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From escalation to emergence: NHS Forth Valley and the quiet power of Transformative Simulation

Sharon Marie Weldon ^{1,2,3}, Julie Mardon,^{4,5} Vicky Tallentire,^{6,7} Daniel Hufton,^{4,5} Andrew Galbraith,⁴ Paul Bowie,^{7,8} Colette Laws-Chapman,⁹ Marco Grit,¹⁰ Paul McCrone,^{1,11} Samantha Smith,¹² Andy Buttery,^{1,13} Kenneth Spearpoint,¹⁴ Philip Gurnett,^{1,15} Bryn Baxendale¹⁶

¹Health Sciences, University of Greenwich, London, UK

²Imperial College London, London, UK

³Barts Health NHS Trust, London, UK

⁴Scottish Centre for Simulation and Clinical Human Factors, Forth Valley, UK

⁵NHS Forth Valley, Stirling, UK

⁶NHS Lothian, Edinburgh, UK

⁷NHS Education for Scotland, Edinburgh, UK

⁸University of Staffordshire, Stoke-on-Trent, UK

⁹Guy's and St Thomas' NHS Foundation Trust, London, UK

¹⁰Laerdal Medical AS, Stavanger, Rogaland, Norway

¹¹King's College London, London, UK

¹²University of Dundee, Dundee, UK

¹³Canterbury Christ Church University, Canterbury, UK

¹⁴University of Hertfordshire, Hatfield, UK

¹⁵King's College Hospital NHS Foundation Trust, London, UK

¹⁶Nottingham University Hospitals NHS Trust, Nottingham, UK

Correspondence to

Professor Sharon Marie Weldon; s.m.weldon@gre.ac.uk

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ABSTRACT

Background In 2022, National Health Service (NHS) Forth Valley, Scotland was escalated to Level 4 under the NHS Scotland Support and Intervention Framework - triggering the highest level of oversight and engagement from the Scottish Government prior to statutory intervention. While many systems under such pressure default to compliance-driven responses, NHS Forth Valley took a different path: embracing a whole-system approach focused on leadership, culture, integration and governance. Within this, Transformative Simulation was embedded as a leadership method to support cultural and systemic renewal.

Approach A multi-professional, multi-sector delegation from the Association for Simulated Practice in Healthcare (ASPiH) visited NHS Forth Valley in early 2025 to observe simulation in practice as a leadership tool. Over two immersive days, we witnessed how simulation was used not only for education and training but also for engaging with emotionally charged challenges, enabling system-wide reflection and co-designing new models of care.

Reflections Leadership behaviours observed during the visit were marked by humility, openness and courage. Senior leaders did not simply oversee change - they participated in simulations, listened deeply and responded actively. Simulation served as both a mirror and a mechanism: surfacing cultural dynamics, enabling cross-boundary collaboration and supporting healing after organisational trauma. Transformative Simulation emerged not as a short-term intervention but as a long-term leadership framework.

Implications NHS Forth Valley's response demonstrates that simulation, when embedded intentionally, can be a powerful lever for leadership, trust-building and transformation. Their story offers a hopeful vision of what becomes possible when leadership chooses connection over control.

INTRODUCTION

In early 2025, a multi-professional and multi-sector delegation convened at NHS Forth Valley in Scotland as part of a specialist interest group affiliated with the Association for Simulated Practice in Healthcare (a not-for-profit simulation association). Our aim was to witness what leadership-enabled, embedded simulation looks like in practice.

What unfolded over two immersive days was not only a demonstration of the power of simulation to generate change but also a revelation about the

kind of leadership that makes such transformation possible.

This is not a story of heroism or strategy by press release. It is a story of quiet courage, relational depth and systems thinking in action. A reflection, in the mirror of crisis, of what leadership can look like when it listens, invites and trusts.

This essay offers a shared reflection on those experiences and the profound impact they left - not just on us as visitors, but on a health system that chose to lead differently and with a tool not traditionally recognised for its capacity to shape system-wide culture and enable embedded change.

A SYSTEM UNDER PRESSURE

In 2022, NHS Forth Valley was escalated to Level 4 under the NHS Scotland Support and Intervention Framework - the highest level of direct oversight and coordinated engagement from the Scottish Government prior to statutory intervention. This escalation was triggered by concerns around governance, leadership and culture, alongside ongoing performance issues in areas such as out-of-hours services, mental health and unscheduled care.¹

Level 4 escalation brought direct oversight by the Scottish Government through an Assurance Board, chaired by the Director of Population Health. NHS Forth Valley was required to produce and implement a formal Improvement Plan, focused not only on operational recovery but also on deeper cultural and systemic transformation.²

The Improvement Plan centred around three bold priorities:

- ▶ Putting patients first by ensuring consistent, high-quality care.
- ▶ Supporting staff through better conditions and well-being infrastructure.
- ▶ Working in partnership to build a culture of trust, respect and shared learning

While most systems under this level of scrutiny default to defensive, compliance-driven responses - top-down controls, audit cycles and risk avoidance - NHS Forth Valley chose a different path.

Rather than retreating inward, the system opened up. One of the approaches was to progressively embed Transformative Simulation alongside a programme of culture change - not as an optional or remedial tool, but as a core leadership method for engaging with complexity, discomfort and relational repair.

As the Director of Medicine, Andrew Murray, reflected: “*For little resource, a lot could be achieved.*” But what made that possible was not money or mandate. It was a mindset, one that embraced discomfort as a lever for growth and learning as a shared responsibility.

WHAT IS TRANSFORMATIVE SIMULATION?

Transformative Simulation is a structured, and relational method that brings together diverse voices across systems and beyond to generate collective insight, cultural alignment, and purposeful change.³⁻⁵

While simulation is often understood as a replication of reality - through physical re-enactment, virtual environments, or hybrid methods - and is widely used in healthcare to support education, skills development, and team training (helping clinicians rehearse best practices, meet safety requirements, and work effectively together), Transformative Simulation builds on this foundation by extending simulation into the realm of system leadership, cultural insight, and complex problem-solving.³⁻⁷

Rather than focusing on individual competence or predefined learning outcomes, its purpose is not simply to rehearse the expected, but to surface what is often unspoken, unknown, or uncomfortable. It enables systems to grapple with cross-cutting, often emotionally charged challenges, and invites multiple perspectives - from patients to board members, and from operations staff to frontline clinicians - into shared awareness and sense-making, providing a legitimacy lens through which under-recognised insights gain traction.^{3,5,8}

But Transformative Simulation is not without structure. It is grounded in global evidence and practice, underpinned by clear values (the 5 foundational 'P's), and aligned with a growing theoretical base.³ At its core lies a taxonomy of Simulation-Based Intentions (SBIs), which guide each of the 4Ds of practice - Design, Delivery, Data and Debrief - ensuring intentionality, effectiveness, and impact (figures 1 and 2).⁸

The framework draws on multiple fields, including human factors, patient safety science, quality improvement, implementation science, engagement theory, cultural studies, and the social sciences.⁸ It is a living, practice-informed structure that honours complexity while supporting practical clarity. It enables reciprocal illumination - where multiple viewpoints surface, interact, and reshape understanding - and creates experiential foresight by allowing systems to experience change before enacting it. Over time, it builds relational infrastructure that supports trust, reflection, and sustained systems learning.

At its heart, Transformative Simulation is about leadership - not positional leadership, but cultural leadership - the kind that sits in the complexity of a living system, makes the invisible visible, and moves people towards something more aligned, more focused, and shared.

TRANSFORMATIVE SIMULATION IN PRACTICE

To better illustrate how Transformative Simulation was enacted within NHS Forth Valley, several examples from the delegation visit are described below. These examples show the breadth and depth of what was addressed through simulation, and how it translated into organisational learning and culture shift.

Rethinking equipment access through cross-system dialogue

A simulation exploring routine equipment ordering revealed long-standing inefficiencies affecting timely care. The outcome was the elimination of a significant cumulative delay in

equipment provision, previously equating to hundreds of years of patient waiting time.

Values-based recruitment: youth-led simulation in social care

In collaboration with national workforce initiatives, a simulation-based project engaged young people to co-design recruitment experiences in health and social care. Participants shaped scenarios reflecting the values and challenges of care roles. Insights directly informed national workforce strategies and policy conversations, positioning simulation as a vehicle for engagement.

Simulation safety club: a forum for reflection and inclusion

A monthly initiative open to all staff used simulation scenarios, often inspired by real incidents or concerns, as a starting point for system-wide reflection. The format combined evocative simulations with facilitated discussion, encouraging emotional honesty and workforce sense-making. The club was widely seen as a psychologically safe space where staff could surface difficult issues, explore solutions and feel heard.

Supporting inclusion and safety for international medical graduates (IMGs)

Historically, some IMG doctors had been excluded from high-stakes clinical roles due to concerns around induction and preparedness. A triad of interventions, including tailored one-to-one simulations, structured group sessions and a regular IMG simulation forum, was introduced. These efforts led to full rota inclusion for all IMG doctors for the first time in over a decade and coincided with a reported reduction in feelings of isolation and burnout.

Empowering foundation doctors through deteriorating patient simulation

In simulation work linked to patient deterioration pathways, early exercises revealed an unintended consequence of existing protocols: Foundation Year doctors were often bypassed in escalation, leaving them disengaged and disempowered. Simulation illuminated this hidden dynamic and commenced a redesign of escalation models to better integrate junior doctors into early decision-making - fostering a more inclusive safety culture.

Primary care simulation for whole-practice emergency preparedness

Initial simulations in general practice settings revealed wide variation in how medical emergencies were managed across roles. In response, the simulation team worked with entire practice teams, clinical and administrative, to co-create emergency response maps tailored to their settings. Simulation was then used to rehearse and refine the response, leading to concrete changes in equipment placement, documentation practices, team communication protocols and shared mental models.

LEADING WITH COURAGE AND COMPASSION

Every leader we met at NHS Forth Valley, from Chair of the Board Nina Mahal to Director of Medicine Andrew Murray, Chief Nurse David Watson, Allied Health Director Pauline Beirne, Head of Efficiency, Productivity, Quality and Innovation Wendy Nimmo, Director of Medical Education Kate Patrick and Clinical Director of Integration and the Scottish Centre for Simulation and Clinical Human Factors JM, demonstrated a rare and powerful combination of humility, curiosity and radical openness.

This framework illustrates how simulation aligns values, intentions, and action to drive system change.

PROCESS
INTENTIONS
THEORIES
VALUES

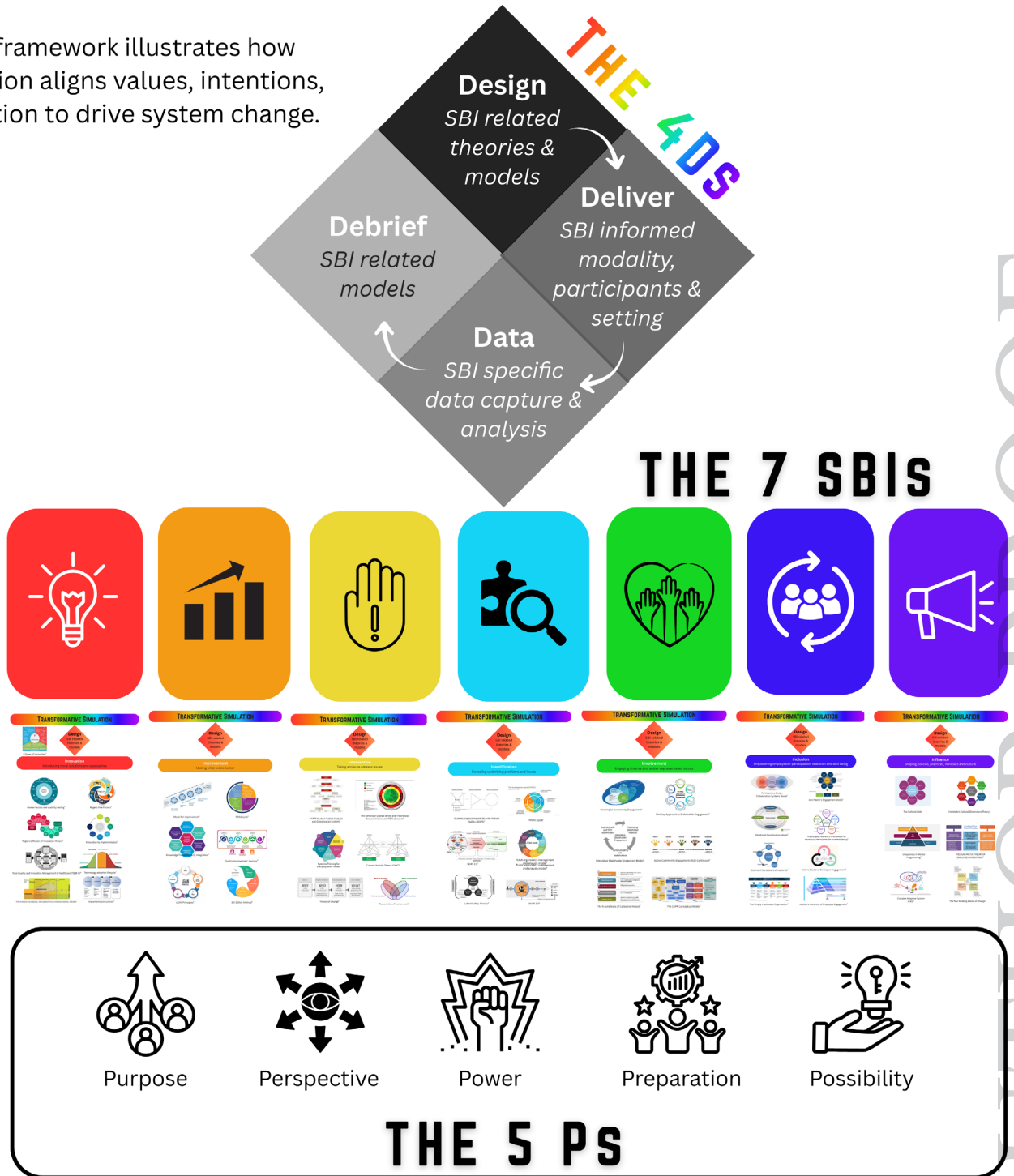


Figure 1 The Transformative Simulation framework: Foundational Values (5 Ps), Simulation-Based Intentions (SBIs), and aligned theories, embedded within the 4D Process (Design, Delivery, Data, Debrief) 8

These were not performative champions. They were participants. They sat in the simulations. They felt the discomfort of the scenarios. They heard staff describe how decisions felt on the ground. And, crucially, they acted on what they learnt.

There was a collective willingness to stay open to critique, to listen without defensiveness and to model what reflexive leadership looks like in practice.

CREATIVITY UNLEASHED: SYSTEMS THINKING IN ACTION

Transformative Simulation created not just insight but innovation.

We witnessed simulations that tackled years-long problems. Allied Health simulations led by the Director of Allied Health Professions, Pauline Beirne, addressed chronic delays in access to essential equipment, resolving them in ways that had eluded traditional improvement methods for nearly a decade.

We saw a simulation used with local communities and schools to tackle workforce recruitment. These were not abstract strategy documents but embodied, relational interventions that allowed for emotional connection, co-design and culture shift.

TRANSFORMATIVE SIMULATION

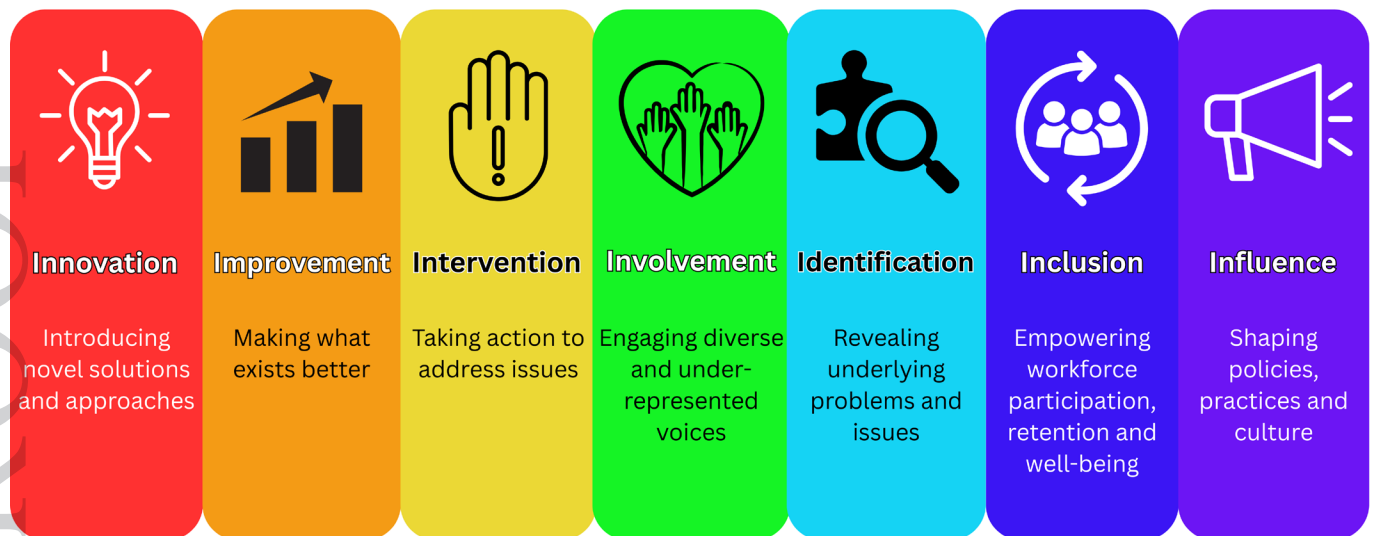


Figure 2 The Seven Simulation-Based Intentions (SBIs) taxonomy and descriptors.⁸

What stood out was how practical, system-aware and grounded the simulations were, always connected to real-world impact, not simulation for simulation's sake.

THE IMPACT ON CULTURE, MORALE AND STRATEGY

Leaders and staff alike described palpable changes in morale, language and connection. Simulation became a space where departments bridged silos, where psychological safety allowed people to speak honestly and where shared purpose began to re-emerge after years of exhaustion.

Moral injury was named - not buried. Staff reflected on the toll of delivering care in strained conditions. In the safety of simulation, healing became possible.

There was no illusion that simulation alone could 'fix' the system. But it created the conditions in which people could begin to see each other again, across titles and roles and make sense of the challenges together.

REFLECTIONS ON LEADERSHIP AND ENABLING CONDITIONS

One of the most striking aspects of the visit was the leadership culture that made this work possible. It did not emerge from a mandate or external consultancy. It was built gradually through internal belief, strategic sponsorship and the quiet leadership of individuals like JM, Clinical Director of Integration and the Scottish Centre for Simulation and Clinical Human Factors. JM had been laying the groundwork: cultivating trust among teams, strengthening relationships across the system and creating readiness for this kind of work.

This transformation was not about funding or infrastructure. It was about belief. Belief in people. Belief in reflection. Belief in emergence.

At the heart of it all was trust:

- ▶ Trust in JM, who quietly and consistently led the simulation work with courage, integrity and humility.

- ▶ Trust in the frontline teams who co-designed new models of care.
- ▶ Trust from senior leaders who were willing to relinquish control and create space for what needed to surface.

What made this possible was a shift from performance-driven leadership to relationship-centred leadership. Leaders who modelled the very behaviours they hoped to see: curiosity, courage, compassion and commitment.

More specifically, simulation was able to gain traction because:

- ▶ Executive sponsorship went beyond advocacy and included direct participation in sessions.
- ▶ Simulation was explicitly aligned with the broader organisational priorities outlined in the Level 4 Improvement Plan.
- ▶ It responded to the emotional, operational and cultural realities expressed by staff.

The coalition behind this work was not built through formal authority alone but through consistent modelling of humility, reflexivity and shared purpose. Leaders chose to sit in simulations, not above them - and that simple shift had a profound effect on the culture of the organisation.

GLOBAL LESSONS AND NEXT STEPS

What NHS Forth Valley demonstrated was not a simulation programme but a leadership culture shift. For health systems around the world under pressure, the lesson is not to scale simulation indiscriminately - but to plant it intentionally; to treat simulation as a cultural lever, not just a training or improvement intervention and to use it to build shared purpose, not just competence.

The global relevance of this work lies in its honesty. It does not promise quick fixes. It shows what becomes possible when people choose to see clearly, speak bravely and lead relationally - even in the shadow of crisis.

PERSONAL REFLECTION: THE MOMENT THAT CHANGED ME

(by co-author SMW)

As a nurse, healthcare workforce researcher and simulation advocate, I have witnessed many programmes, many frameworks and many claims of transformation.

But I left Forth Valley changed.

Not because of what I saw - but because of what I felt.

I felt the quiet courage of leaders who chose depth over display. I felt the power of collective reflection to make sense of the unspeakable. I felt the possibility of a more human, more connected, more compassionate healthcare future.

In a system under pressure, they had created not a fortress, but a mirror. And in that mirror, they found not just problems, but themselves - not perfect, still messy - but honest and humble.

LESSONS LEARNED/MESSAGES FOR READERS

The experience at NHS Forth Valley offers powerful lessons for leadership, culture and system renewal:

- ▶ *Simulation is not just a training or improvement tool - it can be a leadership method.* When designed and delivered with clear intent and across an organisation, simulation can act as a mirror, revealing systemic blind spots, relational tensions and cultural assumptions that may otherwise remain hidden.
- ▶ *Relational courage matters more than control.* In times of crisis, it is tempting to default to performance and compliance. NHS Forth Valley showed that progress is possible when leaders choose presence over distance, participation over hierarchy and openness over defensiveness.
- ▶ *Psychosocial safety is essential for innovation and healing.* While psychological safety - feeling safe to speak up - is vital, this work also illuminated deeper psychosocial risks in the system: workload pressures, exclusion, unresolved trauma, disempowerment and cultural silences. Simulation provided a space where these could be named, shared and addressed - supporting not just safer care but safer working lives.
- ▶ *Culture change requires more than statements - it requires embodiment.* Leaders did not just support simulation; they sat in it, reflected with others and acted on what they learnt. This modelling of humility and learning created ripple effects far beyond any single session.
- ▶ *Simulation's legitimacy in health policy depends on how it is framed and led.* For simulation to influence system design, workforce well-being and patient outcomes, it must be visibly connected to broader strategic goals - not siloed or seen as 'just education'.
- ▶ *Real transformation is collective.* What happened at Forth Valley was not the result of one leader or one intervention. It was the outcome of alignment across roles, departments and priorities, and the willingness to make meaning together.

Social media Sharon Marie Weldon, LinkedIn @sharon-marie-weldon-60746257

Collaborators Association for Simulated Practice in Healthcare (ASPIH).

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ORCID iD

Sharon Marie Weldon <https://orcid.org/0000-0001-5487-5265>

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