

Root Causes and Policy Issues in Healthcare Quality: The Bristol Royal Infirmary

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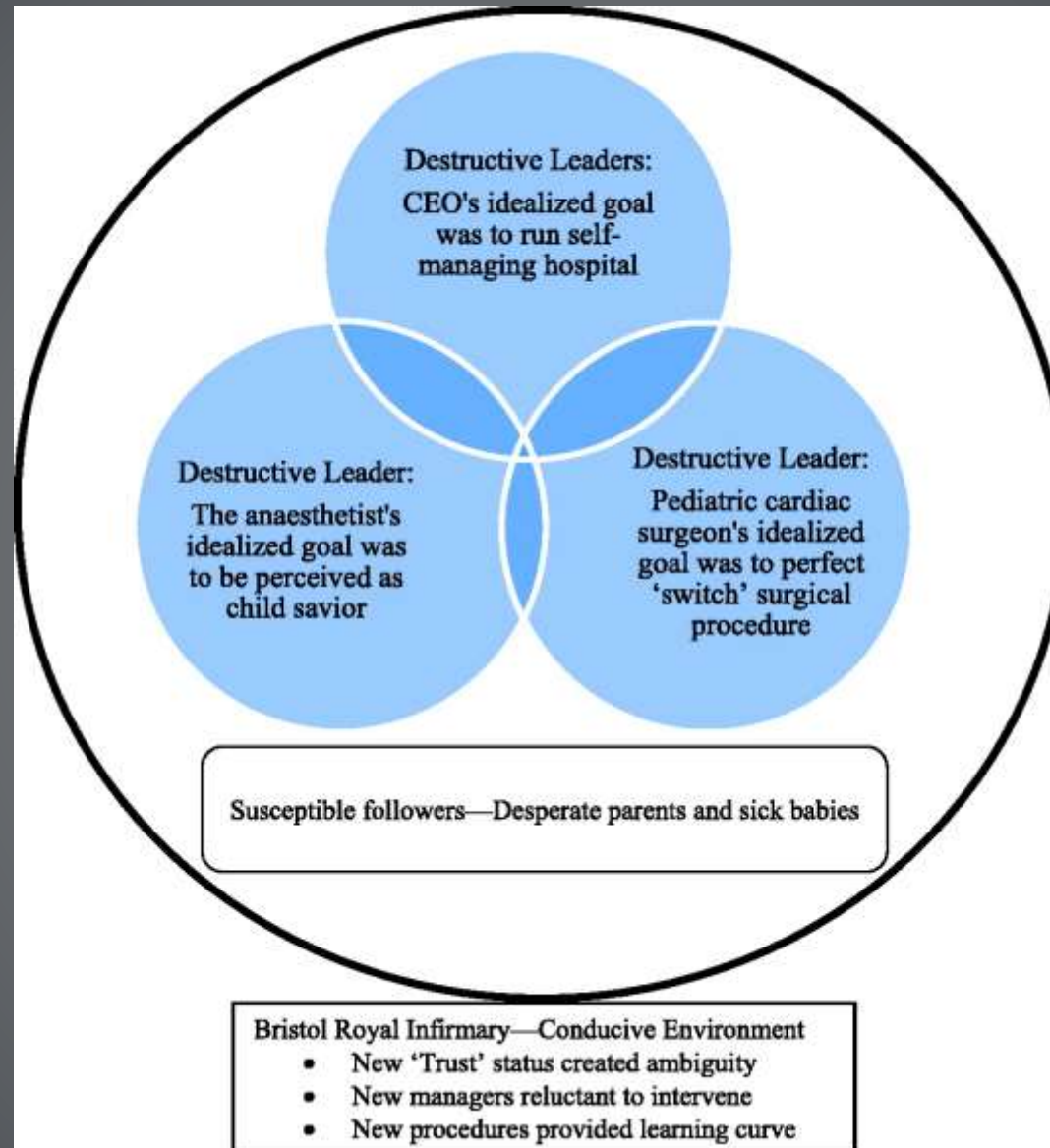
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INTRODUCTION

- ▶ During 1984-1995, Bristol Royal Infirmary performed 1,827 pediatric cardiac surgery on children (Parliament, 2001).
- ▶ In Bristol, the mortality rate stood at 32.2 compared to the national average of 21.2 between 1984-1989 and increased to 37.5 in 1990 (Weick and Sutcliffe, 2003).



MORTALITY STATISTICS

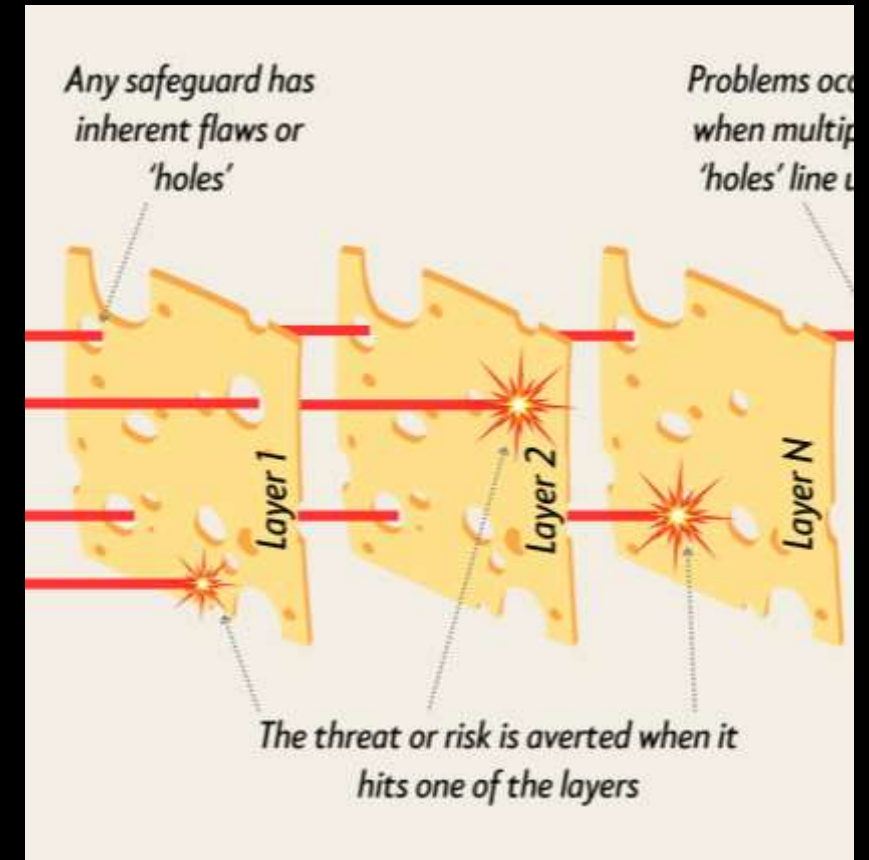
- ▶ In 1991-1995, Bristol had a statistically significant higher performance compared to other centers with 19 excess deaths when compared to Cardiac Surgical Register of 43 deaths and 24.1 excess deaths (Aylin et al., 2001).
- ▶ In the case studied by the General Medical Council 53 operations with 29 fatalities and four brain-damaged children permanently were analyzed (BBC, 2003).

Period	Bristol Mortality Rate	National Average	Excess Deaths
1984-1989	32.2%	21.2%	Not calculated
1990	37.5%	Declining nationally	Worsening trend
1991-1995	~40% (double)	~20%	30-35 deaths

SWISS CHEESE MODEL APPLICATION

The Swiss Cheese Model of reason (Wiegmann et al., 2022) demonstrates several defensive failures of layers at Bristol. Active failures encompassed poor surgical methods and poor monitoring of outcomes.

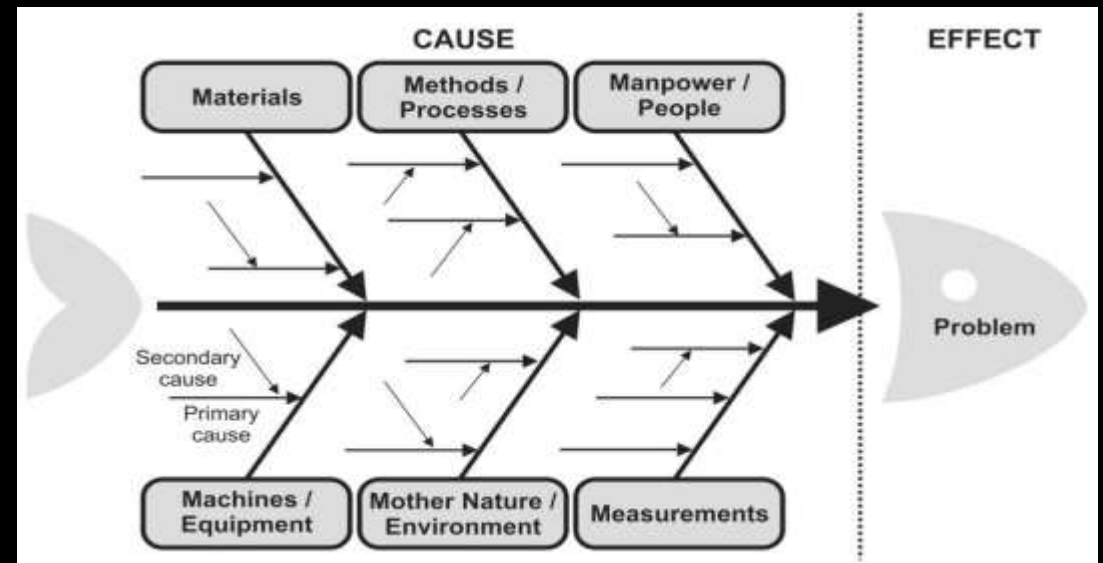
The Swiss Cheese Model is an example that there was no single failure that resulted in the deaths, instead, multiple flaws in the systems collided with each other (Larouzee and Le Coze, 2020).



Sources: (Larouzee and Le Coze, 2020)

ROOT CAUSE ANALYSIS FRAMEWORK

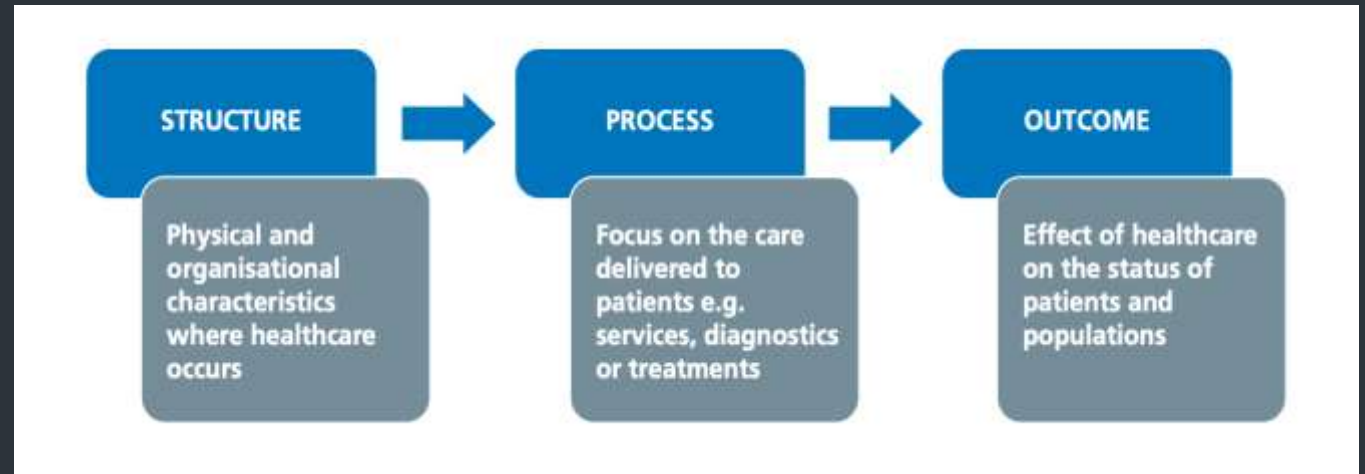
- ▶ Root Cause Analysis (RCA) shifted over systems analysis to individual blame (IHI, 2015). Using the Five Whys method: Why were children dying? Surgical failures.
- ▶ The RCA2 approach emphasizes action over identification as in the case of Bristol (Mills et al., 2005).

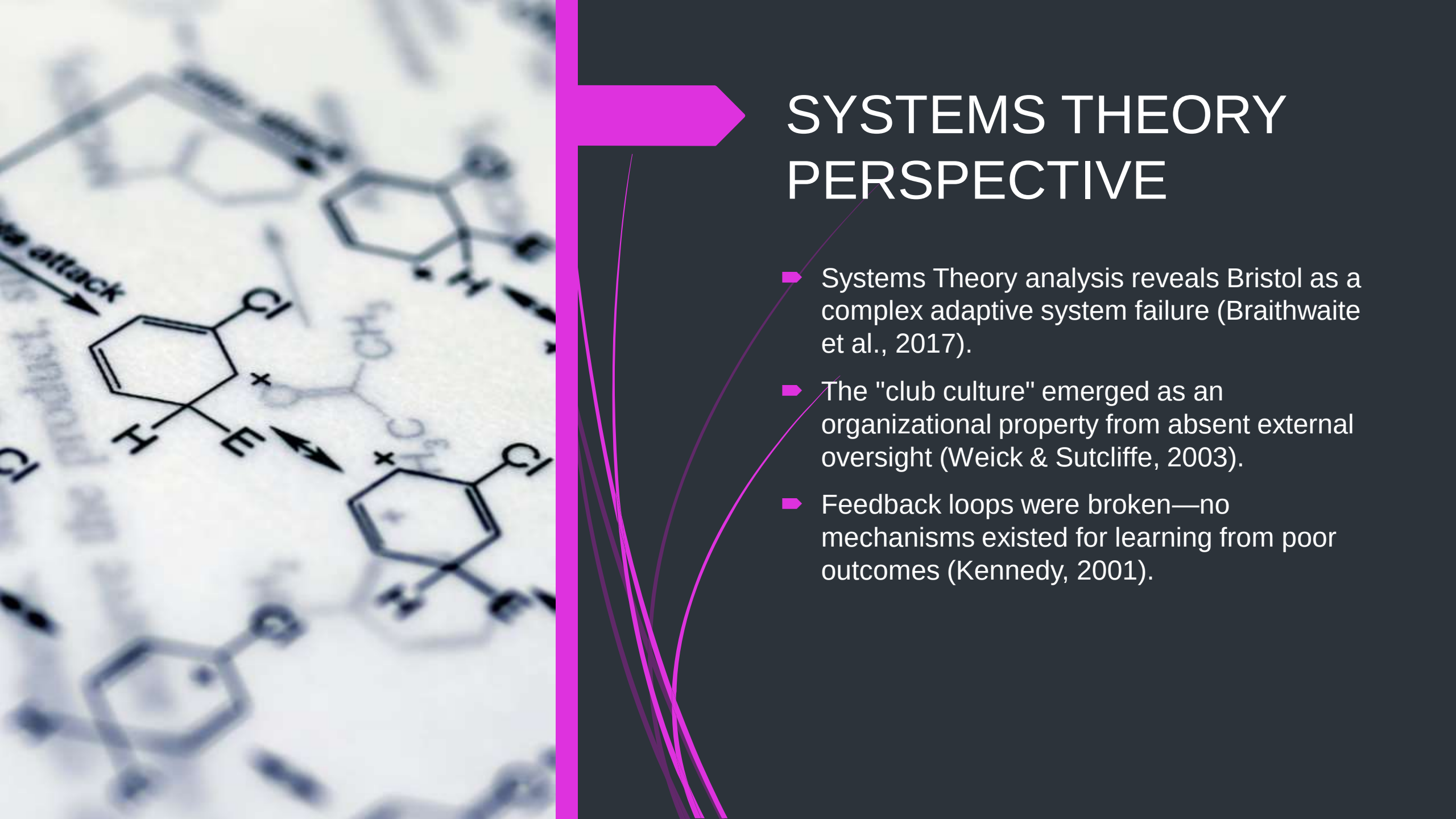


Sources: (Kennedy, 2001)

DONABEDIAN MODEL ANALYSIS

- ▶ The Structure- Process- Outcome framework of Donabedian (Donabedian, 1966) reveals holistic failure in the system.
- ▶ The Structure-Process-Outcome causal chain was totally undermined.





SYSTEMS THEORY PERSPECTIVE

- Systems Theory analysis reveals Bristol as a complex adaptive system failure (Braithwaite et al., 2017).
- The "club culture" emerged as an organizational property from absent external oversight (Weick & Sutcliffe, 2003).
- Feedback loops were broken—no mechanisms existed for learning from poor outcomes (Kennedy, 2001).



POLICY FAILURES PRE-1999

- Errors in Bristol were made possible by policy loopholes that existed before 1999 (Scully & Donaldson, 1998).
- First, there was no statutory obligation to quality prior to 1999, Trust Boards only dealt with finance and not quality of care.
- Second, there was a breakdown in regulatory frameworks: there was no compulsory adverse outcome reporting.
- Third, lack of information averted transparency: there were no requirements to publish performance data, and the results were not disclosed to patients.

IMPACT ON QUALITY, EFFICIENCY, EQUITY

- Quality impact: care became of low quality, there was no benchmarking against national standards, evidence-based practices were not implemented in an organized manner (Kennedy, 2001).
- Effect on efficiency: Preventable costs are represented by resources wasted on failed procedures, repeated operations necessary.
- Equity effect: Bristol families were given a low-quality care that resulted in a postcode lottery (Vick, 2018).

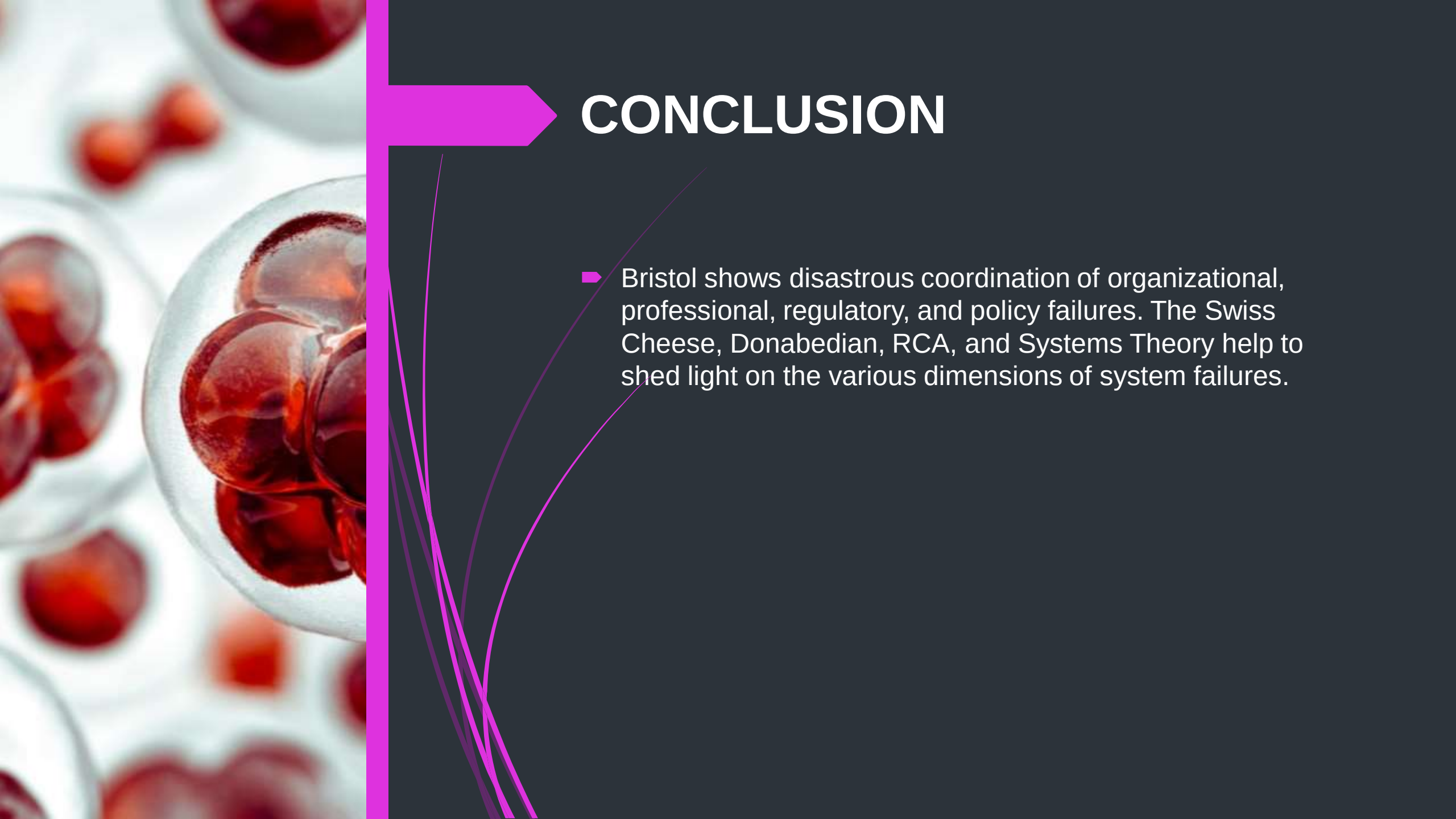
KENNEDY REPORT RECOMMENDATIONS



In his report of July 2001, Kennedy recommended 198 points in seven themes (Parliament, 2001): respect and honesty, healthcare leadership, professional competence, care safety, appropriate care standards, public involvement, and childrens care.



Most of the recommendations were agreed on by the government in January 2002, although the government rejected minimum practice volume requirements and complete NPSA independence (Department of Health, 2002).

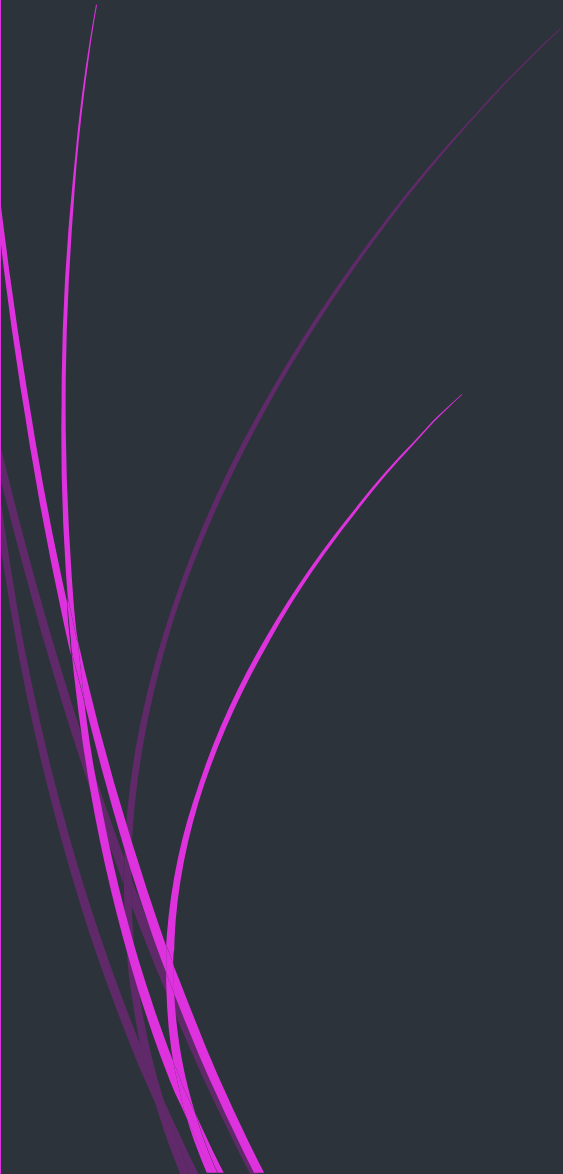


CONCLUSION

- ▶ Bristol shows disastrous coordination of organizational, professional, regulatory, and policy failures. The Swiss Cheese, Donabedian, RCA, and Systems Theory help to shed light on the various dimensions of system failures.

REFERENCES

- **Aylin, P., Bottle, A., Jarman, B. and Elliott, P.** (2001) 'Comparison of UK paediatric cardiac surgical performance by analysis of routinely collected data 1984–96: was Bristol an outlier?', *The Lancet*, 358(9277), pp. 181-187. doi: 10.1016/S0140-6736(01)05404-6.
- **BBC News** (2003) *Bristol heart surgeons struck off*. Available at: <https://www.bbc.co.uk/news> (Accessed: 10 November 2025).
- **Braithwaite, J., Wears, R.L. and Hollnagel, E.** (2017) *Resilient health care: volume 3 - reconciling work-as-imagined and work-as-done*. Farnham: Ashgate Publishing.
- **Department of Health** (2002) *Learning from Bristol: the Department of Health's response to the report of the public inquiry into children's heart surgery at the Bristol Royal Infirmary 1984-1995*. Cm 5363. London: The Stationery Office.
- **Donabedian, A.** (1966) 'Evaluating the quality of medical care', *The Milbank Memorial Fund Quarterly*, 44(3), pp. 166-206. [Republished in 2005 in *The Milbank Quarterly*, 83(4), pp. 691-729. doi: 10.1111/j.1468-0009.2005.00397.x].
- **Donovan, R.J. and West, E.** (1998) 'Deaths in Bristol have changed the face of British medicine', *Canadian Medical Association Journal*, 159(2), pp. 159-160.
- **Ham, C.** (1997) *Management and competition in the NHS*. 2nd edn. Oxford: Radcliffe Medical Press.
- **Institute for Healthcare Improvement** (2015) *RCA2: improving root cause analyses and actions to prevent harm*. Boston: National Patient Safety Foundation. Available at: <http://www.ihl.org/library/tools/rca2-improving-root-cause-analyses-and-actions-prevent-harm> (Accessed: 10 November 2025).
- **Kennedy, I.** (2001) *Learning from Bristol: the report of the public inquiry into children's heart surgery at the Bristol Royal Infirmary 1984-1995*. Command Paper Cm 5207(I) and (II). London: The Stationery Office. Available at: http://webarchive.nationalarchives.gov.uk/20090811143822/http://www.bristol-inquiry.org.uk/final_report/ (Accessed: 10 November 2025).
- **Larouzee, J. and Le Coze, J.C.** (2020) 'Good and bad reasons: the Swiss cheese model and its critics', *Safety Science*, 126, 104660. doi: 10.1016/j.ssci.2020.104660.
- **Leape, L.L.** (2009) 'Errors in medicine', *Clinica Chimica Acta*, 404(1), pp. 2-5. doi: 10.1016/j.cca.2009.03.020.
- **Mills, P.D., Neily, J., Luan, D.D., Stalhandske, E. and Weeks, W.** (2005) 'Using aggregate root cause analysis to reduce falls and related injuries', *Joint Commission Journal on Quality and Patient Safety*, 31(1), pp. 21-31. doi: 10.1016/S1553-7250(05)31004-X.
- **UK Parliament** (2001) *Bristol Royal Infirmary Inquiry*. HC Deb 18 July 2001 vol 372 cc289-99. Available at: <https://hansard.parliament.uk/commons/2001-07-18/debates/bristol-royal-infirmary-inquiry> (Accessed: 10 November 2025).
- **Scally, G. and Donaldson, L.J.** (1998) 'Clinical governance and the drive for quality improvement in the new NHS in England', *BMJ*, 317(7150), pp. 61-65. doi: 10.1136/bmj.317.7150.61.
- **Vick, L.** (2018) *Bristol children's heart scandal: 20 years on from the GMC hearings*. Enable Law. Available at: <https://www.enablelaw.com/news-and-insights/bristol-childrens-heart-scandal-20-years-on-from-the-gmc-hearings/> (Accessed: 10 November 2025).
- **Weick, K.E. and Sutcliffe, K.M.** (2003) 'Hospitals as cultures of entrapment: a re-analysis of the Bristol Royal Infirmary', *California Management Review*, 45(2), pp. 73-84. doi: 10.2307/41166166.
- **Wiegmann, D.A., Wood, L.J., Cohen, T.N. and Shappell, S.A.** (2022) 'Understanding the "Swiss cheese model" and its application to patient safety', *Journal of Patient Safety*, 18(2), pp. 119-123. doi: 10.1097/PTS.0000000000000810.
- **Wikipedia** (2025) *Bristol heart scandal*. Available at: https://en.wikipedia.org/wiki/Bristol_heart_scandal (Accessed: 10 November 2025).



*Thank
you!*