

Amplifying Healthcare Voices in North Carolina's Arts and Health Landscape

Panel discussion #3
11:45-12:30



Christina Hugenschmidt, PhD

Rebecca E. Shaw Professor and Director, Memory Counseling Program,
Associate Professor, Gerontology and Geriatrics, Wake Forest University School of Medicine



Andrea Camp
Senior Advisor, NeuroArts Blueprint
Initiative



David M. Popoli, MD, FAAPMR, CAQSM
Associate Professor, Wake Forest University
School of Medicine
A Man of Many Titles



Barbara Lister-Sink, EdD
Professor of Piano, Salem College



Jen Sullivan, MD, MPH
Leader and Vice Chief Academic Officer National
Service Lines, Advocate Strategy



Matt Olin
Co-Founder & Chief Community Officer
Charlotte Is Creative

Charlotte Symphony Orchestra



Advocate Health + CSO + WFU: Centering Musician Voices for Health

- Professional symphony musicians engage in intensive, lifelong arts practice with profound effects on physical health and psychological wellbeing
- Healthcare providers rarely understand the specific demands of professional music performance, leading to inadequate care
- Musicians have occupational health concerns, including:
 - Musculoskeletal injuries
 - Hearing problems
 - Psychological distress
 - Performance anxiety
- The lived experience of professional musicians from regional orchestras will be documented through ~50 semi-structured interviews

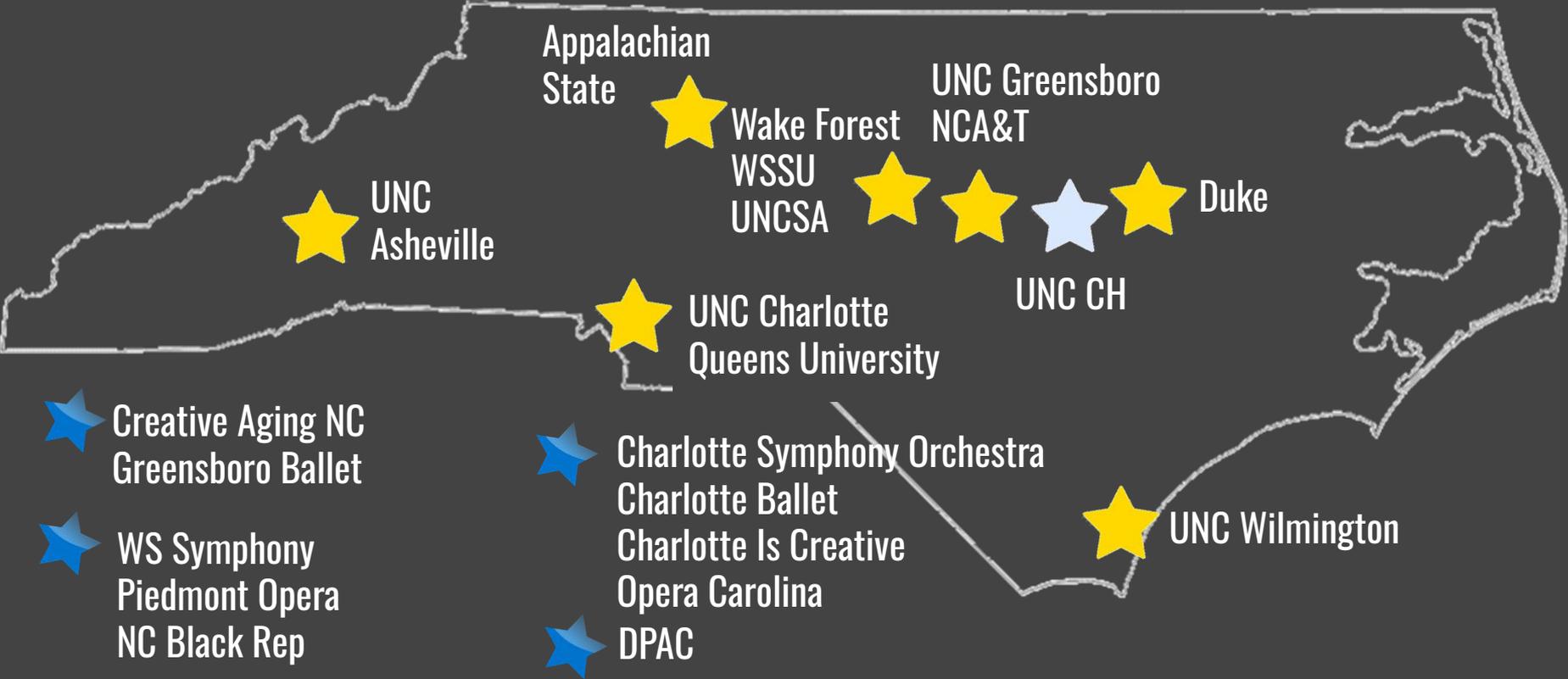


Megan Bennett-Jones, MS, MS, PhD
Assistant Professor, WFU



John Beck, MM
Principal Percussion Winston-Salem Symphony
Emeritus Professor UNCSA, Adjunct Lecturer WFU

Neuroarts in NC: This is the Beginning of a Beautiful Friendship

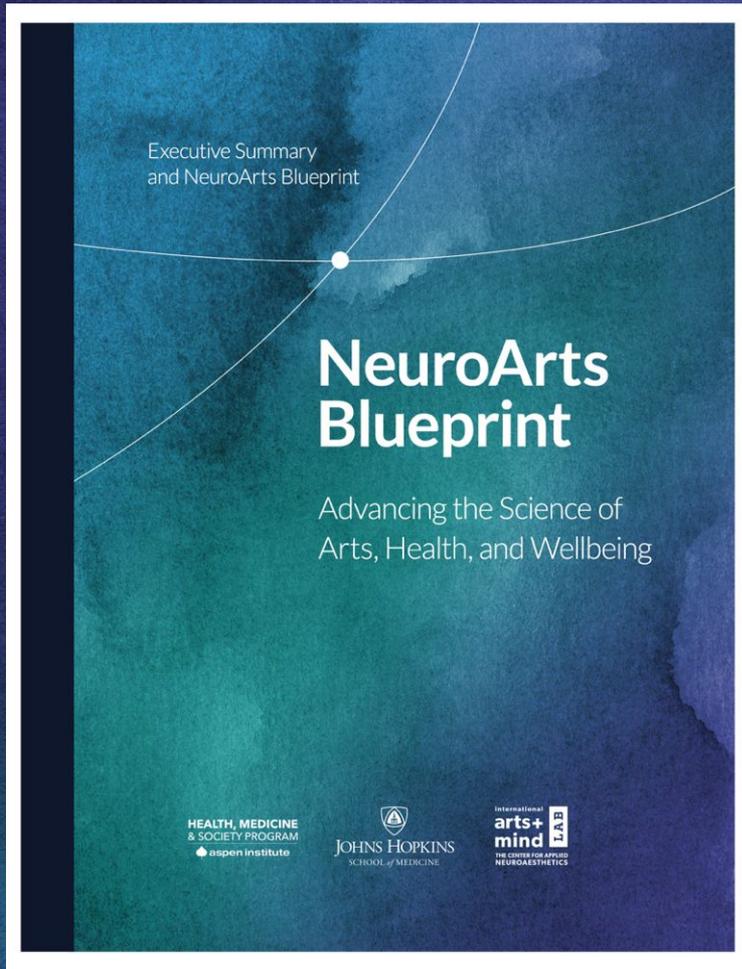




Andrea Camp
Senior Advisor, NeuroArts Blueprint Initiative

The background consists of vertical stripes in a rainbow color palette, including shades of red, orange, yellow, green, blue, and purple.

NeuroArts



Blueprint Goal

To ensure that the arts and the use of the arts – in all of its many forms – become part of mainstream medicine, public health and society.

NeuroArts Blueprint Field Building Framework

Recommendations

- Strengthen the research foundation of neuroarts
- Honor and support the many arts practices that promote health and well-being
- Expand and enrich educational and career pathways
- Advocate for sustainable funding and promote effective policy
- Build capacity, leadership, and communications strategies

Strategies

Build Evidence

Build Infrastructure

Build Community

Impact

- Powerful evidence to drive practice, funding and policy
- Qualified, well compensated and diverse neuroarts practitioner workforce
- Rigorous interdisciplinary academic neuroarts certification and degrees
- Dedicated funding and policies embedded in all sectors
- Vibrant network of stakeholders adopting neuroarts practices in all facets of life

NeuroArts Blueprint Strategic Initiatives



Evidence

Research Agenda

Economic Analysis

Arts Brain Map

Neuroarts Investigator Awards

Journal + Awards



Infrastructure

Neuroarts Resource Center

Community Neuroarts Coalitions

NeuroArts Academic Network

Policy Framework

NeuroArts Cultural Network



Community

Conferences + Fellowships

Policy Framework

Scholarships

ARTCare Initiative



RENÉE FLEMING

NeuroArts
Blueprint Initiative

Renée Fleming Neuroarts Investigator Awards 2026

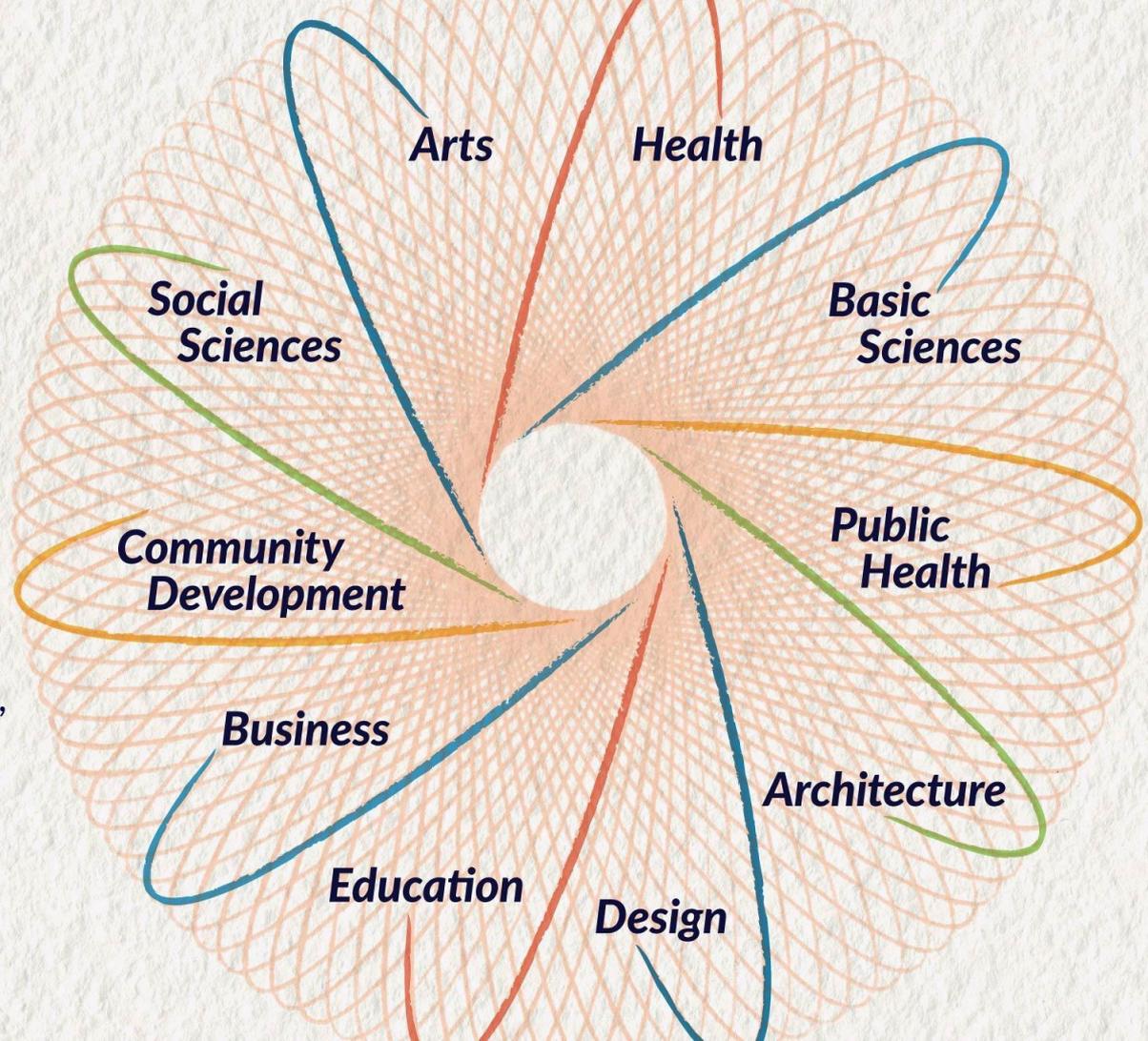
international
**arts+
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THE CENTER FOR APPLIED
NEUROAESTHETICS



HEALTH
MEDICINE
& SOCIETY
aspen institute

Neuroarts Academic Network

The Network offers a bold, collaborative model to strengthen neuroarts education, workforce development, and interdisciplinary impact:





Community Neuroarts Coalitions

●
Hyper-Local Coalitions of Diverse Stakeholders Who Use Evidence-Based Arts Strategies to Tackle Community Identified Priorities



LEARN MORE

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Neuroarts
Resource
Center

JOIN THE NEUROARTS RESOURCE CENTER





David M. Popoli, MD, FAAPMR, CAQSM

Associate Professor, Wake Forest University School of Medicine Department of Orthopaedic Surgery and Rehabilitation, Pediatrics Clinical Chair of Research, Department of Orthopaedic Surgery and Rehabilitation, Medical Director, Dance and Performing Arts Medicine Clinic
Course Director, Introduction to Clinical Reasoning and Integrative Thinking

The Art of Treating Artists

LESSONS LEARNED IN CLINIC

DAVID M POPOLI, MD



Wake Forest University
School of Medicine



The academic core of



Atrium Health

A ballerina in a white and black dress is captured in a dynamic pose against a dark background. She is leaning back, with one leg extended horizontally to the left and her arms reaching out. The lighting highlights the contours of her body and the fabric of her dress.

Disclosures

I have no financial disclosures or conflicts of interest.



The Numbers

- 42-95% of dancers injured per year
- 51-82% of musicians injured per year
- 55-90% overuse

Meeting the Demand?

Dancer studies

- 80% -- healthcare provider does not understand me
- 43% -- given unhelpful advice

Russell JA, Wang TJ. Injury occurrence in university dancers and their access to healthcare; Proceedings of the International Association for Dance Medicine and Science Annual Meeting 2012; October 25–27; 2012; Singapore.

Lai RY, Krasnow D, Thomas M. Communication between medical practitioners and dancers. *J Dance Med Sci.* 2008;**12**(2):47–53.

Anhima Foundation. Physician-patient relationship and communication study. Pub Oct 2021

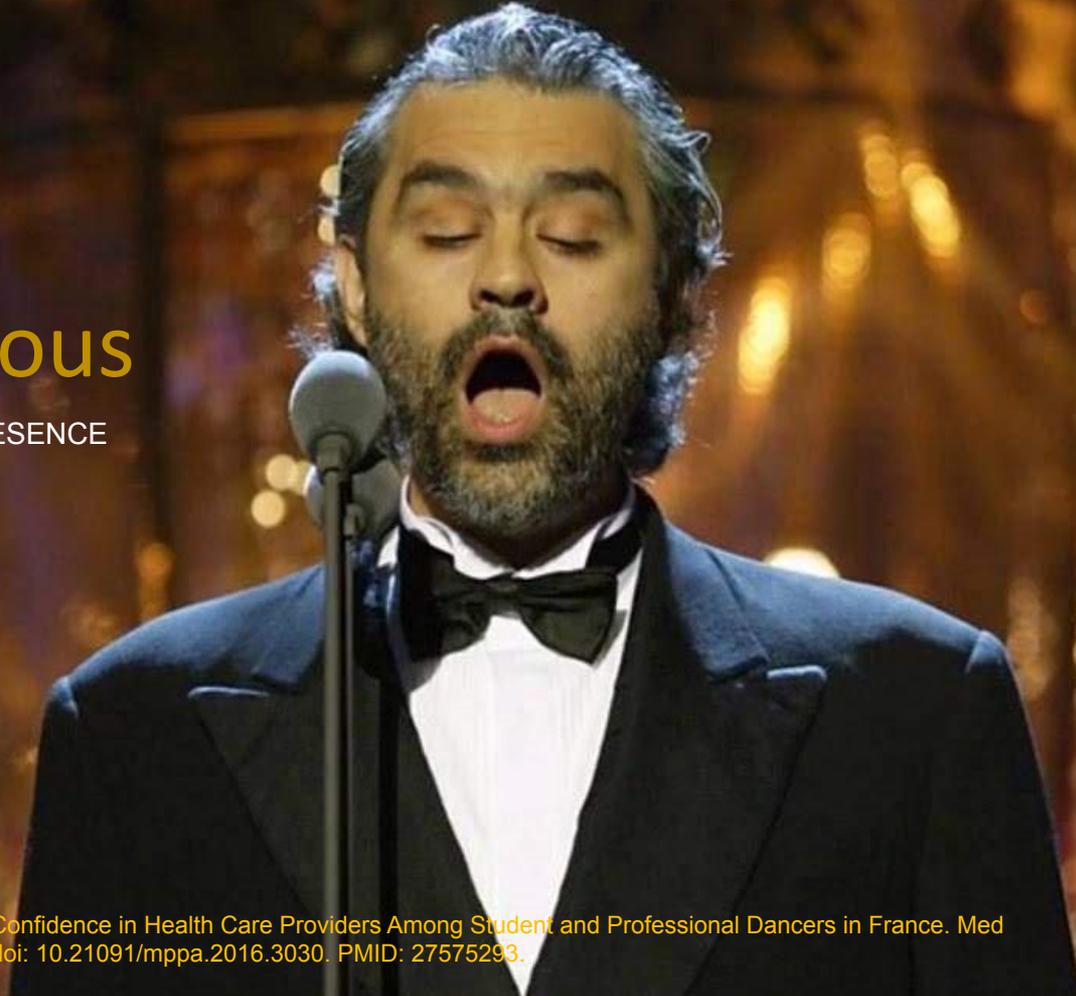
A photograph of a modern building courtyard. The foreground features a paved area with a wavy, grey and white tile pattern. To the right, a long planter bed is filled with vibrant purple and yellow flowers. In the background, a multi-story building with large glass windows and balconies is visible. A blue sign with the number '29' and the word 'Courtyard' is mounted on a post. The scene is lit with warm, ambient lighting, suggesting dusk or dawn.

Be Curious

STRIVE FOR CONNECTION

Be Conscious

MINDFULNESS AND PRESENCE





Be Complete

THE ART OF MEDICINE



A male dancer with a muscular physique is captured in a dynamic pose, performing a high kick. He is wearing a bright red leotard with a black waistband and red ballet slippers. His right leg is extended horizontally to the left, while his left leg is bent and tucked under him. His right arm is extended forward, and his left arm is raised high above his head. The background is a plain, light gray.

Be Collaborative

USE YOUR SKILL SET AND WORK AS A TEAM

A photograph of a modern, multi-story building with a grid of windows. The building is white with dark window frames. In the foreground, there is a courtyard with various plants, including a large tree with red leaves and a smaller tree with green leaves. The sky is blue with some clouds. A dark horizontal bar is overlaid on the right side of the image, containing the text.

Be Constructive

TREATMENT AS PERFORMANCE ENHANCEMENT



Barbara Lister-Sink, EdD
Professor of Piano, Salem College
Director, Graduate Certificate Program & Master of Music with an
Emphasis in Injury-Preventive Technique



A Plague of Playing-Related Injuries - The Urgent Need for Music & Healthcare to Unite

Barbara Lister-Sink, Ed.D.
Director, Certificate Program & Master of Music
with an Emphasis in Injury-Preventive Keyboard Technique
Salem College, Winston-Salem, NC

Arts, Health Care, and Humanities in Action
Friday, February 13, 2026
The Intergenerational Center for Arts and Wellness at Senior Services, Inc.
Winston-Salem, NC

MUSICIANS = ARTIST-ATHLETES

- Advanced piano playing is one of the most demanding activities known to humankind--a complex interaction of musculoskeletal, neuromuscular and sensorimotor systems

Altenmueller & McPherson, 2008; Pascual-Leone, 2001

"No other activity in which we engage requires the accuracy, speed, timing, smoothness, or coordination of muscular contraction exhibited in finished musical performance."

Frank R. Wilson, M.D . neurologist & amateur pianist.









"I have been very depressed. I thought about ending my life almost every day."

2015 research participant

"Since music is at the core of my soul, I felt that there was no purpose for me to live any longer".

2015 research participant



A close-up photograph of Leon Fleisher, an elderly man with grey hair and a beard, wearing glasses and a dark jacket. He is smiling slightly and looking towards the camera. In the foreground, a brass microphone is visible on the left, and a sheet of music is partially visible at the bottom left. The background is softly blurred, showing what appears to be a piano and a wooden wall.

Leon Fleisher, pianist (1928-2020)

"I was desolate... My life fell apart, and this mysterious debilitating condition destroyed my relationship with my second wife, striking deep into my family... I felt I had no purpose anymore; I was simply floundering."

Interview in *The Independent/UK*, May

Photo by Chris Hartlove

RESULTS OF RESEARCH ON PLAYING-RELATED INJURIES

1998-2010

- 1998 39% - 87% PRNDs in adult musicians
- 2005 PRMD/injuries vary between 26% and 93%.
- 2006 Japanese study 77% of female pianists have sustained PRMD
- 2010 Australian study reports PRMD in 71.9% of professional pianists

"Among classical musicians, women are 2 times more likely than men to suffer occupational injury..."

American Journal of Industrial Medicine, July, 2002

2020-2025

- 49% - 80% of pianists suffer from playing-related injuries worldwide

MALE & FEMALE PIANISTS' HAND SIZE COMPARISON

Playing Field Not Level - Instrument Size Mismatch



PLAYING-RELATED (NEURO)MUSCULOSKELETAL DISORDERS

WARNING SIGNS

- Fatigue, Soreness, Burning, Tingling, Pain, Numbness

POTENTIAL DISORDERS

- Tendonitis, Tenosynovitis,
- Lateral & Medial Epicondylitis
- Cubital Tunnel Syndrome, Carpal Tunnel Syndrome
- Thoracic Outlet Syndrome, Cervical Radiculopathy,
- Ganglion Cysts, Osteoarthritis, Myofascial Pain Syndrome,
- Nerve Compression Syndrome,
- Trigger Finger Syndrome, Focal Dystonia, etc., etc.

CONSEQUENCES OF PLAYING-RELATED INJURIES

(Guptill, 2011; Lister-Sink, 2015)

FINANCIAL & ACADEMIC

- Jeopardizes scholarships, exclusion from performance, often must drop out of school altogether

PROFESSIONAL

- Jeopardizes potential for playing opportunities.
- Can lead to loss of promotion or position

EMOTIONAL/SOCIAL

- Depression, disconsolation; feelings of worthlessness, inferiority, inadequacy, hopelessness, loss of motivation & purpose, grief

PERSONAL

- Family, friends, teachers and administrators either cannot help or doubt seriousness of problem
- Accusations of laziness, self-pity, hypochondria

CREATING A “VILLAGE” TO PROMOTE MUSICIANS’ HEALTH

BARBARA LISTER-SINK, ED.D • SALEM COLLEGE, NORTH CAROLINA, US





Thank you very much!



Jen Sullivan, MD, MPH

Leader and Vice Chief Academic Officer, National Service Lines,
Advocate Strategy



NeuroArts: A Strategic Priority for the National Service Lines

Jennifer Sullivan, MD MPH

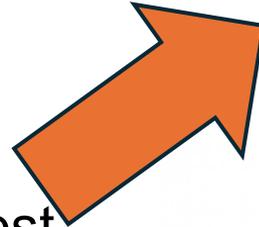
President and Vice Chief Academic Officer, National Service Lines Advocate Health





The role of music in a post-pandemic world

- Behavioral health crisis
- Fractured political and social priorities
- Erosion of civility
- Global violence and unrest
- Decrease in life expectancy
- Increase in medical bankruptcy
- Epidemic of gun violence



- Connectivity
- Inspiration
- Common goals
- Improved mental health
- Enhanced health expectancy



**Our Vision: to
bring the BEST of
what we are,
wherever YOU are.**



Leverage National Service Lines Scale and Scope

Heart & Vascular

- **570K+** patients / yr
- One of the largest transplant sites
- **1,150+** cardiac specialist providers



Cancer

- NCI-Designated Comprehensive Cancer Center
- **45K+** new cancer cases/yr
- **6.5K+** enrolled in **842** active clinical trials



Neurosciences

- **25K+** surgeries / yr
- **5** Level I neuro critical care units
- **19** hospitals recognized for stroke care in USN&WR





From the beginning – the developing brain

“Music therapy can significantly improve preterm infants’ heart rate, respiratory rate, and stress level, as well as increase oral feeding volume. These results may exert a positive impact on well-being and quality of life in preterm infants in the neonatal intensive care unit.”

Effect of music therapy on preterm infants in neonatal intensive care unit: Systematic review and meta-analysis of randomized controlled trials

[Wei Yue](#), [Xinrui Han](#), [Jianghe Luo](#), [Zhumei Zeng](#), [Ming Yang](#)

17 November 2020 Journal of Advanced Nursing





To the end – palliative care and hospice

- Help alleviate fears and anxieties
- Reinforce identity and decrease feelings of isolation
- Encourage participation in physical activity
- Promote relaxation and alleviate insomnia
- Help to initiate communication (verbal and nonverbal) with family members
- Decrease perception of pain and severity of side effects in chemotherapy
- Aid in the process of life review
- Provide opportunities to express emotions





Music as a foundation for health

Embodied cognition: the mind influences the body and the body influences the mind

Clear evidence of physiological synchrony (heart rate, respiration rate, skin conductance response) as well as movement synchrony of live music audiences

Tschacher, W., Greenwood, S., Ramakrishnan, S. *et al.* Audience synchronies in live concerts illustrate the embodiment of music experience. *Sci Rep* **13**, 14843 (2023).
<https://doi.org/10.1038/s41598-023-41960-2>

Vuust, P., Heggli, O.A., Friston, K.J. *et al.* Music in the brain. *Nat Rev Neurosci* **23**, 287–305 (2022).
<https://doi.org/10.1038/s41583-022-00578-5>





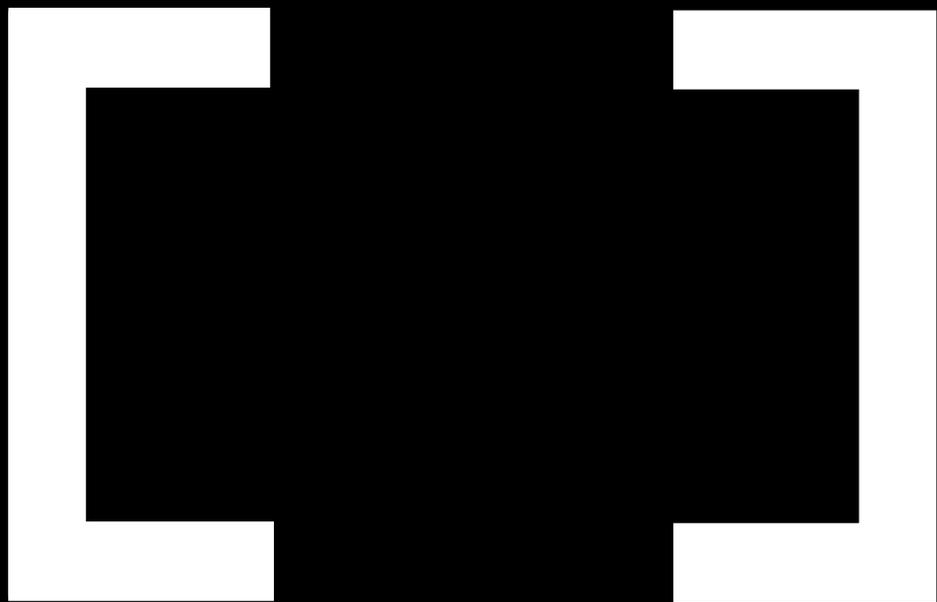
**Not one of thousands,
one backed by
thousands.**





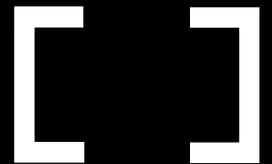
Matt Olin

Co-Founder & Chief Community Officer, Charlotte Is Creative



CHARLOTTE IS
CREATIVE

**WE PROVIDE THE PROGRAMS, RESOURCES,
TRAINING, CONNECTIONS AND OPPORTUNITIES THAT
EMERGING ARTISTS AND CREATIVE ENTREPRENEURS
NEED TO BE SUPPORTED AND SUCCESSFUL IN THE
CHARLOTTE-MECKLENBURG REGION.**



**CHARLOTTE IS
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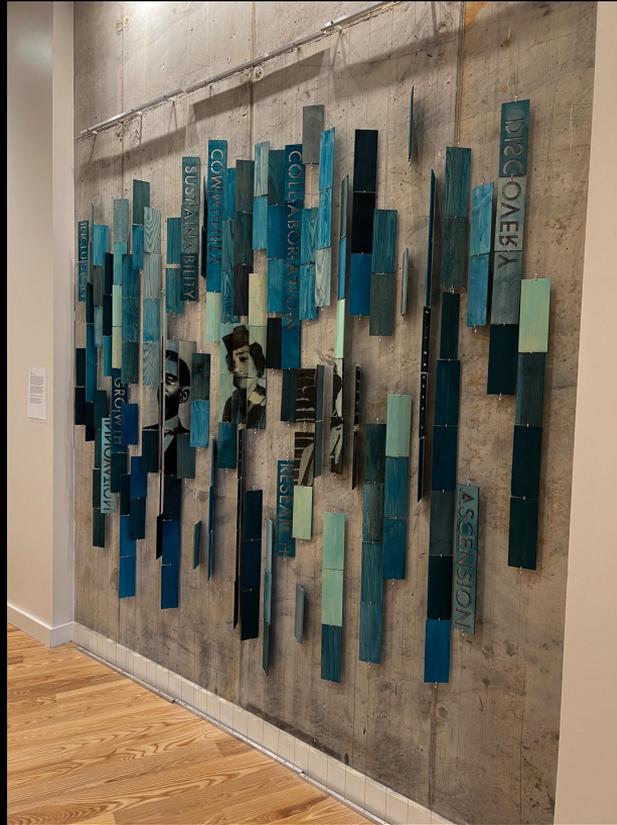
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BOSTON BASICS MURAL - ATRIUM HEALTH LEVINE CHILDREN'S



MURAL BY JULIA VALLE

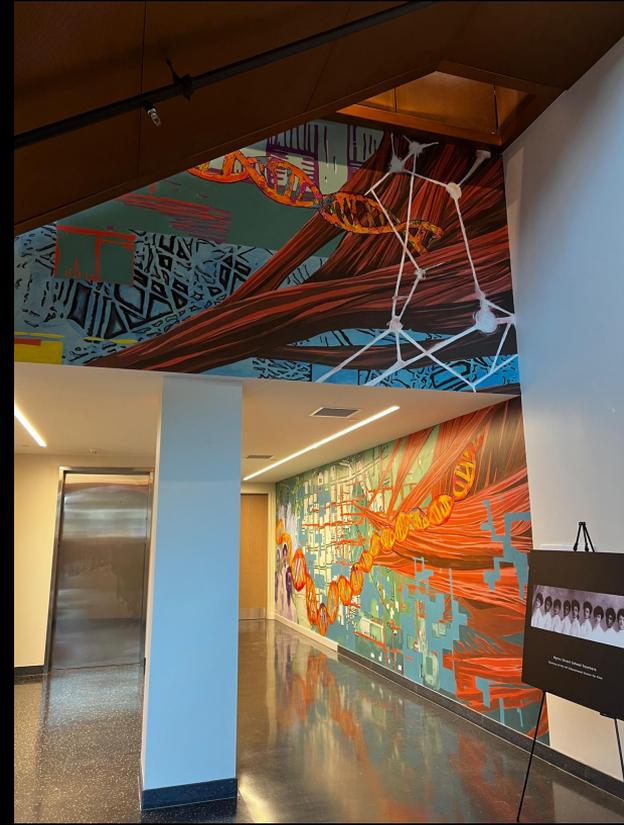
INSTALLATIONS AT THE PEARL



PIECE BY HILARY SIBER



MURALS BY THE MURAL NINJAS (MYLOAN DINH & BUNNY GREGORY)



NOVANT HEALTH

THE ART OF REMARKABLE CARE



MURAL BY BUNNY GREGORY

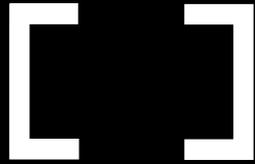
CULTURE KIDS RESEARCH & DEVELOPMENT



PHOTO: CULTURE KIDS HELSINKI: N2 ALBINO



CHARLOTTE NEUROARTS COALITION



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ADVOCATE STRATEGY

ARTS+

ARTS & SCIENCE COUNCIL

BANK OF AMERICA

BECHTLER MUSEUM OF MODERN ART

CHARLOTTE BALLET

CHARLOTTE SYMPHONY

FOUNDATION FOR THE CAROLINAS

THE GAMBRELL FOUNDATION

HARVEY B. GANTT CENTER FOR AFRICAN-AMERICAN ARTS + CULTURE

MINT MUSEUM

NOVANT HEALTH

PNC

QUEENS UNIVERSITY/ELON UNIVERSITY

WAKE FOREST

THREE-YEAR PILOT

ANTICIPATED COALITION GOALS:

- Leverage cross-sector collaborations to advance evidence-based arts research and practice
- Improve local health and wellbeing outcomes while strengthening the creative sector
- Position Charlotte as a national leader in neuroarts implementation while building local capacity for sustained, evidence-based arts programming
- Contribute meaningfully to the international movement advancing arts as essential community health infrastructure



PHASE ONE: FOUNDATION BUILDING AND STRATEGIC PARTNERSHIPS

- Coalition Formation & Partnership Development
 - Asset Mapping and Community Engagement
 - Vision & Strategic Planning

PHASE TWO: PROGRAM DEVELOPMENT AND IMPLEMENTATION

- Focus Area(s) Selection
- Artist Employment, Training and Program Delivery
- Community Education and Communication Strategy
 - Research Integration

PHASE THREE: EVALUATION AND SCALING

- Formalized Research and Measurement Implementation
 - Program Assessment, Expansion & Sustainability