STIVEN CATALYST

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MANAGEMENT REVIEW

Management without theatre.



OPERATIONS

THE SHIFT HANDOVER: WHAT GETS LOST

A valve that was not mentioned at Piper Alpha, fifteen handovers watched in a refinery, what a structured log changed, the I-PASS programme in 9 and then 32 hospitals, and a card for the handover.

66% of observed spoken handovers included all five I-PASS elements after the programme, from 20% before; 32 hospitals.

STARMER ET AL., 2023

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Two good shifts can still lose what lies between them. The handover is the few minutes in which one shift's knowledge becomes the next shift's work, or does not. This issue asks what gets lost there, and what changed where the handover was given a structure.

Lord Cullen found that the night shift on Piper Alpha did not know a safety valve was missing, because the handover had not said so. In a refinery, none of fifteen observed handovers showed all the safe behaviours; after structured logs, 71% of those asked saw better logbooks. In nine hospitals, the I-PASS handover went with 23% fewer medical errors; in a later study of 32, complete spoken handovers rose from 20% to 66%. Six marks and a card close the issue.

Stiven Janaqi EDITOR · STIVEN CATALYST

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HOW TO READ THIS ISSUE

Figure
Every figure has its source and year at the foot of its page.

Our reading
Where the editor interprets rather than the research, it says so.

Practice
The steps and the card are proposals to try, not research results.

COVER STORY

The valve nobody mentioned

On the evening of 6 July 1988 a pressure safety valve on the Piper Alpha platform was off for overhaul; a blank flange sat in its place. When a condensate pump tripped, the night shift set out to restart the other pump, the one under maintenance.

1987

A fatal accident on the platform; the company pleads guilty, among other things, to poor communication from the day to the night shift.

1988

6 July, evening: handovers between operators and maintenance do not say that safety valve 504 is out.

21:45

One condensate injection pump trips; the night shift turns to the other.

22:00

First explosion. Of 226 men on the platform, 165 die; 61 survive.

Lord Cullen traced the night shift's ignorance to failures in passing on information at shift handover and in the permit to work. There were no written procedures for handovers, and maintenance was not always set out in the operators' logs.

OUR READING

The warning came the year before, with a death and a guilty plea. The handover practice did not change.

Source: The Hon. Lord Cullen, Department of Energy, HMSO, 1990

From the Cullen report (1990), paragraphs 1.4–1.11, 11.13 and 11.16; times are the report's approximations. The causes were many; this page follows the handover. Witnesses told the inquiry handover practice had not changed after 1987.

THE NUMBERS

Fifteen handovers, one refinery

In 1994–95 the psychologist Ronald Lardner worked with a large UK oil refinery that had had no handover incident but saw room to improve. He watched fifteen operator handovers against a list of safe behaviours, then helped the staff design structured logs for about 55 posts.

0 / 15
observed handovers had all the safe behaviours; only one receiver took notes

20%
showed no sign of preparing; handovers lasted 1 to 11 minutes

38 STAFF ASKED ABOUT 3 MONTHS AFTER THE STRUCTURED LOGS (1999)



OUR READING

Every handover was face to face, and still none had everything. Talking is not yet a handover.

Source: Ronald Lardner, The Keil Centre, 1999

One refinery, one observed shift, opinions not error counts; the bars are shares of 38 people asked. The paper is dated 1999. Read in full on HSE's site.

THE MODEL

What the handover carries

HSE describes an effective handover in three parts: the outgoing person prepares, both sides talk it through, and the incoming person cross-checks before taking over. Two structures fill the middle part: one from a refinery, one from hospitals.

Refinery log, always

- Safety
- Maintenance and technical problems
- Work outstanding
- Comments
- Signatures of the authors

I-PASS, hospitals

- Illness severity
- Patient summary
- Action list
- Situational awareness and contingency planning
- Synthesis by the receiver

Both lists put the critical point first, safety or illness severity, and keep what is still to be done apart from what happened. I-PASS ends with the receiver saying back what was understood: HSE's cross-check, made part of the handover itself.

OUR READING

A list decides what is said every time, whoever is tired or new. The read-back shows whether it was heard.

Sources: Health and Safety Executive, 2024; Ronald Lardner, The Keil Centre, 1999; A. J. Starmer et al., Journal of Hospital Medicine 18(1), 2023

The refinery's five mandatory categories as Lardner lists them; posts added others where needed. I-PASS as Starmer et al. (2023) spell it. The comparison is the editors'.

WHAT THE RESEARCH SAYS

Five letters, two studies

In paediatric residency programmes at nine hospitals, a handover programme built on I-PASS went with medical errors falling from 24.5 to 18.8 per 100 admissions (2014). Amy Starmer and colleagues then took it to 32 hospitals, 12 of them community hospitals, with 18 months of coaching.

OBSERVED HANDOVERS IN 32 HOSPITALS, BEFORE AND AFTER (2023)



Harm linked to handovers, as residents reported it, fell by 47% per person-year. In the nine hospitals, spoken handovers took 2.4 minutes per patient before and 2.5 after: the structure did not make them longer.

OUR READING

The programme was more than a mnemonic: training, watching live handovers and coaching came with it.

Sources: A. J. Starmer et al., Journal of Hospital Medicine 18(1), 2023; A. J. Starmer et al., New England Journal of Medicine 371(19), 2014 (via the abstract at PubMed and Starmer et al. (2023))

Before-and-after comparisons; observers knew the phase, and harm was self-reported (58.6% answered). 2023 read in full; 2014 from its abstract, 10,740 admissions.

HOW IT IS MEASURED

Watch one handover

Both studies watched handovers rather than asking about them. A manager can do the same: sit in on one handover a week and mark what is there, without stepping in.

01	**Prepared**	notes or a log ready before the incoming person arrives
02	**Face to face, no distractions**	spoken and written together, away from other handovers
03	**Safety stated first**	equipment out of service, work in progress across the change
04	**Open apart from done**	each open item with a name and a time
05	**Read back**	the receiver sums up and asks; the giver corrects
06	**High risk flagged**	after a long absence, to someone new, in an upset

OUR READING

Count the marks, not the minutes. A short handover that has all six beats a long one that has three.

Sources: Health and Safety Executive, 2024; Ronald Lardner, The Keil Centre, 1999; A. J. Starmer et al., Journal of Hospital Medicine 18(1), 2023

The marks draw on HSE's principles, Lardner's list of safe behaviours and I-PASS; the selection and the weekly sitting-in are the editors'. Fatigue at the end of a shift is in No. 89, rosters in No. 45.

TOOL OF THE ISSUE

The handover card

One card per handover, written before the shift ends and read together face to face. The Shift Handover tool keeps the open items with an owner and carries the unresolved ones into the next shift.

01 State now how serious things are: normal, watch, or upset

02 Safety and work in progress equipment out of service, permits, jobs that cross the change

03 Open items each with its state, an owner and a time; resolved ones apart

04 If … then what may happen on the next shift, and what to do if it does

05 Receiver's read-back in the receiver's words; questions asked and answered

06 Handed over time and both names

Sources: Ronald Lardner, The Keil Centre, 1999; A. J. Starmer et al., Journal of Hospital Medicine 18(1), 2023; Health and Safety Executive, 2024

The card is the editors' proposal, built on the refinery log, I-PASS and HSE's principles; the essay linked below tells the author's own handover practice.

More in the essay — Why the shift handover is one of the most underrated processes

Open the tool: Shift Handover — stivencatalyst.com/tools/shift-handover/

SOURCES AND METHOD

Every figure has a source.

The figures in this issue come from the sources below. The year shows how recent each one is.

The Public Inquiry into the Piper Alpha Disaster (Cm 1310)
The Hon. Lord Cullen, Department of Energy, HMSO, 1990
https://www.hse.gov.uk/offshore/piper-alpha-disaster-public-inquiry.htm

Shift handover (Human factors: common risks)
Health and Safety Executive, 2024
https://www.hse.gov.uk/humanfactors/topics/shift-handover.htm

Safe communication at shift handover: setting and implementing standards
Ronald Lardner, The Keil Centre, 1999
https://www.hse.gov.uk/humanfactors/assets/docs/standards.pdf

Changes in Medical Errors after Implementation of a Handoff Program
A. J. Starmer et al., New England Journal of Medicine 371(19), 2014 · via the abstract at PubMed and Starmer et al. (2023)
https://doi.org/10.1056/NEJMsa1405556

Implementation of the I-PASS handoff program in diverse clinical environments: A multicenter prospective effectiveness implementation study
A. J. Starmer et al., Journal of Hospital Medicine 18(1), 2023
https://pmc.ncbi.nlm.nih.gov/articles/PMC10964397/

EDITORIAL METHOD

Each figure was checked for its year, its publisher and what it measures, in the full text where it could be opened. A source read only in a summary, an abstract or excerpts is marked “via”. A figure not confirmed in what was read is marked so on its page, or left out. The editor's interpretation is marked “Our reading”.



MANAGEMENT REVIEW

Management without theatre.

Every issue, one management question, checked against the best research.

ALL ISSUES

stivencatalyst.com/magazine/management-review.html

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Edited by Stiven Janaqi, who answers for it; “the editors” in this publication means him. Its texts, translations, layout and the checking of figures against their sources are done in working sessions with Claude, an AI model by Anthropic.
stivencatalyst.com/how-this-is-made.html