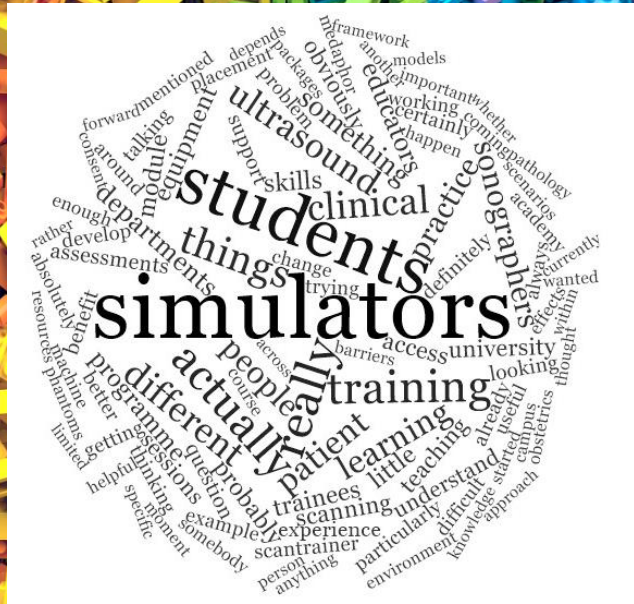


# Student perspectives of simulation in sonographer education: a constructivist grounded theory study.



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**Achieving Excellence in  
Radiography Education &  
Research 2024**



Project Supervisor: Dr. Julie Nightingale

**No conflict of  
interest to declare**

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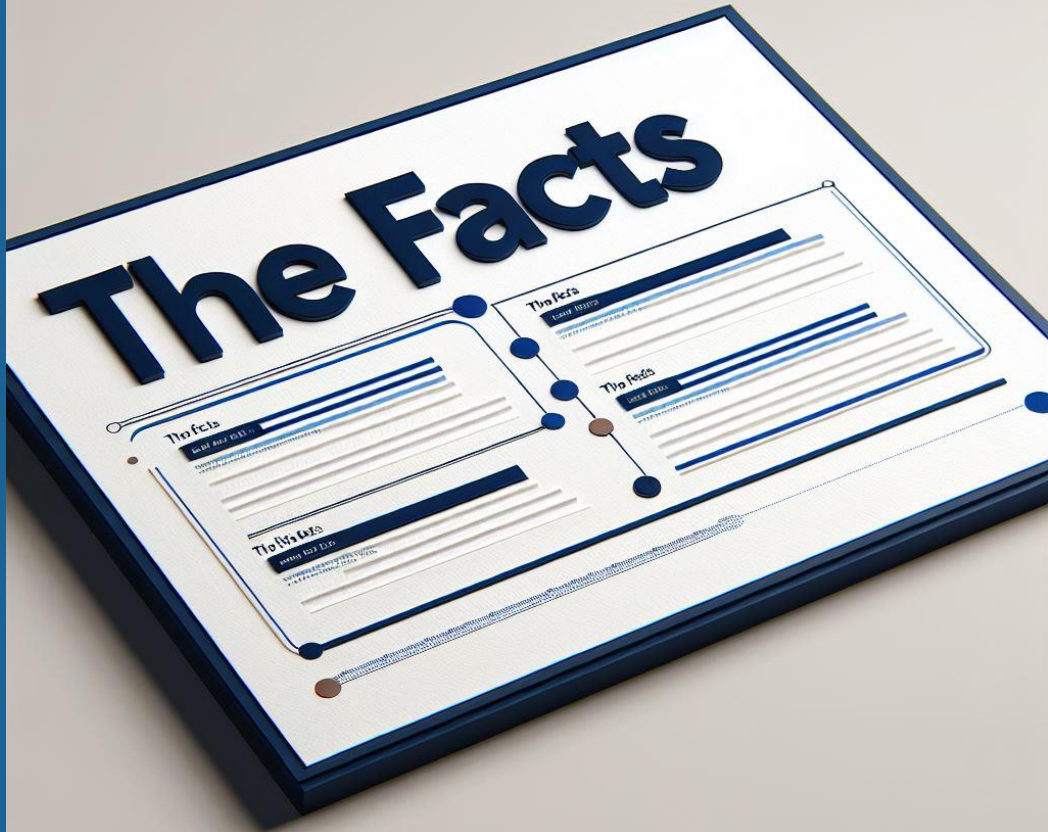


# Important context:

## We know ...

Chronic sonographer workforce shortages

- UK sonographer vacancy rate 12.6 % (SCoR, 2019)
- Increasing demands for ultrasound services (NHS, 2020)



## Counts of imaging events by modality (exam type) on NHS funded patients in England 2022/23

NHS: ENGLAND	A&E / Admitted	Report turnaround time band		OP/GP referrals	
		Same day	By next day	Total cases	Reported by next day
Modality	Total cases				
Computerized tomography	3,855,015	89%	96%	3,233,350	28%
Plain radiography	11,127,080	28%	50%	10,866,970	48%
Ultrasound	1,532,670	<b>92%</b>	<b>93%</b>	<b>8,724,720</b>	<b>91%</b>

**10,257,390** ultrasound examinations, 91%+ reported within 24 hours

(NHS England, 2023)

## FOCUSING ON THE ISSUES

# 2002

### *When Caring Hurts: The Silent Burnout of Sonographers*

GRETCHEN LEE BLUME, RDMS, RDCS

One of the most overlooked areas of sonography

gency medical technicians, nurses, and social workers. After 15 years of warnings, attention is finally being directed at the effects of MSI (musculoskeletal injury) on sonographers. Sonographers, employers, and ultrasound manufacturers are at last recognizing the debilitating effects of prolonged overuse and improper use of the musculoskeletal system. Although this current climate of interest in sonographers' well-being exists, it is also important to recognize the threat of CF. This is because CF has been proven to produce a progressive loss of idealism, energy, and purpose in members of the health care and helpline professions. The

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### REVIEW ARTICLE

SONOGRAPHY WILEY

## Burnout in the sonographic environment: The identification and exploration of the causes of sonographer burnout and strategies for prevention and control

Kerolloss Younan<sup>1</sup> | Daniel Walkley<sup>2,3</sup> | Ann Elizabeth Quinton<sup>1,4</sup> | Jennifer Alphonse<sup>1,5</sup>

# 2022

# 2006

### *Understanding Sonographer Burnout*

KELLY H. WALVOORD, BS

It is important to identify factors leading to burnout, recognize who is suffering, and apply prevention techniques to deter burnout and stress in the workplace. Factors contributing to burnout have been identified as staff shortages,

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<https://doi.org/10.1177/87564793231213364>

Sage Jo

### Original Research

## Incidence and Cause of Occupational Burnout Syndrome Among Sonographers

My Tran, MS, RDMS, RVT 

# 2024

# Drivers for change

- Available **funding** streams
- **Regional training academics** (varied access and approaches)
- Ultrasound training for **other professionals**
- **Sonographer career framework (V2, 2022)**
- **New educational routes** – 2 current CASE accredited BSc routes





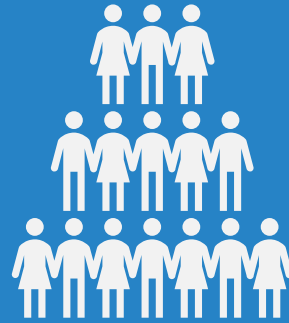


- Ongoing **lack of clinical training capacity** (Harrison & Beardmore, 2020).
- If chronic workforce shortages are to be addressed, expanding the number of trainees will require **alternative approaches to clinical education** (HEE, 2020).
- **Simulation** could provide an opportunity to increase training capacity, but there is currently limited evidence to ensure this is implemented effectively.





## 3 Core categories



Experiences,  
identity and  
culture



Simulation  
and  
sonographer  
education



Key influences  
on simulation  
use



# Ultrasound simulation

- Widespread but varied use of **task trainers, phantoms and volunteers.**
- Educators largely focused on **psychomotor skill development**, and recognition of **image** appearances (anatomy and pathology).
- Majority of SIM in HEIs
- **BUT** Trial and Error approach

Educators showed enthusiasm and willingness to share, learn and change ...

BUT

- Student engagement varies
- Overwhelmed

*“I have spent hours ... and then nobody has been in to use it “*

*“... it's very variable whether the students engage”*

*“Time is a massive barrier ... we are all just flying by the seat of our pants all the time!”*

*“ feels like an unsurmountable mountain to climb”*

# Professional identity and protectionism

“We’re a little exclusive”

“Ultrasound is not like other specialties”

“We are a bit precious”

- ‘ Mitchell & Nightingale, 2019.
  - Resistance to transformation
  - Professional culture difficult to change

# Student pressures in practice

Placement is only as good as the people teaching you ... **people who give you time** to learn, time to make mistakes and not make you feel bad about it.

## Consistency

*Whereas in department, we may not have the same person for a few weeks ... **it could be like 6 months before we scan with them again ...***  
*I think that bit is tricky, the consistency of everything.*

Importance of a clinical educator:

*... I think you feel more nurtured as a student when you've got (a clinical educator)*

# Student pressures in practice

## - Confidence

I don't want to be wasting time and ...

**I don't want people to think I'm holding them up,**

I don't want to push this sonographer behind on the list

## - Belonging

with some people, **I don't feel like I can ask** them that question or go to them for that feedback.

## - An inconvenience

**I feel stupid ...**

I do find it hard with different people ... the way they teach you.

# Student experiences



I've just asked to defer my module so I can manage and cope, because ..(I was) **feeling too pressurised and overwhelmed**

- **Overwhelmed**

I cry to release my tension. I think **I get so overwhelmed** ... if I don't get it right you know this patient's going to be in trouble

... it was hard, ... I'm at that point where I'm having more good days than bad ... **at first it was quite a struggle**



# Student experiences

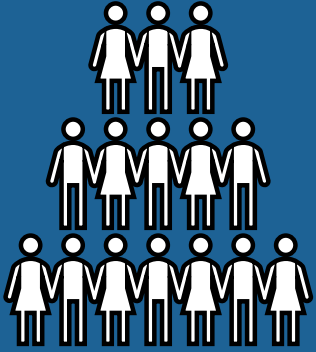


- Isolation

most of them are not going to pass any judgement or be awful or anything...

**feeling like I'm an inconvenience ...** that's probably what affects me most.

***I didn't know who to go to** because it's almost that feeling of, everyone's quite matey at work, ..... she'd actually gone into the room next door and locked the door to go and talk about me to one of the other sonographers and **I felt awful.***



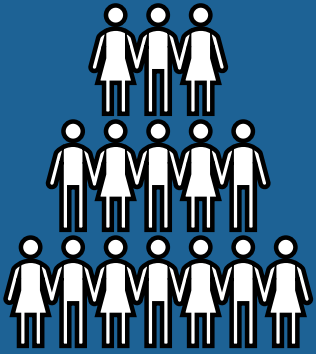
# Student experiences of learning: Simulation

- Varied experiences
- Self led Vs tutor led
- Peer support

"I did feel a bit **self-conscious** thinking I might get this completely wrong"

"I love it ... it's such a **rich learning environment.**

if you're ever unsure about something, you've got somebody to ask and everyone's really happy to help and, you know, when we're all together as well, everyone's just really **supportive.**



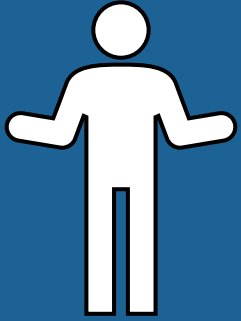
# Student experiences of learning: Simulation

When you are with a real life patient it's a **completely different situation**, there's certain things you want to vocalise to your mentor that's standing next to you and you can't

- Safe learning environment

it is a **safe space**

It would be really hard if I didn't have the simulations at uni, where there's that **relaxed environment**



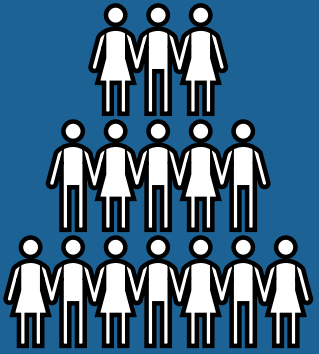
## Developing a professional identity

*I didn't really get what it was that I was actually going for ... or **how hard it really is**. It looks easy but it's not.*

New identity

***I felt like an imposter like I shouldn't be there**, and after the initial excitement it was really awkward and I just felt really rubbish really.*

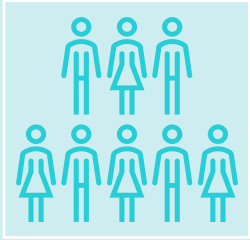
*I think people forget what it's like as a student to **start over again** ... what it's like to go back to the beginning*



# Student experiences of learning: Simulation

- Lack of fidelity/realism
- Technical issues and access
- Personal preferences/learning styles
- Peer support
- Debrief essential
- Need for trust

# Need for change



Workforce shortages and service pressures impacting training quality and quantity (clinical staff and academics) – review how **simulation and clinical educator roles** can improve this



**Adapt** to accommodate new and varied educational routes, and different learning styles.



Leadership, collaboration and **guidance** needed.

# Appetite for change



*We've always done it this way has gone!*

*I feel ultrasound has to be taken seriously and **good quality training** is the way forward to address the shortages.*

*I don't see how we're going to achieve addressing the workforce shortage if we don't do something differently.*

Khine, Harrison & Flinton (2024) emphasised the importance of an inclusive, safe and welcoming environment for sonography learners.

“We need to focus a lot more on wellbeing and mental health. I think mental health is not addressed in sonography ... we'll just get on with it.

**Simulation can take away a portion of that anxiety ...**

... to develop you as a better practitioner ... (and) a healthier practitioner...

that will give you automatically positive patient experiences.”



*“... ultimately it's not where we need it to be.”*

## Conclusion

- **Huge potential** for simulation to positively impact:
  - Clinical skill development
  - Knowledge and behaviors
  - Belonging and psychological safety
  - Professional identity development
- **Need for collaboration and change (informed by student voices)** if use of simulation is to be optimized in sonographer education



# My next steps: Thesis submission and VIVA





**Thank you**

**Questions?**

@chynesSHU

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