A Digital Health Program to Assess and Address Healthcare Worker Wellness

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No relevant conflicts of interest to disclose

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Impact of COVID-19 on HCW

Mental Health

Physical Health

Workplace Hardships

Social Disparity

Psychologic Impact of COVID-19 on HCW
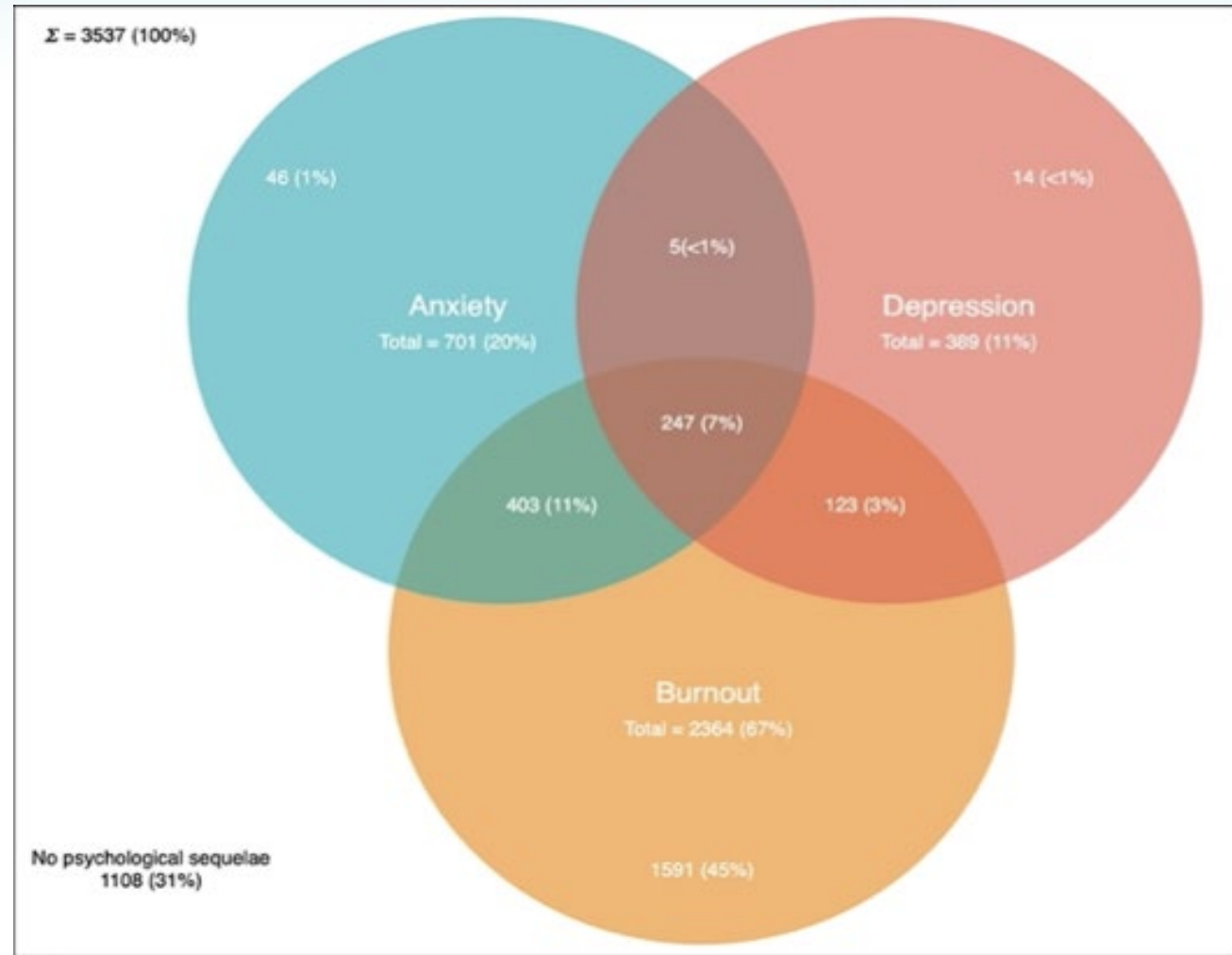
Chuang, et.al Medicine (2016
Denning et.al *PLOS ONE* (2021)

Mental Health of ICU staff at the UPenn Health System

Sample Size	Females	Doctors	APPs	RTs	Pharmacists
296	58%	25%	35%	34%	6%

	Depression	Burnout
Doctors	30%	56%
APPs	47%	68%
RTs	57%	74%
Pharmacists	56%	67%
Total	46%	67%

	Burnout
Survey #1	56 %
Survey #2	60 %
Survey #3	71 %

Kerlin, et.al, Ann ATS (2021)

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Personal Account

COVID Cohort ICU

Tier 1 Staffing Model: Goal is to approximate normal care operations, to be used as long as provider bandwidth will allow it. As volume increases, additional teams using the Tier 1 team structure (see below) will be created.
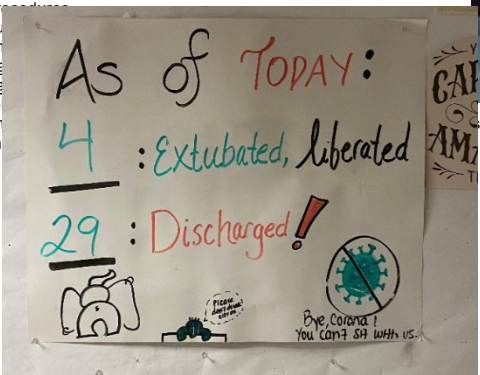
General Principles:
1. 7 day blocks of coverage for patient continuity and to limit the number of providers exposed
2. Daytime attending staffing model
3. Up to 14-16:1 patient:attending ratio

Tier 1 Team Structure

Day Coverage
1. Attending Physician
   a. Team leadership
   b. Cognitive input/bedside management
   c. Intubations
   d. Bronchoscopy
   e. Family communication
2. Fellow (will not have bandwidth to support each team with a CC fellow)
   a. Team leadership
   b. Cognitive input/bedside management
   c. Procedures
   d. Med-surg consultation/triage
   e. Family relations
3. Senior provider
   a. Prerounds data gathering via EPIC and Virtual Check-ins with nurs[...] patients
   b. Present patients during multidisciplinary rounds
   c. Place orders/consults/write progress notes while attending examin[...]
   d. Procedures
   e. Support second provider
   f. Admissions
   g. Envision umedicine and/or anesthesia residents
4. Second provider (to be added to the team, once census it too high for se[...] alone, likely 6-8 patient range)
   a. Prerounds data gathering via EPIC and Virtual Check-ins with nurs[...] patients
   b. Present patients during multidisciplinary rounds
   c. Place orders/consults/write progress notes while attending examin[...]
   d. Procedures
   e. Su[...]
   f. En[...]
5. Procedura[...]
   procedura[...]
   a. A-[...]
   b. En[...] ident,
      ca[...]

As of TODAY:
4 : Extubated, liberated
29 : Discharged!
Bye, Corona! You can't SH with us.

MUSC Telehealth Pandemic Response Plan

Project	Overall Mission	Goal	Owners	Brief Description	Metrics of Success
Ambulatory Care Conversion to Telehealth	Maximize ambulatory clinic volume while ensuring patient safety	1. >80% of pre-pandemic ambulatory visit volume (tele+in-person=3,562 visits) 2. 100% pre-pandemic ambulatory visit volume (80% via tele) 3. 80% of telehealth visits video vs phone Milestone: 1,480 tele-visit increase/day	**Physician Lead(s):** Dr. Jimmy McElligott Dr. Peter Zwerner **Operational Lead:** Ellen Debenham	• Ambulatory office visits transitioned to in-home video visits so our patients can continue to receive the care they need while minimizing the risk for of exposure by coming into an office setting.	**Utilization:** -Percent clinic volume maintained -Daily and weekly increase in tele visits -Proportion of volume that is video vs phone **Satisfaction:** net promoter score **Quality/Efficiency:** completed visits/total scheduled visits **Cost Effectiveness:** restored revenues STAGE: 1-2
	Streamline patient entry to testing and	Become portal of entry for the majority	**Physician Lead:** Dr. Ed O'Bryan	• Streamlined VUC tool disseminated statewide to [...] [...] for [...]	**Utilization:** # of citizens screened #of patients sent for testing/ #tests in SC -Volume -Proportion sent for testing

WIS TODAY
CLINICAL TRIALS IN SOUTH CAROLINA
COMBATING CORONAVIRUS
WIS 10
against SEC, governor for not letting all South Carol[...]

MUSC Resiliency Program

Individual Support Sessions

Leadership Consultation

HRSA funded Telehealth Center of Excellence

Tailored Integrated Group/Unit Action Plans

Webinars/Work shops

Dr. Alyssa Rheingold, Ph.D.
Professor, Psychiatry and
Behavioral Sciences

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Summary of Tailored Integrated Group/Unit

Twelve hospital-based units, seven ambulatory units, three other clinical teams

- 282 HCWs participated in individual brief interviews/focus groups
- 288 HCWs participated in brief self-report surveys

Demographics

Profession: 73% nurses

Years Experience:

      24% <2 years

      34% 2-5 years

      22% 6-10 years

      20% >10 years

Summary of Tailored Integrated Group/Unit

Themes from individual interviews and focus groups note factors associated with stress and burnout included:
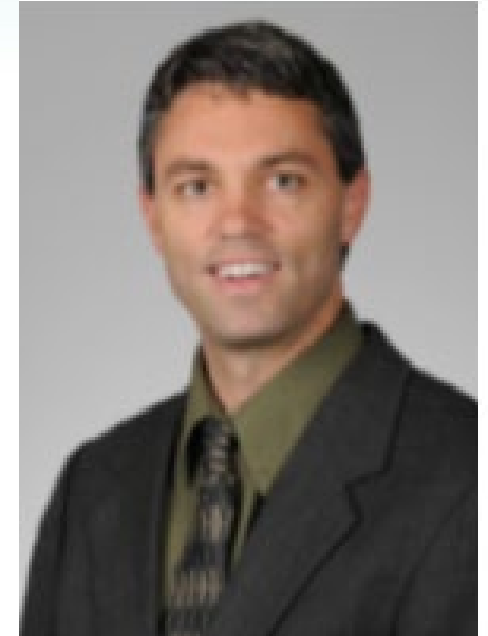- staffing issues
- feeling unappreciated
- changing protocols related to COVID-19
- team communication issues.

- Few HCWs practice self-care at work.

- HCWs noted limited ability to take breaks or discomfort in taking breaks due to lack of trust or increase team member's workloads.

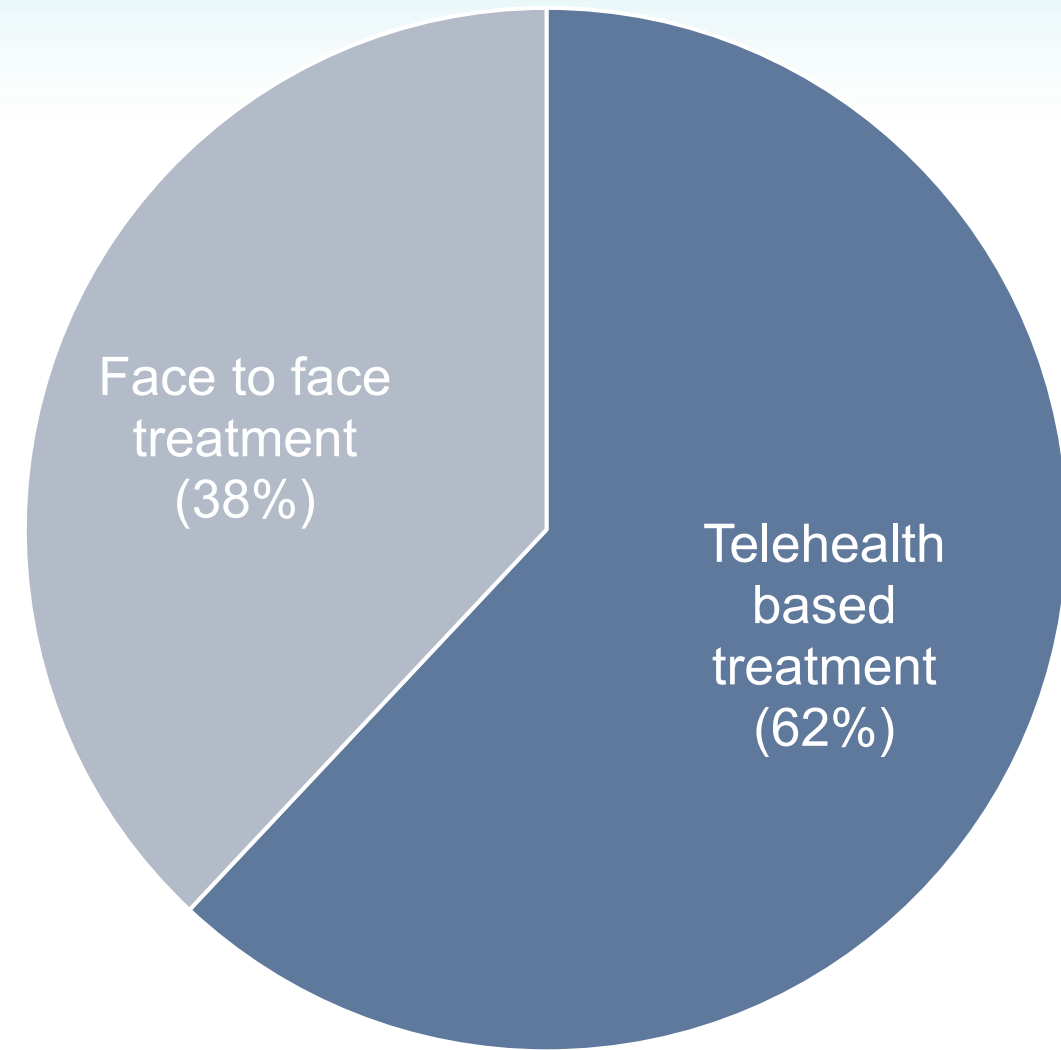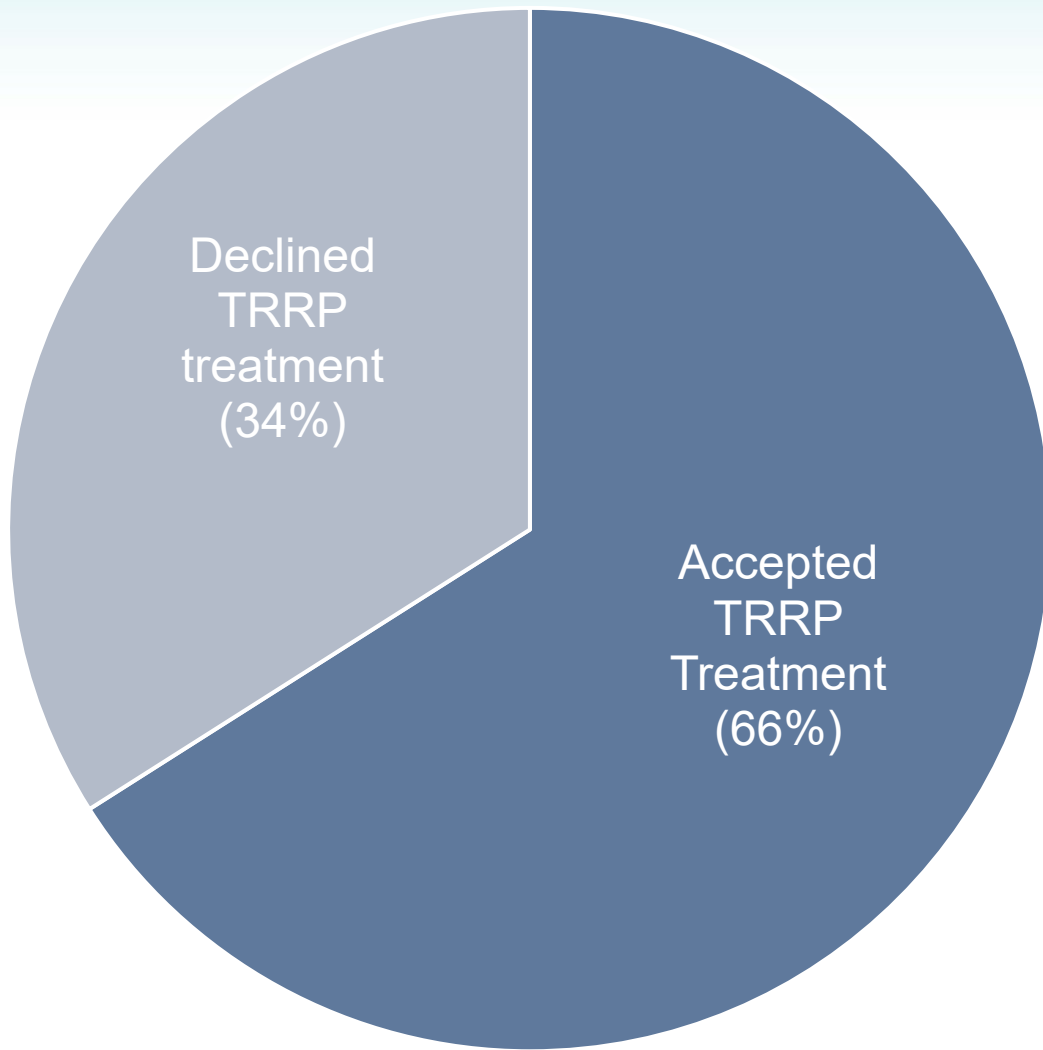# MUSC Telehealth Resilience and Recovery Program

Step1
- Educate and Enroll patients in TRRP

Step 2
- Track Emotional Recovery

Step 3
- 30-Day Mental Health Phone Screen

Step 4
- Comprehensive Mental Health Assessment

Step 5
- Delivery of Best Practice Treatment

HRSA funded Telehealth Center of Excellence

Dr. Kenneth Ruggiero, Ph.D.
Professor of Nursing
Director of TRRP

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Uptake and Preferences of Patients with Positive Screens

Declined TRRP treatment (34%)

Accepted TRRP Treatment (66%)

Face to face treatment (38%)

Telehealth based treatment (62%)

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A Telehealth Approach to Mitigating ICU HCW distress.
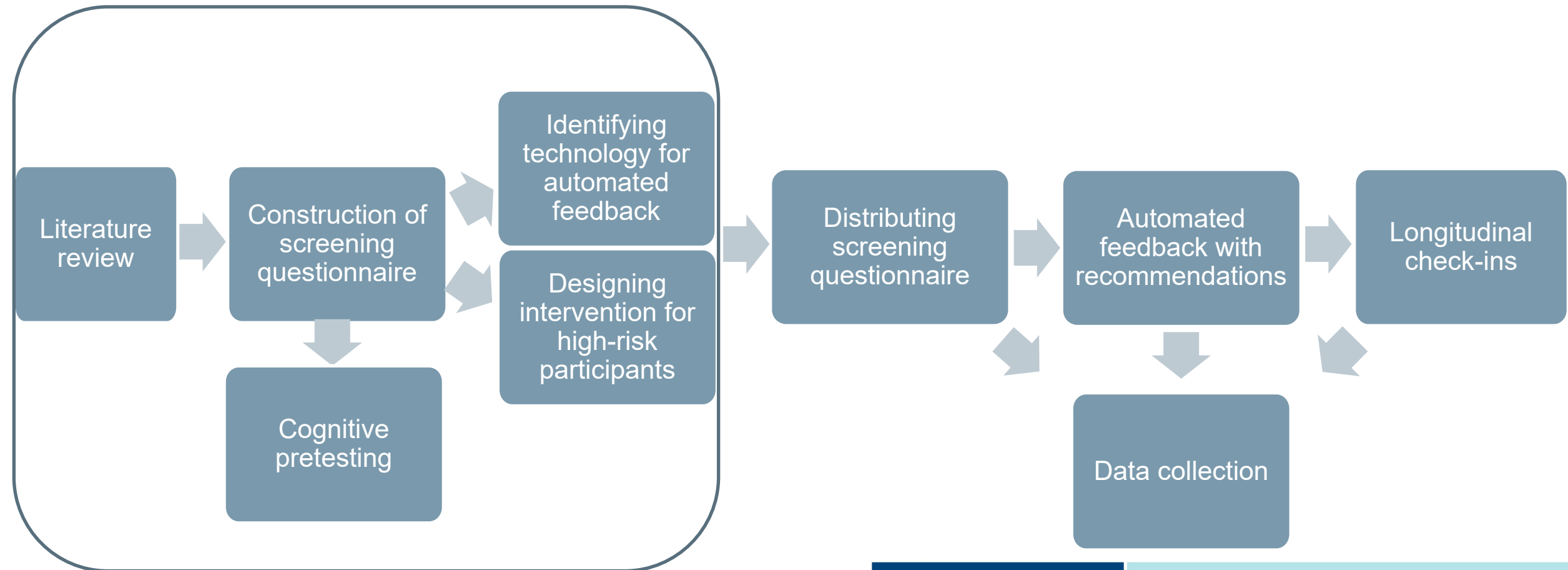
Domain	Tool	Number of Questions	Duration of Administration	Score Range
Sleep disturbance	PROMIS	8	Last 7 days	8-40
Depression	PHQ-9	9	Last 2 weeks	0-27
Anxiety	GAD-7	7	Last 2 weeks	0-21
PTSD	PCL5	8	Last 30 days	0-80
Resiliency	CD-RISC-10	10	Last 30 days	0-40
Alcohol Use	AUDIT-C	3	Last 1 year	0-12
Burnout	OBI[17]	16	N/A	16-64
Total Question Number		**61**		

Buysse, et.al *Sleep*, June 2010; Kroenke K, et.al *J Gen Intern Med, 2001;* Spitzer RL et.al . *Arch Intern Med. 2006;* Blevins, C, et.al, Journal of Traumatic Stress, 2015; Connor, et.al, Depression Anxiety, 2003; Bush K, et.al, Arch Internal Med, 1998; Demerouti, et.al, J Appl Psychol, 2001
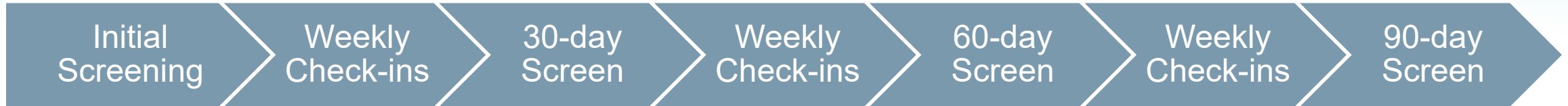
Technology Considerations (KISS)

- REDCap

- Institutional email listservs

- Twilio

- Video conferencing

Overall Timeline

Initial Screening	Weekly Check-ins	30-day Screen	Weekly Check-ins	60-day Screen	Weekly Check-ins	90-day Screen

- Initial Screen
  - Contact information
  - 61 screening questions
  - 6 demographic questions

- Real-time response scoring (back-end analytics in REDCap)
  - Pre-specified thresholds → response
  - Option to request meeting with resiliency counselor 1:1

- Weekly Check-ins with
  - 6 screening questions
  - Self help tips and video

Full Screener (Employee e-mail via REDCap)

MUSC Healthcare Worker Wellness Screener

Scoring summary

Risk calculation1   0

Risk calculation2   2

Your struggles are real and valid for a healthcare provider. Results from your scores indicate that it may be challenging to manage these struggles on your own. We strongly recommend that you set up a time to meet with our MUSC Resiliency Clinician.

[Yes] [No]

reset

Would you like to set up a time to meet with MUSC Resiliency Clinician?

PROMIS: It appears that you are experiencing _severe_ problems with sleep. Sleep difficulties can impact our lives in a variety of ways, including our physical health, psychological wellbeing, job performance, and patient care.

PHQ-9: Your scores suggest you may be experiencing _moderate to severe_ depression, which may be interfering with your ability to function.

GAD-7: Based on your scores, you may be experiencing _moderate to severe_ anxiety, which may be interfering in your ability to function.

PCL-5: Your scores indicate that you may be experiencing a _**clinically significant**_ level of posttraumatic stress disorder, or PTSD. You are not alone. Higher scores on from this screener are associated with the presence of PTSD but are not a substitute for diagnosis by a trained clinician.

OBI: Your scores suggest you may be feeling burnout in your current position at work. Sometimes when people experience burnout, they disengage in work-related activities or feel exhausted from responsibilities. Burnout is associated with adverse patient outcomes, increased risk of anxiety, depression, and PTSD.

What is your discipline?

Do you work in shifts? [Yes] [No]

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What is your age group?

What is your Gender?

Are you of Hispanic or Latino ethnicity?

What is your race? Please check all that apply.
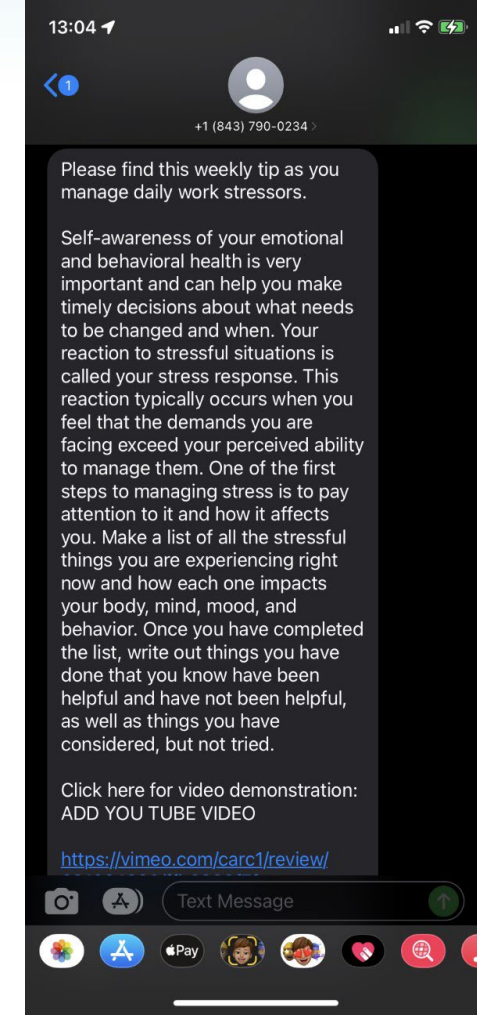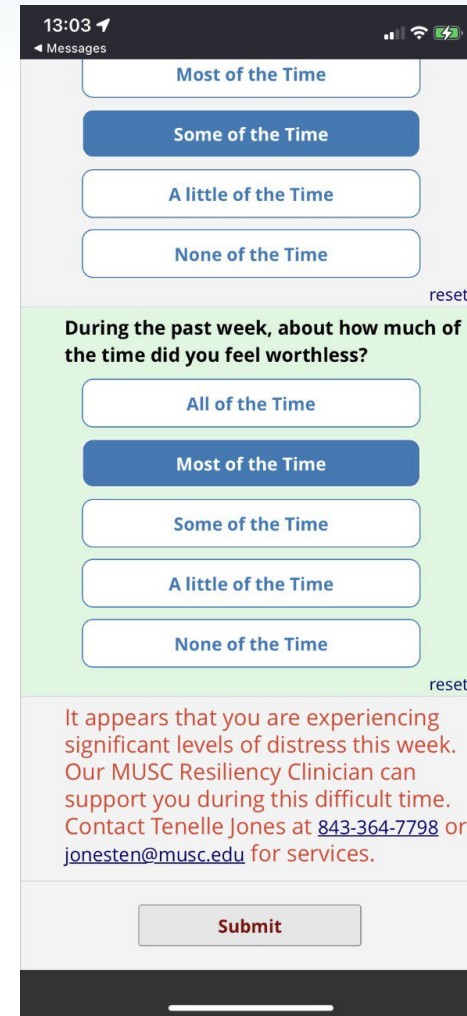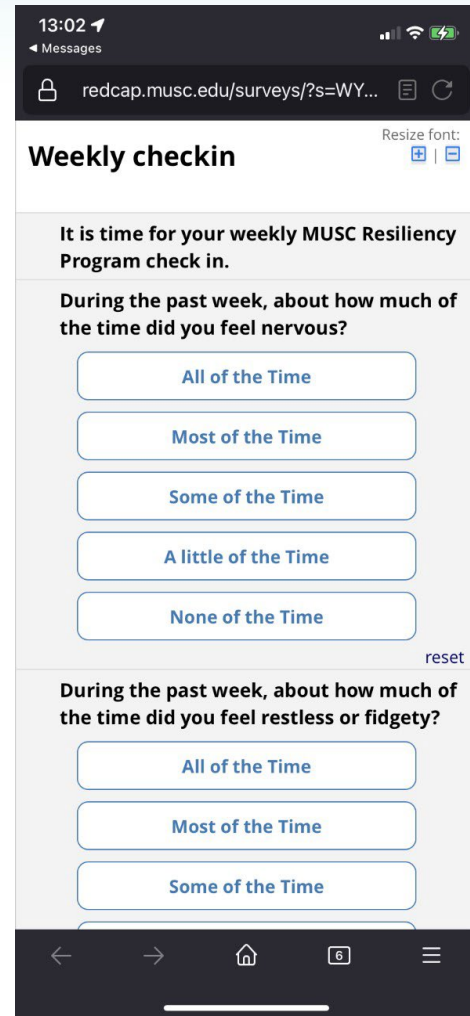- American Indian or Alaskan Native
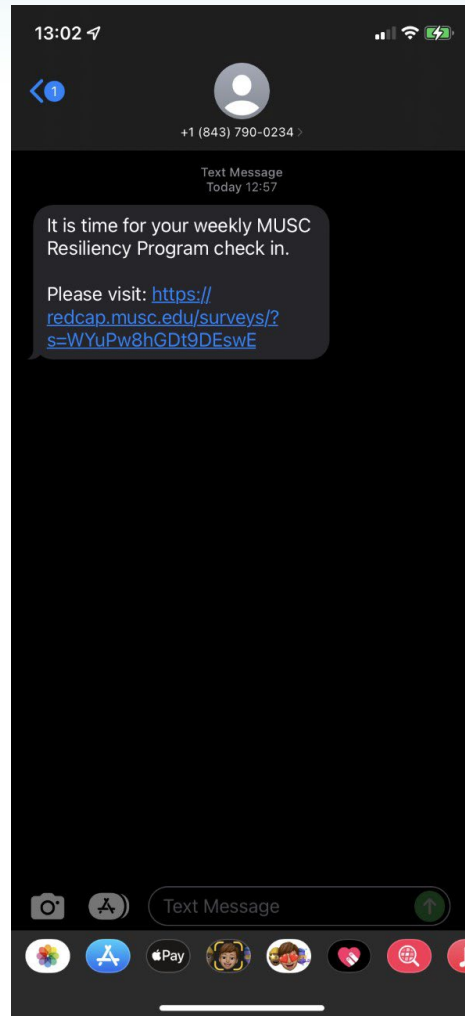- Asian
- Black or African American
- Native Hawaiian or Other Pacific Islander
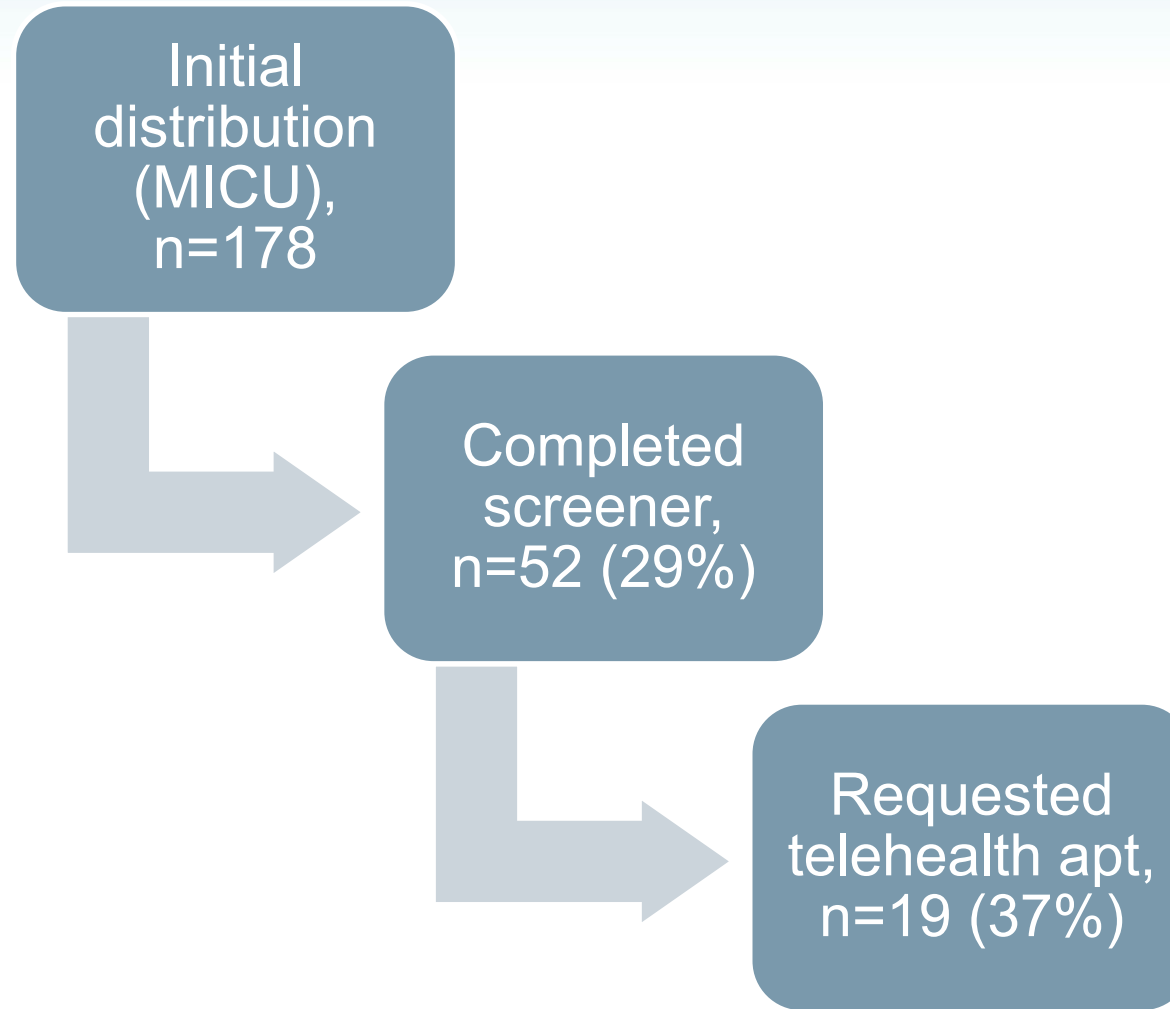- White

Weekly Check-Ins (Text to Cell via Twilio)

Screener Distribution

- Initial Units: MICU, AICU, MSICU

- ICU RNs, RTs, PCTs, PCCM Faculty and Fellows, Anesthesia CCM Faculty and Fellows, Internal Medicine Residents.

- Estimated Sample Size of ~300

Initial Program Uptake

Initial distribution (MICU), n=178

Completed screener, n=52 (29%)

Requested telehealth apt, n=19 (37%)

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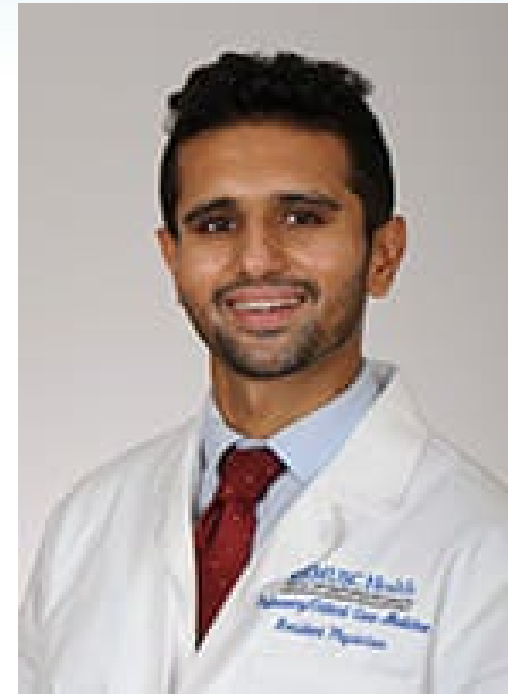Changing What's Possible | MUSChealth.org

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Director

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Resiliency Program Counselor

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Pulmonary & Critical Care Fellow

Thank you for your time
Questions?

Test our Screener!!