From Incident to Outcome

Reimagining Trauma Care in Mining

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The incident is only the beginning

44

fatalities
Jan-Aug 2026

32

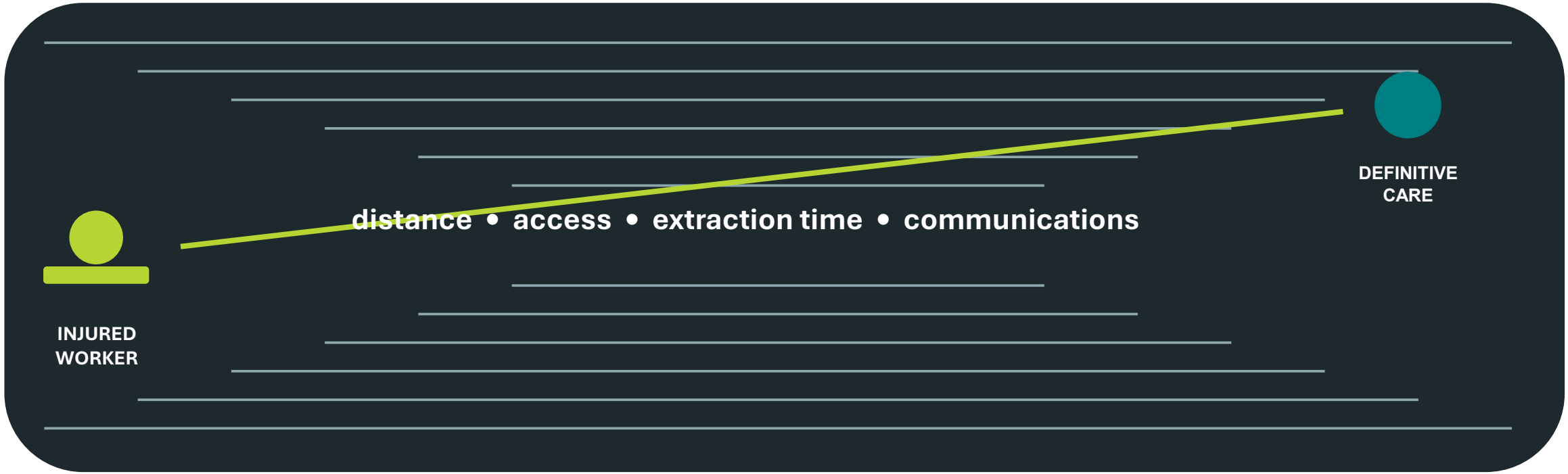
fatalities
same period 2025

FATALITIES +37.5%
REPORTABLE INJURIES ↓13.9%
1,370 → 1,180

Progress in reducing reportable injuries remains important. When a high-consequence event does occur, outcome is also shaped by the strength of the pathway from incident to definitive care.

Source: MHSC, Progress Against the 2024 Summit Milestones (SAMRASS provisional data, 1 Jan-31 Aug 2026).

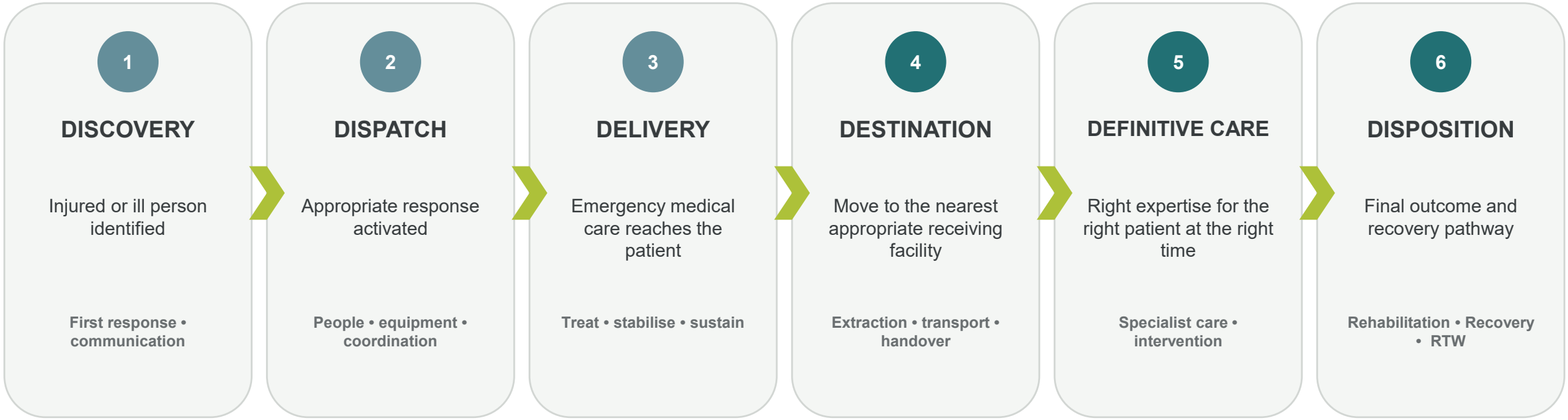
The trauma clock starts at the point of injury.



Distance, access and extraction time can require clinical care to be sustained before definitive treatment is reached.

Evidence: WHO time-sensitive emergency care; 2026 prolonged-field-care review on delayed evacuation, trauma care and telemedicine.

The 6 Ds of the Mining Trauma Chain of Care



Every link requires the appropriate resources, capability and capacity.

The chain is only as strong as its weakest link.

Framework: Mining trauma chain-of-care methodology, adapted from prior international post-incident medical-care reviews.

Echoes of Regret: make the consequence visible

A serious injury does not end when the ambulance leaves.

38 days

14 operations

amputation

66 days

multiple operations

bilateral blindness

45 days

major spinal injury

quadriplegia

140+ days

multiple operations

life-altering injury

The clinical aftermath can convert an abstract rule into a human reality.

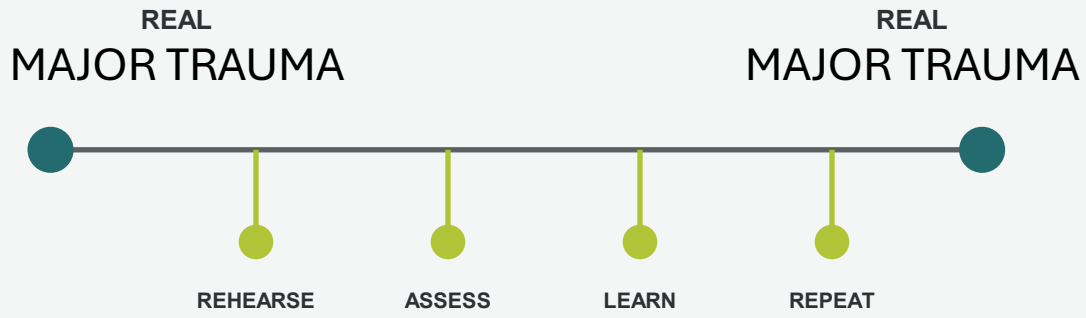
Amandelbult impact assessment: ~97.8% positive at baseline → ~99% post-intervention

High baseline awareness, with further improvement following the intervention

Internal Valterra: Echoes of Regret case material; Sustainability Committee update, July 2026. Cases de-identified for Summit use.

We should not have to wait for a serious incident to practise for one

HIGH CONSEQUENCE • LOW FREQUENCY



Readiness must be maintained between real events.

Repeated rehearsal can test technical skills, decisions, communication and teamwork.

THE PROBLEM

The events for which teams most need to perform exceptionally well are often the events they encounter least frequently.

THE FEASIBILITY STUDY

Multi-company R&D feasibility study
Testing repeatable virtual trauma scenarios for usability, learning, retention and scalability.

Valterra • Sibanye-Stillwater • Impala Platinum • Minerals Council • Academic partners: L. Sonesson, Milpark Trauma Unit, Wits University

FEASIBILITY FIRST • EVIDENCE BEFORE SCALE

Simulation is promising - but we should measure what matters

WHAT EVIDENCE SUPPORTS

Knowledge, skills, confidence and team competencies can improve after trauma / simulation training.

WHAT IS NOT YET PROVEN

VR evidence does not yet establish consistent improvement in patient outcomes or cost-effectiveness.

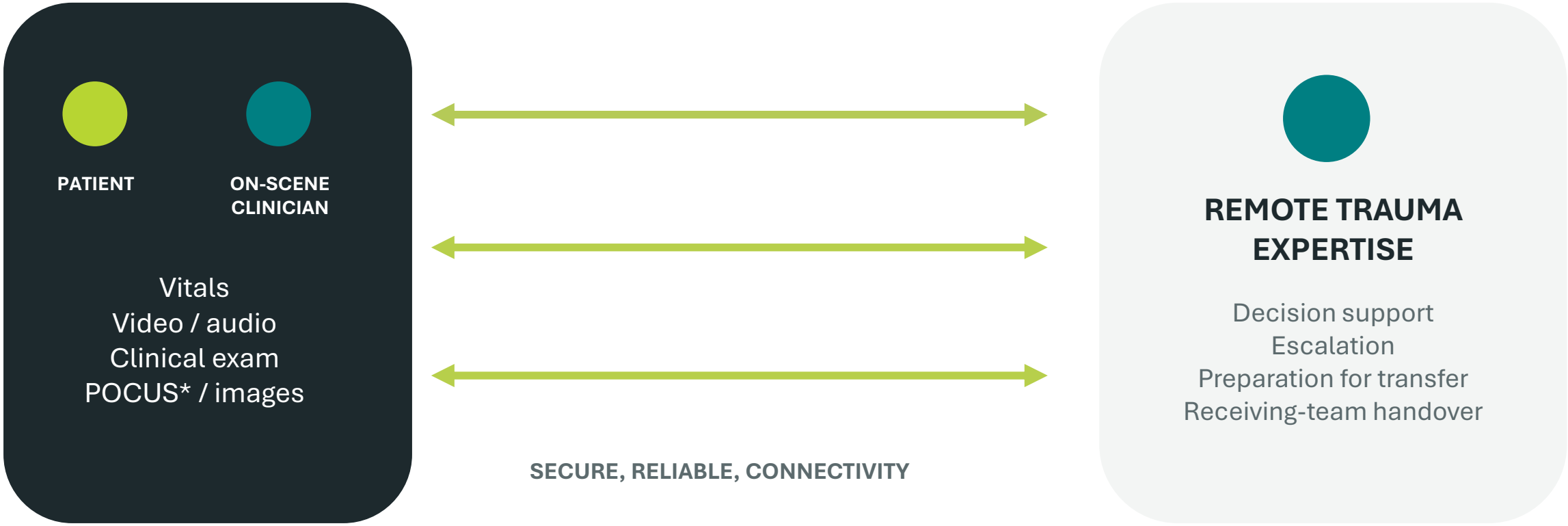
WHAT WE SHOULD TEST

Retention • decision-making • teamwork • usability • operational disruption • transfer to practice

Innovation earns its place when it improves readiness - not because it is immersive.

Evidence: systematic reviews of VR emergency skills training (2023, 2026) and trauma training (2025).

What if expertise could reach the patient before the patient reaches expertise?



*Future capability - not a claim of current underground deployment.

Evidence: telemedicine systematic review in remote/austere settings; 2026 prolonged-field-care review includes telemedicine-supported decisions.

Three projects. One trauma system.

LEARN

Echoes of Regret

Make the human and clinical consequences visible

PREPARE

Virtual trauma simulation

Rehearse infrequent, high-consequence events repeatedly

SUPPORT

Remote specialist capability

Extend expertise into austere environments

The opportunity is to translate learning, research and innovation into an increasingly capable and integrated trauma-care pathway.

Programme synthesis: Valterra Platinum Health. Current / pilot / future states intentionally separated. Aligned conceptually with the Summit emphasis on research translation and workplace implementation.

THE OPPORTUNITY

How can we continue strengthening the mining trauma-care pathway?

1. **A capable first clinical response**
2. **Sustained care during delayed extraction**
3. **Early access to the right expertise**
4. **A learning loop that changes future practice**

Zero Harm remains our shared goal.

Building on the industry's prevention systems, our collective opportunity is to strengthen the pathway from incident to definitive care - supporting the best achievable outcome for every seriously injured person.

Thank you

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Get to know the presenter

Dr Kelvin Naidoo

is Head of Health at Valterra Platinum and serves as an alternate member of the Mine Health and Safety Council Board. He leads the Health function across Valterra Platinum's South African operations and Unki Mine in Zimbabwe.

He is a medical doctor, who holds an MBA from the University of the Witwatersrand, and is an Advanced Trauma Life Support (ATLS) instructor.

His portfolio includes occupational health, employee wellbeing, and trauma and emergency medical care, with a particular interest in improving the management of serious injury in mining and other austere environments, including the role of simulation and emerging technologies.