



Integration of Arts and Health Sciences in Developing an Opera on Veteran Resilience and Recovery

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There is an emerging literature on research interviews to inform arts projects, but little on opera. This case study illustrates how research data informed an opera on Veteran recovery. Deidentified interviews were selected from 280 adults with a history of depression at 10-year follow-up to a randomized trial. Interviews were used to inform characters, storyline, and libretto. Ethical strategies included: changing details and merging stories and characters to create two Veterans and one spouse as leads, a storyline, and choral passages, with a focus on recovery from post-traumatic stress and homelessness. To engage a broad audience and address stigma, accessible composition techniques (melody, harmony) were used. We found that qualitative/mixed data can inform libretto and composition for an opera on Veteran recovery, through integrating art and health science.

Keywords: health science; interviews; artistic expression; ethics; opera; addressing stigma; veteran recovery; research-informed arts development; trauma and housing instability

Arts are an important venue for public education and engagement around health, such as stigma of mental illness, and social factors such as homelessness (Mango et al., 2018). Studies of arts

impact on mental health stigma suggest short-term effects in quantitative and long-term effects in qualitative studies (Mango et al., 2018). There is an emerging literature on the use of research interviews to inform theatrical projects, for example, illustrating the process and impact of psychotherapy, using ethical principles to construct characters and storylines, developing performances, and describing audience impact as emotionally salient and the creative team's experience (Rabu et al., 2020). Beck et al. (2011) describe a spectrum of research-based theater framed by the research continuum, from rigorous to informal uses of research data, and the performance continuum from specific audiences (e.g., medical staff) to the public. There is

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little documented use of such strategies for opera. This case study describes the use of research interviews to create an opera to engage the public. The opera's development blending personal, clinical, and research experience is described in a commentary (Wells, 2021), but how data informed characters, libretto, and composition has not been described. To do so, this project uses the framework by Rabu et al. (2020) to describe data review, ethical considerations, effects on character selection and storyline. After Beck et al. (2011), this would be considered as systematic research with an aesthetic performance for public and professional audiences. The opera's primary themes are Veteran, family member, and provider experiences with resilience in recovery from post-traumatic stress and homelessness, both high risks for Veterans (Friedman et al., 1994; Tsai & Rosenheck, 2015).

► RESEARCH CONTEXT

The data are from Partners in Care (PIC), a group-randomized trial of Collaborative Care for depression. Collaborative Care is an evidence-based approach to disease management that includes team support with case management, provider resources for assessment and treatment, and systems improvement (Miranda et al., 2004). PIC found improved outcomes under Collaborative Care compared with enhanced usual care for White, Black/African American, Latinx, Native American, and Asian American populations (overall) with a reduction in outcome disparities by race/ethnicity over 9.5 years, with long-term benefits particularly demonstrated for Black and Latinx participants under a therapy-focused intervention (Miranda et al., 2004; Sherbourne et al., 2008). These findings led to including after 9.5-year follow-up, qualitative interviews (up to 3 monthly) for Black and Latinx participants and a random sample of White participants. There were 280 participants (88% eligible) with any and 879 total interviews (Miranda et al., 2017). Interviews were used to describe experiences of patients with depression and coping strategies. After community stakeholders suggested presenting examples dramatically to further public understanding, the study PI obtained Veterans in the Arts grant from the California Arts Council to use interviews to develop an opera on Veteran recovery.

This opera's development was supported by a UCLA program for arts to address mental health stigma, Healing and Education through the Arts (HEArts) (Mango et al., 2018) within a health services research center addressing disparities (Miranda et al., 2017, 2004) This program supported previous operas on lived experience, "The First Lady" on complicated grief based on Eleanor

Roosevelt and "The Center Cannot Hold Opera" on the memoir by Elyn Saks (Saks, 2007), and plays (Mango et al., 2018). This report builds on that infrastructure to describe the use of PIC interviews to develop "Veteran Journeys."

► METHOD

Data sources included quantitative demographic data and clinical characteristics of participants from baseline surveys and up to three interviews at 9.5 years, with interviewer notes and audiotapes. Interviewers asked participants to discuss: (a) symptoms of depression and responses to treatments; (b) life stress events, probes of who was involved, what happened, what they were thinking; (c) coping strategies; (d) positive events; and (e) interviewer impressions. For each category, probes included: What else was going on? Who was involved? What were you thinking and feeling? What did you do? How does this compare or contrast with another experience? Each interview lasted about an hour (Miranda et al., 2017).

As described previously (Wells, 2021), the process involved several steps: (a) identifying indicators of Veteran or family status in interviewer notes and baseline data; (b) reviewing notes on Veterans, family members, or other participants with similar stories; (c) highlighting challenges and recovery examples; (d) developing summaries; (e) reviewing recordings for key phrases and emotional meaning; (f) organizing themes and stories into characters (gender and race/ethnicity; Veteran, family member; nonveteran).

Interview Selection

Veteran status was documented in baseline data on insurance/location of services and reference to Veteran status. Given the study's findings of benefits for Black/African American and Latinx participants (Miranda et al., 2004; Sherbourne et al., 2008), we prioritized these populations. After studying over 200 interviews, 20 with 6 main stories were selected to develop characters and a storyline. Key themes were: (a) resilience in the face of stress; (b) post-Viet Nam depression or anxiety; (c) pathways to recovery; and (d) a "collage" of coping strategies. Data were stored securely online or in locked cabinets without identifiers.

Ethics and Human Participants

The use of data to develop an opera libretto had human participants' approval by RAND/UCLA. All participants consented for use of data for research and

education. Conditions for use of materials included de-identified data with strategies to further protect confidentiality given public viewing including the following:

- Blending details for one character across different participants.
- Combining narratives: One participant may discuss conflicts with a family member and another a similar theme from the perspective of such a family member.
- Changing details: For example, the type of family member may be changed.
- Fictionalizing: Some events may be changed to flesh out details, fill gaps or meet the criteria for an inspiring “hero’s journey” (Mango et al., 2018).

The alternative of obtaining written permission for a dramatic presentation was not feasible as identifiers were destroyed.

Potential Risks and Benefits

The main risk was embarrassment if participants felt they were represented and not comfortable, which we handled through de-identification, changing details and blending stories. Another adverse outcome could be people feeling their story was used to bring fame or money to others, similar to the violations to Henrietta Lacks and her family. HEArts productions are free to the public. Any future profit will include acknowledgment contribution of participant interviews. Benefits included the opera potentially bringing public voice to lessons learned by participants, and providing public information on recovery.

► RESULTS

Character Development

For three lead characters, different strategies were used following ethical principles to develop characters and stories:

- **Lead Veteran:** There were multiple male Latino Veterans with a history of depression and trauma from war (Viet Nam) with impacts on functioning and family relationships. One described a sequence of losing marriages from behavioral problems, getting therapy, and saving his current marriage. That storyline was used, but some details changed to reduce the potential for identification and were replaced with details from other participants. This defined “Veteran 1” as a Latinx Veteran with

traumatic experiences in Viet Nam, and his journey to stabilize his marriage and well-being.

- **Spouse:** Veteran 1 referred to his wife, but interviews were used from other participants who were spouses, that is, one White and one Latinx female, to combine stories, challenges, and coping strategies, matching those described by Veteran 1. For example, specific stressors such as watching the Veteran’s frustration with children, flirting with a waitress and the benefits of therapy for coping were abstracted from interviews.
- **Veteran 2:** Several Veterans and participants, especially Black and Latino men, described experiences of discrimination coupled with financial and housing instability. A third lead character, Veteran 2, was created merging interviews commenting on housing and financial concerns into a Black Viet Nam Veteran “buddy” of Veteran 1, who was unhoused. As several participants described being helped by social workers, the storyline featured a social worker supporting housing for Veteran 2 and encouraging therapy for Veteran 1 and his wife at end of Act 1.

Although multiple participants referred to providers (psychiatrist, therapist, social worker), there were no interviews of providers as described elsewhere (Wells, 2021), so these characters were based on the composer’s personal and family experiences, matching details to issues (outreach, therapy) raised in Veteran and family member interviews. This led to two additional leads (VA psychiatrist and social worker), based on actual stories of family members, with details illustrated in arias (i.e., the psychiatrist growing up with his parents’ experience of WWII, and of social worker supporting families of Navy pilots who were prisoners of war in Viet Nam).

Choral Scenes

Other uses of interviews included identifying themes for choral scenes. For one scene, examples of coping strategies and positive events from multiple participants were offered as coping strategies for Veteran resilience (e.g., losing a job and becoming a comic; man and wife getting therapy) by choral members. In another interview, a Latina Veteran described experiences at VA women’s group, informing a women’s chorus that connected the social worker to the Veteran Wife, after hearing of her dilemma.

Table 1 describes by scene, story narrative, use of interviews and personal history, and compositional techniques to engage through music.

Figure 1 represents an invitation to convey emotional context. Brief comments on components are given.

TABLE 1
Veteran Journeys Opera Scenes With Research Integration and Composition Strategy

<i>Scene</i>	<i>Characters, narrative with research integration</i>	<i>Composition strategy for engagement/clarity</i>
Act I: Introduces Primary Themes, Characters, Histories of Trauma/Homelessness, New Connections		
1. Songs of Resilience	Chorus and 5 Leads issue call to hear stories of resilience in recovery, the primary theme for hope from research interviews and a key motive noted by participants to give their stories to help others.	D major as a celebratory key, use of octave leaps followed by brief tone clusters for simplicity plus attention to key words (“songs, stories”); shift to A-flat key for reference to war and “the journey after what came before.”
2. So Many Stories	VA Social Worker (mezzo-soprano) tells her story of being a Navy social worker for families of prisoners of war in Viet Nam; true story based on composer’s family member, “I’ve seen it all, grief, courage, hope, love.”	Key of E-flat major for rich storytelling, dynamic contrasts (soft, loud) for emphasis of key points, rapid 16th notes in instruments with stable solo melody line to convey a journey.
3. Who Can Understand?	Veteran 1 (Latino) with male chorus in background, shares pain of war in Viet Nam, based on research interviews of Veterans sharing stories both in war and on return home. Chorus highlights a shared experience.	F major/D minor to convey strength and loss, with descending line for question of “who can understand what war is?” and sudden pauses and rhythmic pulses in percussion for feelings and emotions; male chorus adds tonal richness.
4. Women’s Group	Chorus of women Veterans, VA Social worker as group therapist, share experiences of growth in therapy group and introduce need for support of Vet 1 wife. Based on research interviews of female Veteran with group therapy experience who shares her stories.	G major for positive feel, rapid tempo for excitement, three-part chorus in close harmony to illustrate social connection, soloist from chorus sings descant to highlight individual experiences within the group and enrich harmonies.
5. Every Day	Solo for Vet 1 wife, telling the ongoing story of her stress from her husband’s behavior and irritability/temper, but also their love and commitment and her hope to resolve issues. Based on interviews of wives of Veterans describing similar experiences, and the story of participant for Vet 1 about his wife’s support.	E-flat major with Adagio (slow) tempo for rich, reflective mood, soprano solo with high sustained notes for love, contrasted with downward and upward leaps for marital distress, accompaniment of moving lines for reflection and slow base to suggest support; piece closes as if music continues “every day.”
6a. We Hold On	Vet 2 in homeless camp, with male chorus for brotherhood; stress in housing, finances, food, conflicts with neighbors, police and him rejecting help. Based on interviews of low-income groups and minorities with adverse social determinants: “I am thrown into outer space, a million miles from home; can someone throw me a rope?”	D minor for reflection in sadness alternating with E-flat major for hope, choral echoes same issues with support (“hold on”); wide range for rich bass voice of Vet 2 from low to high notes, to convey a range of feeling, including reaching out to his “brother from Viet Nam” (E-flat major) but needing help (D minor).
6b. We Are Not Alone	Vet 2, 1, Vet 1 wife, VA Social worker. Vet 1 supports Vet 2 in homeless camp and shares his story of loss of first wife and strain with current; they support each other; wife and social worker join after lunch and all four connect with social worker offering resources and both accept. Based on interviews of participants for Vet 1’s journey, from feeling alone “I need to be alone,” to receiving services for the first time, with family support.	D minor for being “alone” to D major for wife’s entry with high notes for hope and commitment: “can we save our love?” switching to rhythmic variety with percussion for social worker solo on hope for services (F major) and calling all to join; solo for Vet 1 (E-flat major with strong rhythm) on commitment to getting care; solo quartet in F major “what is our life” ending with each soloist “we are not alone” as key theme.

(continued)

TABLE 1. (CONTINUED)

Scene	Characters, narrative with research integration	Composition strategy for engagement/clarity
Act II: Introduces Hope for Recovery, Challenges Faced, Illustrates Beginning of Resilience 7a. After So Many Years	VA psychiatrist, Vet 1, and wife meet in psychiatrist's office, explain their situation, Veteran concerns, wife hopes, psychiatrist reviews therapeutic options and they initiate "practice of stress reduction for first time. Based on combining composer's personal experience as a psychiatrist for Veterans with interview data on experience of Veterans and wives in therapy including sharing stressors and beginning to experience new feelings/empathy.	Entr'acte orchestral opening based on end of Act II, with a different approach (close clusters of sustained seconds) to introduce therapy office; coupled with "not alone" descending line; alternating with rapid descending lines and rhythmic beats for Vet 1 describing distress; with trio scene for all three practicing key therapy principles in close harmony against running base line for support and ascending vocal lines for "believe this: we can thrive!"
7b. Family Recovery Home	VA psychiatrist solo about growing up with Veterans recovering in his home and history of his parents' love during and after WW2, ending with "what gift of recovery to Veterans here can I give today?" Based on personal experience.	A-flat major with chromatic descending base line and ascending treble line to convey journey into "memory; "we are not alone" theme in accompaniment with cluster tones of seconds (psychiatrist's theme) to close.
8. Next Steps	VA social worker and Vet 2 consider next steps after VA housing ends, options for support, uncertainties for Vet 2, hope that access will continue with reassurance by social worker. Based on personal experience in homeless clinic and interviews on housing insecurity.	D minor for uncertainty, coupled with themes from initial "we hold on" alternating with B-major when social worker is hopeful, ending with duet if F major with running ascending lines to convey hope for the "journey together, from VA to beyond, hope upon hope."
9. The Veteran Call	Chorus and all five leads, in a parade celebrating Veterans, with solo lines based on various interviews, and a collection of individual coping strategies shared, for example, "I cut my losses, saved cash; my dog died I got another; I took a class, applied for jobs." Ending with words from a community partner in research: "more than survive, we can thrive."	C major but includes a range of different major keys in ¾ waltz time for celebration, with rhythmic intensity in instruments, to convey victory from diverse perspectives. Slower and more pensive sections for reflections on challenges faced and coping strategies tried, with celebratory ending in D major with cymbal crashes.
10. Beauty Beyond the Starts	Vet 1 and Wife camping in Spring under the stars, sharing history of concerns and recent change that fills their love with new hope. Return of full cast to celebrate opening theme of recovery and new theme of beauty and love; based on interviews of one Veteran of a camping trip after starting therapy, enjoying "beauty of the stars" for first time after Viet Nam and saving his marriage.	Duet scene in F major to convey hope and love, with melodic lines in ascending scales in upward harmonic positions to convey "beauty," with solo by Vet then wife (history of concern, more minor key and dissonant) and love duet in F major with ascending lines to convey connection. Return to opening harmony and melody with chorus entry, blended with "beauty" theme to end opera.



Figure 1 Veteran Journeys Opera

Storyline

The storyline of the opera was developed from narratives of the participant for Veteran 1 (i.e., marital troubles, initiating therapy, saving the marriage, and camping under the stars), expanded by stories told by the participant selected as his wife, who while suffering is committed to saving the marriage (one solo scene); and narratives on housing instability by Veteran 2. This story was expanded by participants' description of experiences with psychiatrists and/or social workers, from the composer/librettist's experience. Phrases from interviews were used to create a "poetic" libretto, such as Veteran 2 stating that the social worker had "thrown him a rope."

Composition

Articles on qualitative research for creating theater emphasize using narratives to identify emotional meaning and creating empathy (Beck et al., 2011; Rabu et al., 2020). Similarly, musical composition and flow of harmony and melody convey emotional meaning. Given the focus on Veterans and families, the compositional style emphasized accessible (less dissonant) harmonies while capturing emotions through melody (e.g., the wife's aria of commitment, "Every Day.") Audio files were listened to iteratively while composing, to capture

voices expressing fear, anxiety, anger, love, connection. Compositional approaches are personal, but efforts were made to match themes and meaning from participants' words and tone to develop melodic and harmonic features under a uniform style. Voices were accompanied by strings, woodwinds, percussion, and piano, to be feasible for most performance halls while providing sonic variety.


► DISCUSSION

In this case example, research interviews from follow-up of a randomized trial were used to create characters and storyline and inform composition for an opera on Veteran resilience and recovery from post-traumatic stress disorder and homelessness, highlighting equity in recovery for Black and Latinx Veterans. This example illustrates how strategies identified for blending science and art for theater (Beck et al., 2011; Rabu et al., 2020) can be applied to opera. We highlight how ethical considerations were addressed through deidentification, mixing stories or changing details, and merging participants to create characters illustrating common themes, with quotes in the libretto and the composer's personal family experience, illustrating how research and personal experience inform narrative and composition style. Other interfaces of art and science include evaluating impact, such as on mental health stigma (Mango

et al., 2018). For this opera, an evaluation occurred collaborating with a UCLA National Endowment for the Arts center, to be described in future publications. One reason it was possible to highlight Veteran experience was having a large library including male and female Veterans and family members, with racial/ethnic diversity. We note that experiences could differ for other war eras, as interviews concerned Viet Nam war Veterans. In addition, this project occurred through an art-focused program within a research center, with support for interview analysis, human subjects review, arts development and evaluation. This may reinforce the relevance of art-science infrastructures for innovation at this interface.

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