homework ideas Assignments to give participants

- Have participants choose one relaxing/positive thing from the Healium experience (colors, sounds, smells, images, a memory). Have participants breathe in this relaxing thing and breathe out stress/worry/ fear etc.
- Have the participant teach and practice one of the techniques they have learned in group with a loved one. Have the loved one and the participant practice together.
- Have the participant make a list of the things that they have done in the past or present to feel more relaxed and to calm down intense emotions
- Ask the participant to share what they are learning about sadness with one safe person.
- Have the participant practice a relaxation technique every morning.
- Have the participant ask loved ones to share with them 3 things they do to calm themselves down.

Debriefing Questions (Questions you can ask the group after the VR experience)

- How are you feeling now?
- Where are your worries? fears? thoughts? Anxieties?
- What did you feel when you were inside the visualization?
- What stood out to you the most in this visualization? / What was your favorite part of the visualization?
- How do you feel and how does your body feel?
- How does it feel to be relaxed? What in your life makes you feel this relaxed?

ANNEX D: TRAINING OVERVIEW

Prior to and in preparation for the below VR-specific training, caseworkers and other NCA Iraq staff were trained on NCA's [Integrating Therapeutic Interventions in Case Management](#) module.

Trainer: Disaster Roster Member, MHPSS, GBV

Number of participants: 4 GBV caseworkers, 1 GBV psychologist, 1 GBV coordinator (Mosul, Sinjar, Al Qosh)

Training dates: October 23-27, 2023

The following content was covered during this training:

- Introduction to Virtual Reality (VR)
- What is Healium? What is Fornix?
- Review of visualization and relaxation techniques, breathing exercises, and working with triggers
- Review of group counseling techniques and the VR group model
- How to emotionally prepare participants for VR
- How to administer the VR experiences (headset and app): Introducing and orienting participants to VR and to the Healium experience, explaining risks and benefits, expected length of sessions and ways of debriefing participants post VR experience
- How to create safety and calm: setting up the physical space to use VR (pillows, smells, engaging the senses, music, chair set up, calmness)
- How to administer pre and post VR assessments
- How to support participants who become dysregulated or triggered by the VR experience (ie. flashbacks, panic attacks and intense emotional reactions)
- Selection and exclusion criteria for VR participants
- How to assist participants to integrate emotional regulation skills learned through this VR experience into their everyday lives

ANNEX E: VR /INNOVATION 2023 RESULTS FRAMEWORK

VR /Innovation 2023 Results framework									
Overall goal: To assist girls and women at risk and GBV survivors to reduce severe symptoms, and improve coping strategies, functioning and social connection using VR.									
Outcome	Indicators	Baseline (If any)	Targets			Actuals			MOV
			2023			2023			
			girls 14-17 yrs	women 18+	Total	girls 14-17 yrs	women 18+	Total	
Outcome 1: Girls and women at risk and GBV survivors in humanitarian contexts receive an effective VR intervention which supports their well-being.	# of women, girls at risk and GBV survivors who have utilized VR (Fornix, Healium)		20	28	48				1. Level of Distress Scale 2. DSM Symptom Scale (baseline and end of project) 3. Attendance Sheets 4. Pictures 5. Final Training Report
Output 1.1 Women and girls improve their subjective feelings of wellbeing and coping strategies.	1.1.1 # of GBV staff who have been trained in the usage of VR (Healium)		0	5	5		5	5	1. Final Training report 2. Training Evaluations 3.Attendance sheets 4.Pictures
	1.1.2 # of GBV staff who have been trained in the usage of VR (Fornix).		0	0	0				1. Final Training report 2. Training evaluation 3.Attendance sheets 4.Pictures

VR /Innovation 2023 Results framework

Overall goal: To assist girls and women at risk and GBV survivors to reduce severe symptoms, and improve coping strategies, functioning and social connection using VR.

	1.1.3 # of women and girls at risk and GBV survivors who are using Healium for relieving psychological distress		10	14	24				1.Level of Distress Scale 2.Qualitative interviews pre and post 3.Client Records 4.DSM Symptom Scale (baseline and end of project)
	1.1.4 # of women and girls at risk and GBV survivors who are using Fornix for relieving psychological distress								1.Level of Distress Scale 2.Qualitative interviews pre and post 3.Client Records 4.DSM Symptom Scale (baseline and end of project)
	1.1.5 % of women and girls who report a reduction in symptoms/distress after using VR (Healium)		80%%	80%%	80%%				1.Level of Distress Scale 2.Qualitative interviews pre and post 3.Client Records 4.DSM Symptom Scale (baseline and end of project) 5. GBV Client Feedback Form
	1.1.6 % of women and girls who report a reduction in symptoms/distress after using VR (Fornix)		80%	80%	80%				1.Level of Distress Scale 2.Qualitative interviews pre and post 3.Client Records 4.DSM Symptom Scale (baseline and end of project) 5. GBV Client Feedback Form

VR /Innovation 2023 Results framework

Overall goal: To assist girls and women at risk and GBV survivors to reduce severe symptoms, and improve coping strategies, functioning and social connection using VR.

	1.1.7 # of women and girls who report having learned coping skills for their emotional distress (Healium)							1.Level of Distress Scale 2.Qualitative interviews pre and post 3.Client Records 4.DSM Symptom Scale (baseline and end of project)
	1.1.8 # of women and girls who report having learned coping skills for their emotional distress (Fornix)							1.Level of Distress Scale 2.Qualitative interviews pre and post 3.Client Records 4.DSM Symptom Scale (baseline and end of project)
Output 1.2 <i># of women and girls improve their psychosocial functionality and connection with their community.</i>	1.2.1 # of women and girls with distressing conditions who report an improvement in their psychosocial functioning. (Healium)		10	14	24			1.Level of Distress Scale 2.Qualitative interviews pre and post 3.Client Records 4.DSM Symptom Scale (baseline and end of project)
	1.2.2 # of women and girls with distressing conditions who report an improvement in their psychosocial functioning. (Fornix)							1.Level of Distress Scale 2.Qualitative interviews pre and post 3.Client Records 4.DSM Symptom Scale (baseline and end of project)
	1.2.3 % Increased feelings of social connectedness among women and girls (Healium)		80%	80%	80%			1.Level of Distress Scale 2.Qualitative interviews pre and post 3.Client Records 4.DSM Symptom Scale

VR /Innovation 2023 Results framework

Overall goal: To assist girls and women at risk and GBV survivors to reduce severe symptoms, and improve coping strategies, functioning and social connection using VR.

									(baseline and end of project)
	1.2.4 % Increased feelings of social connectedness among women and girls (Fornix)		80%	80%	80%				1.Level of Distress Scale 2.Qualitative interviews pre and post 3.Client Records 4.DSM Symptom Scale (baseline and end of project)

ANNEX F: LEVEL OF DISTRESS SCALE

Use this scale before and after each group session. Ask each client, individually, the question, “How are you feeling right now?” and have them choose a number from 1-10. Circle that number. Add any additional comments below.

Before the session



1

2



3

4



5

6

7



8

9

10

After the session



1

2



3

4



5

6

7



8

9

10

ANNEX G: DSM SYMPTOM SCALE

DSM-5 Self-Rated Level 1 Cross-Cutting Symptom Measure—Adult

Name: _____

Date: _____

Instructions: The questions below ask about things that might have bothered you. For each question, **BOLD** or underline the number that best describes how much (or how often) you have been bothered by each problem during the **past TWO (2) WEEKS**.

During the past **TWO (2) WEEKS**, how much (or how often) have you been bothered by the following problems?

- None (0)** Not at all
Slight (1) Rare, less than a day or two
Mild (2) Several days
Moderate (3) More than half the days
Severe (4) Nearly every day

- | | | | | | | |
|------|--|---|---|---|---|---|
| I. | 1. Little interest or pleasure in doing things? | 0 | 1 | 2 | 3 | 4 |
| | 2. Feeling down, depressed, or hopeless? | 0 | 1 | 2 | 3 | 4 |
| II. | 3. Feeling more irritated, grouchy, or angry than usual? | 0 | 1 | 2 | 3 | 4 |
| III. | 4. Sleeping less than usual, but still have a lot of energy? | 0 | 1 | 2 | 3 | 4 |
| | 5. Starting lots more projects than usual or doing more risky things than usual? | 0 | 1 | 2 | 3 | 4 |
| IV. | 6. Feeling nervous, anxious, frightened, worried, or on edge? | 0 | 1 | 2 | 3 | 4 |
| | 7. Feeling panic or being frightened? | 0 | 1 | 2 | 3 | 4 |
| | 8. Avoiding situations that make you anxious? | 0 | 1 | 2 | 3 | 4 |
| V. | 9. Unexplained aches and pains (e.g., head, back, joints, abdomen, legs)? | 0 | 1 | 2 | 3 | 4 |
| | 10. Feeling that your illnesses are not being taken seriously enough? | 0 | 1 | 2 | 3 | 4 |
| VI. | 11. Thoughts of actually hurting yourself? | 0 | 1 | 2 | 3 | 4 |
| VII. | 12. Hearing things other people couldn't hear, such as | 0 | 1 | 2 | 3 | 4 |

voices even when no one was around?

	13. Feeling that someone could hear your thoughts, or that you could hear what another person was thinking?	0	1	2	3	4
VIII.	14. Problems with sleep that affected your sleep quality over all?	0	1	2	3	4
IX.	15. Problems with memory (e.g., learning new information) or with location (e.g., finding your way home)?	0	1	2	3	4
X.	16. Unpleasant thoughts, urges, or images that repeatedly enter your mind?	0	1	2	3	4
	17. Feeling driven to perform certain behaviors or mental acts over and over again?	0	1	2	3	4
XI.	18. Feeling detached or distant from yourself, your body, your physical surroundings, or your memories?	0	1	2	3	4
XII.	19. Not knowing who you really are or what you want out of life?	0	1	2	3	4
	20. Not feeling close to other people or enjoying your relationships with them?	0	1	2	3	4
XIII.	21. Drinking at least 4 drinks of any kind of alcohol in a single day?	0	1	2	3	4
	22. Smoking any cigarettes, a cigar, or pipe, or using snuff or chewing tobacco?	0	1	2	3	4

For Clinician:

DOMAINS:

- I. Depression
- II. Anger
- III. Mania
- IV. Anxiety
- V. Somatic Symptoms
- VI. Suicidal Ideation
- VII. Psychosis
- VIII. Sleep Problems
- IX. Memory

- X. Repetitive Thoughts and Behaviors
- XI. Dissociation
- XII. Personality
Functioning
- XIII. Substance Use

ANNEX H: HEALIUM SELECTION CRITERIA

During this VR study, we will be working with GBV survivors and women at risk. It is essential that the clients agree to participate in the 7-week emotional regulation/relaxation VR group process.

It is essential that we rule out the following types of clients:

1. Clients who are experiencing severe, long lasting or highly fluctuating psychological symptoms.
2. Clients who have suicidal thoughts/plans, signs of psychosis and dissociative symptoms (ie. generalized spaciness, flashbacks, intrusive images).
3. Clients who have recently (within the last month) undergone an extremely distressing trauma or grief experience OR clients who are currently in crisis
4. Severe motion sickness or vestibular issues: Individuals prone to severe motion sickness or have significant vestibular disorders may not be suitable for VR interventions, as the immersive experience can exacerbate these conditions.
5. Epilepsy and/or Seizures
6. Severe Cardiovascular conditions: individuals with severe cardiovascular conditions, including recent heart attack, and or unstable angina should be excluded from VR sessions due to the potential physiological effect of the immersive experience.
7. Any client below the age of 14 years old

ANNEX I: NCA CLIENT INFORMATION FORM

NCA Client Information Form VR Project

1. **Name of Client:**
2. **Address:**
3. **Phone Number:**
4. **Sex of Client:** Male Female
5. **Client's age:** _____ years

3a. **Client's date of birth (if known):** _____ dd/mm/yyyy

6. **What are the main reasons why the client is interested to participate in an emotional regulation/relaxation group?**

7. **What are the things in the client's life that make it hard for the client to relax and to manage their strong emotions (For example these can be feelings, thoughts, memories, people, places and things)**

8. **What has the client tried to relax and to regulate their emotions? What worked and what did not?**

ANNEX J: CLIENT FEEDBACK FORM

See Annex K for the individual client feedback form

CLIENT FEEDBACK SURVEY

Date: _____ Questionnaire Administered By: _____

Instructions for staff:

- Identify who on your team is going to administer the feedback form. Identify whether it will be done in writing (giving the person the questionnaire to complete themselves) or whether a staff member will ask the questions and record the person's answers.
- Inform the person that you will ask them some questions but will not write their name on the form and that the interview will remain anonymous.
- Explain the purpose. Say: "This questionnaire is voluntary and confidential. Its purpose is to collect information about the services that have been provided to you and to help make improvements in the quality of care that GBV survivors receive in this community."
- Remind the person that you will not ask them any questions about their actual case but are just interested in the services they received throughout the case management process.
- Get consent to proceed or if the person declines, tell the person that it is ok and if they change their minds they can contact you.

ABOUT YOU

If you are the person receiving the service:

- I am 15-19 years old.
- I am 20-24 years old.
- I am 25-49 years old.
- I am 50 years or older.

If you are a caregiver or guardian of a minor:

- The child is 0-5 years old.
- The child is 6-12 years old.
- The child is 13-18 years old.

1. How did you find out about our services? (Tick all that apply.)

- | | |
|--|---|
| <input type="checkbox"/> Friend or family member | <input type="checkbox"/> Referral from another organization |
| <input type="checkbox"/> Neighbor or community member | <input type="checkbox"/> Community discussion |
| <input type="checkbox"/> Flyer or pamphlet you saw or received | <input type="checkbox"/> Other (please specify) _____ |

2. The service was easy to find.

Yes

No

D Not applicable

3. The service was affordable.

Yes

No

D Not applicable

4. The service was welcoming.

Yes

No

5. I received information about what services were available and what my options were.

Yes

No

6. Opening hours were at times I could attend (i.e. before and after school, in the evenings and on weekends).

Yes

No

Tell us about the options...

7. There was a staff member to interview and help me with whom I felt comfortable.

Yes

No

8. I could see the same person at each return visit.

Yes

No

D Not applicable

9. I could choose to have a support person with me.

Yes

No

Not applicable

10. I was given full information about what my options were and decided for myself what I wanted to happen next.

Yes

No

Not applicable

11. I was referred to another place if a service could not be provided.

Yes

No

Not applicable

Tell us about confidentiality...

12. I could get help without drawing attention to myself.

Yes

No

13. The staff respects confidentiality.

Yes

No

14. I met with a caseworker or other staff in private without being overheard.

Yes

No

Tell us about the staff...

15. The staff were friendly.

Yes

No

16. The staff were open-minded. They didn't judge me.

Yes

No

17. The staff were able to answer all my questions to my satisfaction.

Yes

No

18. The staff used language I could understand.

Yes

No

19. The staff allowed time to let me express my problems in my own words.

Yes

No

20. Do you feel like we helped you with your problem?

Yes No

Explain:

21. In general, did you feel better after meeting with us?

Yes No

Explain:

22. Would you recommend a friend who has experienced GBV to come here for help?

Yes No

Explain:

ANNEX K: INDIVIDUAL CLIENT FEEDBACK

Question 20
Do you feel like we helped you with your problem?
the sessions helped me a lot
the activities were really helpful, I feel more optimistic
I feel very comfortable after the sessions, they are very enjoyable
I feel much better
yes and I feel grateful because you were here for us
I felt comfortable when I came to the sessions
you were very good and I felt assured with you
yes , thank you for welcoming me and my friends
This was a new method that I never tried before and I feel very comfortable
you always helped me and I feel excellent now
yes I feel very comfortable after sessions
yes, I am now able to control my sadness
yes I feel better ppsychologically and socially
I used to feel discomfort before participating with you, now I feel better
yes a lot

Question 21
Did you feel better after meeting with us?
the sessions were very useful and we tried new things that we never saw before
they were very enjoyable and very useful
certainly, I used to wait for it each week, it was very beautiful
yes, I liked coming to the sessions and you were very friendly
of course, I used to come regularly when I felt upset
yes certainly
I feel that my psychological state changed and I feel comfortable
Ive had negative thoughts but I feel better now
i felt better on session days and I liked it a lot
Yes
Thank you for being here, the sessions helped me a lot
I feel comfort participating with the groups
I feel better after participating in the groups both ppsychologically and socially

Question 22
Would you recommend a friend who has experienced GBV to come here for help?
the activities were useful and new to us
Of course I would, and I told my family about the sessions
of course I would
of course i would
I told my neighbour how useful and enjoyable the sessions were
of course I would
I would for sure
of course I would
of course I would
Yes
of course I would
yes I would
because it's a safe place and they help those who need help
I recommend it to any person who needs help because it's a safe place and it'll help them

Question 23
Do you have any programme improvement suggestions?
12 x None
7 x No answers

ANNEX L: Individual Participant LoD Scores

Figure 14: Average Level of Distress Pre- and Post-Healium for each Participant (Group one, Mosul n=6)

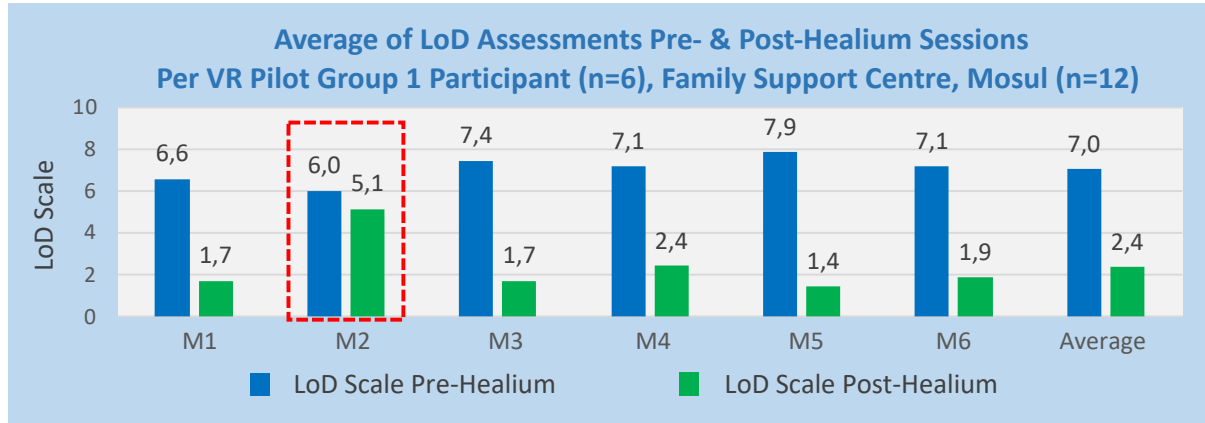


Figure 15: Average Level of Distress Pre- and Post-Healium for each Participant (Group two, Mosul n=6)

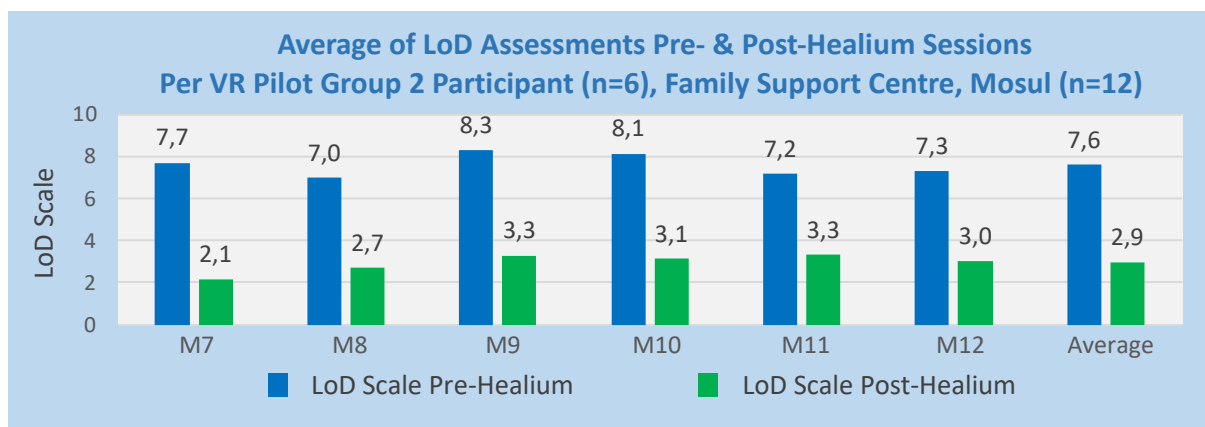


Figure 16: Average Level of Distress Pre- and Post-Healium for each Participant (Group one, Al-Qosh n=6)

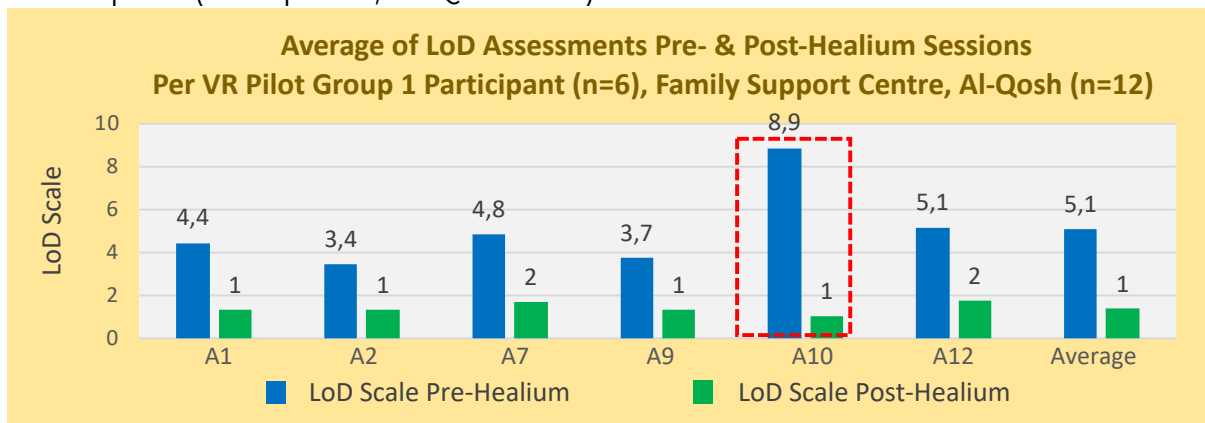
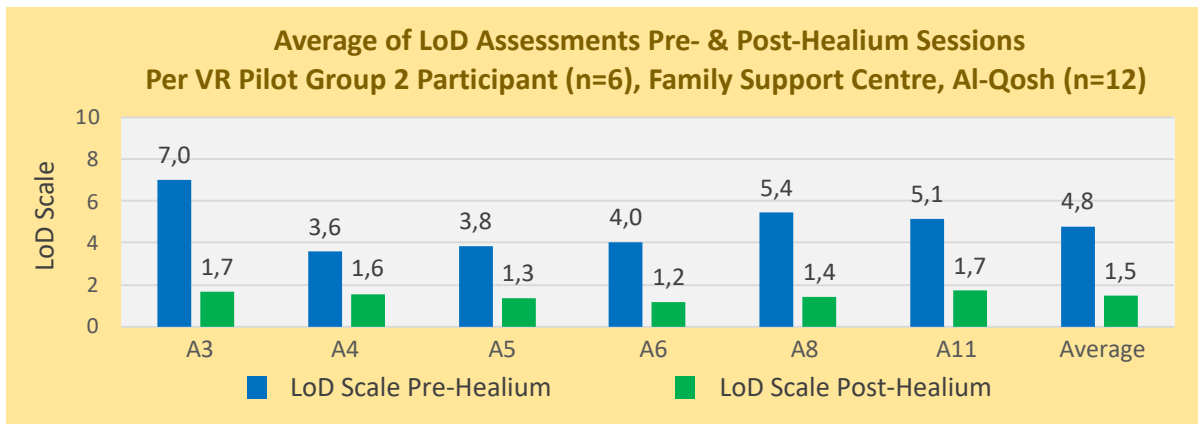


Figure 17: Average Level of Distress Pre- and Post-Healium for each Participant (Group two, Al-Qosh n=6)



ANNEX M: Lessons Learned documents from NCA

Lessons Learned from the Market Dialogue Phase

Therapeutic Virtual Reality (VR) for GBV Survivors in Iraq

Based on consultation with other projects funded by Innovation Norway, NCA chose to use the following approach to conduct the Market Dialogue:

- **Ecosystem Mapping:** NCA compiled a list of over 120 VR/technology companies, academics, research institutions, humanitarian actors, MHPSS & GBV specialists, and more, from around the world who were relevant to this project. NCA used this mapping to create a mailing list to invite stakeholders to the Information Sessions.
- **Virtual Information Sessions:** This was an opportunity for vendors and interested parties to learn more about the project, the innovative procurement process and NCA's problem statements, as well as ask questions and learn what a solution needs to deliver on. NCA organized two 1.5-hour sessions on 1 & 2 November 2022, covering different time zones to ensure vendors from across the world had a chance to engage with us. The sessions were recorded, posted on NCA's YouTube channel, then shared via the mailing list, and posted on NCA's website.
- **Questionnaires:** Any potential supplier or sector expert who had a viable solution strategy or ideas was encouraged to submit a questionnaire after the info sessions to collect basic information about them and what they wanted to discuss in a bilateral meeting.
- **Bilateral Meetings:** NCA held 20 bilateral meetings with potential suppliers, subject matter experts, and other stakeholders throughout November and December 2022. These meetings were an opportunity for potential suppliers to ask questions, as well as for NCA to clarify our problem statement, see what solutions already exist on the market, and get ideas for RFP specifications. The Questions & Answers from these meetings and the Info Sessions were compiled and shared as part of the RFP.

The following are lessons learned from this process:

1. **Innovation Norway's procurement process is, generally, new to vendors and requires education.** NCA spent significant and necessary time in the market dialogue and bilateral meetings to explain Innovation Norway's procurement process. Generally, vendors may be accustomed to a more prescriptive RFP process where the entity putting the bid forward defines the outcome solution or product. Also, some vendors initially perceived the meetings before the RFP as an opportunity to pitch their companies, rather than to have a dialogue about possible solutions or specifications. Given that the innovative procurement process may likely be unique for vendors (and NCA), taking time to explain and outline the process is beneficial to all parties.
2. **Ecosystem mapping is time-consuming and multi-faceted.** NCA used Google to search key terms to find relative VR companies, leveraged existing networks and

contacts (especially Norwegian networks), and tracked down contact information for researchers from published articles on relevant topics. NCA also used the Digital Public Goods Alliance registry and UNDP's Digital X Solutions catalogue, which were fruitful. Asking related companies or experts to refer us to other people/companies in their networks was also successful (e.g., health VR companies). Reaching out to global networks, such as VRARA, were less fruitful.

3. **Use Innovation Norway's [Planning template for market dialogue](#).** The smaller team working on the market dialogue used this tool to organize ourselves, assign roles, clarify our objectives, identify target groups and dissemination methods, and strategize. The inputs in this tool were then later adapted to craft messaging for the market dialogue invitation, RFP and other documents.
4. **Send personal invitations to key individual companies or stakeholders to attend the market dialogue sessions.** For both information sessions combined, a total of 78 people registered but only 10 participants attended, which was far fewer than expected and desired. Consider reducing the time from 1.5 hours to 1 hour to encourage attendance. Additionally, active participation in the two meetings was minimal. Stakeholders were invited to the info sessions via mass email (i.e., BCC). For the bilateral meetings, NCA did personalized outreach to VR companies (e.g., individual emails and their websites' contact forms), which led to higher response rates and higher participation in bilateral meetings. It is likely that similar individualized invites may have resulted in higher, more relevant participation in the info sessions. Also, invitees may have referred other companies or colleagues to attend the market dialogue. That said, the process of creating the info session presentation was very useful for NCA internally, including distilling our needs assessment findings down more concretely and refining the problem statements. NCA also shared the recording with those seeking bilateral meetings and encouraged them to watch beforehand, which allowed for more focused bilateral meetings.
5. **Leverage social media and internal Communications and Marketing teams to promote the market dialogue on multiple social media channels well in advance of the meetings.** NCA's Communications team was involved in promoting the market dialogue by posting to social media (LinkedIn & Twitter) and uploading the info session to YouTube. In the future, bring in the Comms and Marketing teams earlier in the planning process and have clear expectations, turnaround times, and guidance for them. For example, request the Marketing and Comms teams to draft the text for LinkedIn and Twitter posts, including hashtags and graphics. It would have been helpful to have the Marketing team help with messaging on the website and market dialogue invitation. Also, providing the teams with key points about the procurement process and target market dialogue audience may also be beneficial.
6. **Have a dedicated website that is easy to update.** NCA used the "For Contractors" part of its website to create an Innovation specific page to host information about the market dialogue, including the initial invitation with background information (e.g., needs assessment report and problem statements) and a link to register for the info sessions, and later posted the recording of the info session and instructions to sign up for bilateral meetings. However, making changes to the website was too slow given the at times

quick pace of the process. In the future, have clear understanding between those involved in updating the website of when changes will be needed and how changes can be made.

7. **Leverage connections to technology companies and their networks to gain more relevant attendees.** VR companies and experts attended the info sessions; however, increased VR expertise in the market dialogues would have added more color to the specifications discussion. The info sessions were promoted via NCA's social network, as well as some VR specific networks (e.g., VRARA). However, asking technology companies to repost the market dialogue information to their social channel may have led to more VR expertise in attendance.
8. **Use the bilateral meetings as an opportunity to make additional relevant connections.** In a few instances, bilateral meetings organically led to additional contacts, introductions, or leads. At least 2-3 companies made introductions to additional relevant parties who were helpful or put forward a bid. Systematically asking all potential vendors if they know of other companies to speak to may be helpful in generating new partnerships or leads, especially in academia as participation from this group was very low.
9. **Clarify the purpose of bilateral meetings with an agenda and overview.** Having an agenda helps companies prepare for the bilateral meetings. Several companies viewed the bilateral meetings as an opportunity to pitch their companies and/or products. As the bilateral is not designed to be a sales pitch opportunity, we used some of the time to redirect the potential vendors to ask questions. Additionally, it was evident that some companies had not watched the market dialogue recording, despite encouraging them to do so. As such, NCA's team provided an overview of the project and Innovation Norway, repeating some of the content from the information session. Providing the vendors with this information in writing in advance may save some time in the bilateral meetings.
10. **Extend time for bilateral meetings from 30 to 45 minutes.** Thirty minutes was often too short given the richness of discussions.
11. **Ask potential suppliers approximate timelines for design, development and delivery early on in the market dialogue process.** This will help later when creating the RFP. Understand suppliers' iterative user testing and co-design processes.
12. **Consider hosting smaller round-table discussions with targeted groups.** NCA presented the project to the MHPSS Task Team (under the Global GBV Area of Responsibility) and had a brief discussion with members about the problem statements, fielded questions, and received suggestions and considerations. Because time was limited, NCA has follow-up meetings with a few of the Task Team members to explore their ideas further. These technical specialists contributed advice on guidelines for trauma-sensitive mindfulness, cautioned the project to mitigate technology-facilitated GBV, and contributed ideas for making a VR intervention more feminist-informed, empowerment-based and survivor-centered. They also discussed and debated different MHPSS theoretical approaches that could be used. Similar small

group discussions with specialists could be very beneficial for creating specifications for the RFP, including open sources/closed source considerations, .

13. The market dialogue takes time. Plan accordingly. The ecosystem mapping exercise began very early on in the process and continued throughout the market dialogue process. However, other aspects of the market dialogue took longer than initially anticipated, especially the bilateral meetings as more and more stakeholders expressed interest.

Lessons Learned from Needs Assessment Phase

Therapeutic Virtual Reality (VR) for GBV Survivors in Iraq

- 1. Training on assessment methodology and tools takes time.** Though NCA managed to achieve the project objectives, a one-day training on the methodology and tools was insufficient. Participants suggested the training be 2-3 days, particularly to practice using each of tools, asking the right kinds of follow-up questions, and learning proper ways to take notes. More time for training would have also allowed the team to get to know the project and understand the objective of the needs assessment. Also, ensure staff are informed why they are attending the training—and their role—before their arrival.
- 2. Contextualize assessment questions as a group.** During the training, the assessment team went through each question one by one, discussing its meaning and purpose, and how to best ask this in Arabic and Kurdish both from a cultural and linguistic perspective so that the tools in both languages could be amended as necessary. The session was also a useful opportunity to contextualize the questions and agree on how to practically facilitate the discussions with participants with varying literacy levels.
- 3. Have a consistent, all-female assessment team throughout entire period.** Due to scheduling issues and other work demands, some assessment team members were not available during the entire assessment period, meaning NCA had to train other staff on data collection, which took time. Also, one male staff was sent to participate in the assessment; however, given the sensitive nature of the assessment and target demographic, an all-female team is preferable.
- 4. Scheduling focus group discussions (FGDs) requires advanced planning. Limit to 2 FGDs per day.** The assessment team managed to conduct four FGDs per day, but there were challenges in terms of finding a convenient time for the beneficiaries and having sufficient private space and staff available; for example, the health center closed at 1:00pm, and staff also needed the use of the only room for other program activities. Consider conducting a maximum of two FGDs per day when staff and space are limited.
- 5. Allot 1-2 months in total for data collection.** Due to security, access issues, staff availability and other constraints, the needs assessment took much longer than initially anticipated. Allot more time for each data collection method (FGD, KII, VR try-out). For the VR portion of the assessment, each participant could have benefited from more time in the VR sample. Additionally, having more participants experience VR would have provided richer information to share with potential suppliers.
- 6. Participatory Ranking Methodology⁵⁷ is an effective way to engage large number of people within the target population in identifying and prioritizing their needs.** The assessment reached 142 women and adolescent girls in FGDs using this method. This ensured the project was user-centered by having the target group—not NCA—chose the problem they wanted the intervention to address. Key informant interviews (KIIs) with individuals then provided deeper understanding of the problems the groups raised.

⁵⁷ The assessment tools were based off those used by: Ager, A., Stark, L., & Potts, A. (2010). Participative Ranking Methodology: A Brief Guide VERSION 1.1. Columbia University, New York. <http://www.cpcnetwork.org/resource/prm-a-brief-guide/> and Bragin, M. (2015). The SEE-PET: A Participatory Method for Developing and Measuring the Effectiveness of Psychosocial Programs. 10.13140/RC.2.2.26765.05609. https://www.researchgate.net/publication/349945852_The_SEE-PET_A_Participatory_Method_for_Developing_and_Measuring_the_Effectiveness_of_Psychosocial_Programs

Consultation with local and regional specialists helps clarify culturally specific psychosocial problems.

7. **Use pictorial and other methods to accommodate the needs of beneficiaries who are illiterate. Plan for extra time.** The Participatory Ranking exercise was successful for adolescent girls FGD because the girls were literate. The FGDs with adult women included a mix of literacy levels, so the exercise took longer as NCA staff has to read list of psychosocial issues several times. Though using pictures/symbols was considered, the assessment team decided to give participants sticky notes (representing their vote) to allocate to the relevant psychosocial issue after staff wrote each issue on a piece of flip chart paper and stuck it on the wall. To save time and better accommodate needs, consider preparing pictures/symbols in advance for anticipated, common responses. Ensure all tools are adapted to mixed literacy groups.
8. **Participants tend toward groupthink. Clearly explain exercises and encourage divergent viewpoints.** During the participatory ranking exercise, participants tended to answer and rank the issue collectively, which resulted in all participants voting for the same issue. The team explained the ranking exercise again and offered to place each person's sticky note (representing their vote) on each of the issues, which were individually written on a piece of paper and stuck on the wall throughout the room (some chose to do this themselves or gave it to another participant to stick for them).
9. **Be prepared for disclosures of GBV within focus groups and KIIs.** NCA anticipated that survivors may disclose personal experiences of GBV during the assessment, which could risk stigmatizing the survivor amongst her peers. As such, the informed consent process for assessment participants emphasized participants' choice in responding to questions and that personal stories and experiences do not need to be shared. NCA also encouraged participants to keep the discussion confidential to those outside the FGD. Questions were phrased to ask generally about problems faced by women and adolescent girls in their community, not about the participants' specific experiences. Despite this, some survivors chose to disclose GBV. Caseworkers/facilitators were prepared to empathetically redirect the discussion, as well as offer the survivors an opportunity to discuss further afterward.
10. **Give orientation to users before they try VR for first time.** VR was new to most of the participants of the needs assessment. Thus, proper explanation is needed on what VR is ("Like watching TV in your mind," as one participant described it) and what to expect when they put on the headset. Staff should also prepare participants that they may experience dizziness or disorientation when during or immediately after use. This is in line with a consent-based and trauma-informed approach.
11. **Have clear guidance on notetaking. Consider audio recording.** To make participants feel more comfortable, NCA did not record audio or video, which would have made notetaking easier. Notetaking style was inconsistent among staff, making it more difficult to aggregate and requiring more back-and-forth with the notetaker and data compiler. Additional clarity and practice on taking notes would have streamlined the process, including guidance on which notes are important to take, and writing exact and specific words/phrases used by participants to describe their psychosocial problems, instead of the notetakers interpretation or rephrasing.
12. **Present needs assessment findings back to the community to validate findings, ensure accountability, and promote project buy-in.** NCA organized several presentations at its Family Support Centers to present the findings from the assessment to women and girls, many of whom participated in the FGDs or KIIs. Women and girls reported their needs were accurately reflected in our data and analysis and reported they felt their voices were heard by NCA. During the presentations, women and girls were also

offered the opportunity to try the VR headset, which promoted buy-in and excitement for the intervention.

13. **Use findings from needs assessment to inform broader program planning and activities.** The findings highlighted areas of focus for other psychosocial interventions, as well as highlighted main drivers of psychosocial problems, including difficult economic conditions. Program staff can use these findings to support other activities, including community GBV prevention efforts, awareness raising, advocacy and more. For example, the findings showed that talking to a close, trusted person is a widely preferred way of coping with psychosocial problems; however, women and girls were clear that this option is largely unavailable to them in their personal lives, so they instead chose to keep their problems private and suffer alone. This validates NCA's existing efforts to help women and girls build their social networks (e.g., adolescent girls groups), and it uncovers an opportunity to address mental health stigma in the community, harmful social norms, and more supportive communication skills amongst women, girls and families.
14. **Make the needs assessment report available to a wider humanitarian audience.** Per #13 above, the needs assessment results may offer findings to support other activities. Other agencies or organizations may be able to make decisions or bolster their existing and relevant programming based on report findings.
15. **Allow assessment participants to try out potential (technology) solutions that are related to the proposed innovation.** For NCA's needs assessment, some participants were presented with the opportunity to try out a brief VR meditation experience. Doing so allowed NCA to collect their initial impressions and concerns with VR. When possible, receiving feedback from potential end users about the technology or general solution type proposed will be helpful for suppliers in designing the innovation.

Lessons Learned from the Request for Proposals & Contracting Phase

Therapeutic Virtual Reality (VR) for GBV Survivors in Iraq

Following the Market Dialogue, NCA took the following steps to draft and publish the Request for Proposal (RFP):

- **Specifications Workshop:** The project's internal Technical Working Group (TWG) held a workshop to brainstorm needs and corresponding specifications for the RFP on 6 December 2022. A mini-training on performance-based specifications (PBS) was conducted beforehand so TWG members understood the different types of specifications and the project's focus on PBS.
- **Drafting the RFP:** The ideas generated from the workshop were then consolidated, cleaned up, and transferred to NCA's RFP template. A smaller group—comprised of the GBV Innovation Advisor, VR consultant, Procurement Senior Advisor, Innovation Officer, and GBV Manager—met several times to review and refine the specifications. Meanwhile, the Procurement Advisor, VR consultant and GBV Innovation Advisor drafted the text of the RFP, including Terms of Reference.
- **RFP & Bids:** The RFP was published on 6 January 2023, with initial closing date of 27 January. The closing date was extended to 1 February 2023 to allow NCA to receive more bids. The RFP was advertised on Twitter, LinkedIn, NCA's website, DevelopmentAid.org and via email to all contacts from the ecosystem mapping.
- **Procurement Committee Review:** The Procurement Committee—comprised of two head office staff, two country office staff and the VR consultant—independently reviewed and scored bids. They then met to go through the total scoring and discuss the best proposals. The suppliers with the three best proposals were invited for meetings so the committee could ask follow-up questions. Suppliers were also requested to provide a demo of their product or similar products so their quality of work could be assessed. After the meetings, the committee selected the best proposal to move forward for contract negotiation.

14. The market dialogue was effective to promote supplier interest and higher quality bids. Over half of the bids came from suppliers who participated in the market dialogue. These bids tended to be higher quality; that is, they more closely matched the specifications and considered each problem statement.

15. Classify specifications as “nice to have” and “must have”. As an initial step, NCA brainstormed all possible specifications for the innovative solution without indication of “must have” or “nice to have.” From the brainstormed list of specifications, the group identified which specifications must be fulfilled and which could or should be fulfilled. The “nice to have” and “need to have” categorization process was important for identifying specifications that vendors must fulfill, while still allowing space for innovation from the vendors.

16. Link specification requirements to outcomes. It is easier to see which requirements are necessary to achieve the desired result and which are not. Linking specifications

requirements to outcomes creates accountability for delivering on specific goals, making it easier to measure success. When requirements are linked to outcomes, it becomes easier to communicate the importance and purpose of each requirement to stakeholders, reducing confusion and improving collaboration.

17. Include scaling potential in selection criteria and ask suppliers for more specifics.

NCA indicated that it was open to many different ways of scaling the solution after this initial pilot project, including increasing new users within target group, integrating VR in other programmatic contexts (e.g., support groups), expanding into new geographic contexts (e.g., another country or another project site within Iraq), building out the solution further (e.g., adding more features or apps), increasing the duration and frequency of use, and more. Ask suppliers to be specific about the ways their products can be scaled. Ask suppliers the ease of scaling, especially for new languages. Additionally, ask suppliers if and how getting the current contract would reduce cost for scaling in the future, especially when scaling to a new country, context or language. This was particularly challenging to assess for suppliers with proposals that here highly contextualized to Iraq. Also ask companies whether they would be able to match future scaling grants with private capital.

18. Involve a diverse range of technical expertise in the specifications development and bid review.

The team involved in developing the specifications and reviewing the bids possessed strong knowledge of GBV, the Iraq context, and the technology requirements for the innovation. This team shaped the specifications and reviewed the bids. Time and logistics-permitting, having a member or representative from the target user population involved in either the specifications development or bid review would be ideal.

19. Provide a checklist of all required materials for applying vendors.

NCA requested many materials for review from the vendors, including a narrative description, information about past performance, a budget, timeline, and team compositions. Still, some of the vendors did not provide all information, thus making it difficult to evaluate all bids to the fullest extent. Determining a protocol for when vendors fail to provide all required information may also be helpful in ensuring that bids are evaluated against all criteria.

20. Request companies to provide idea of their timelines for design, development and delivery in their proposal. Make it detailed in the contract.

To request detailed timeline is difficult for suppliers, and unrealistic in the RFP phase. This is conducted when contract negotiation starts and must be a part of the contract. There are too many uncertainties and suppliers need to take many precautions because of external circumstances beyond their control. The suppliers do not have the overview over different risks, there can be scope creeps—meaning that changes in the scope after proposal is submitted—that can impact the timeline. A holistic timeline in the RFP might provide insight into whether suppliers' plan are feasible given the projects scope and complexity. It might also help identifying some potential risks and success. NCA did not request a detailed timeline, so it was difficult to compare the different timelines and processes across proposals. Most proposals only commented on date of delivery or rough timetable for delivery of the software; more details could include when NCA can expect to receive each component of the ToR (e.g., user guide, training of staff), as well as indicate at which points in the process NCA will need to test and provide feedback. This would have better helped NCA with resource planning

(e.g., when to send in roster member/consultant to conduct or support trainings, when to mobilize user testing groups, etc.).

- 21. Ensure language needs are clearly specified for each deliverable.** The terms of reference included several deliverables that each needed to be in English, Arabic and Kurdish, including a user guide, training of NCA staff, orientation for users, data collection tools, and the software itself.
- 22. Bring in technical expertise that the team/organization does not have.** While NCA has expertise in GBV and MHPSS, we were new to VR, so we hired a VR consultant to support the needs assessment, market dialogue and RFP phases of the project. This was very beneficial as she “spoke the language” of the VR companies, could address their questions while representing NCA’s interests, assessed supplier’s quality of work, educated NCA’s team on VR, and guided NCA on the software requirements and hardware that best suited our needs.
- 23. Consider the project’s holistic needs in contract negotiations. Work as a team.** Involving a GBV technical specialist in the contract negotiation process with the Procurement Senior Advisor helped ensure that the contract terms were favorable not just in terms of costs, but also aligned with the project’s technical requirements, risks, and long-term success. The holistic approach was to consider both project-specific and procurement-related factors (i.e., alignment with project objectives, technical challenges, budgetary control, risks, procurement, communication and coordination, accountability, and post-contract management).
- 24. Consider transferability of licenses/subscription.** As humanitarian contexts are unpredictable, consider negotiating rights to transfer licenses/subscriptions to another party. Based on an internal process and NCA criteria for presence, NCA made a strategic decision to close the Iraq country office. Governmental and non-governmental partners expressed interest in continuing the VR project. Transferability of license could allow this.
- 25. Decide on intellectual property rights (IPR).** Based on NCA’s internal capacity, our desire for wide access to its solutions by other NGOs and the supplier’s commercial interests and pre-existing IPR, NCA decided not to hold the full IPR. However, to ensure safe and ethical use of the solution, NCA needs to consent to sell the solution to a third party. Consult Innovation Norway’s [“How to manage intellectual property rights in humanitarian innovation partnerships”](#) for further considerations.