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CASE STUDY · MARLUC SYNOPSIS

MD Anderson Oncology Expert Advisor

IMPLEMENTED 2012–2016 · HEALTH AND LIFE SCIENCES · US · BAND F · PROVED

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MD Anderson paid outside firms about US$62.1 million from 2012 to 2016 to build a cancer care advice system on IBM Watson. An audit found the system was not in clinical use and that procurement rules were not followed.

ABOUT THIS SYNOPSIS

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NOTICE WORDING LAST UPDATED 16 NOVEMBER 2026

AT A GLANCE

What went wrong: Business or programme failure; Weak oversight or controls.

AI used: Clinical decision-support system built on IBM Watson, described at the time as cognitive computing using natural language processing; it predates generative AI.

Implemented: 2012–2016. Grade: band F, Failure, Proved.

Headline result, as reported: About US$62.1 million paid to external firms and the system not in clinical use, per a University of Texas System audit dated November 2016

1 · The case

The facts, as reported by the 5 sources listed at the end. Where a source is silent, the field says "Not reported".

Organisation

MD Anderson Cancer Center. US cancer hospital and research centre in Houston, part of the University of Texas System. It cares for more than 100,000 patients a year in Houston, by its own account in 2013. Canvas block: 8. Governance and risk. Also 6. Data and technology, 4. Operations and process.

Business challenge

The challenge. MD Anderson said valuable data from patient care and clinical trials was often trapped in clinicians' notes and in separate databases. The aim, per the audit, was a clinical advising system to help community oncologists give MD Anderson-quality cancer care, and to match patients with clinical trials.

Who implemented it

IBM (Software vendor): Built the pilot on Watson.
PwC (Consultancy): Business plan, programme management and a pilot with network partners.

Technology (SEAM pillar E)

SEAM types: T5 Custom / fine-tuned models. Deployment: Not reported. Vendors and products: IBM, PwC, IBM Watson, Oncology Expert Advisor.

Where it was built in: Designed to take in patient records, research data and medical literature and offer care advice and clinical trial matches to clinicians; pilots ran against MD Anderson's earlier medical records system and the tool was not updated for its replacement.

What changed

Before: no such system. After: internal pilots for leukaemia and lung cancer had been run on the old medical records system, but the system was not in clinical use, had not been piloted outside MD Anderson and had not been updated for the new records system, per the audit. [1] [2] [3] [4] [5]

Cost of failure

About US$62.1 million paid to external firms through 31 August 2016, per the UT System audit: US$39.2 million to IBM and the rest to PwC. The total includes US$2.2 million for a related data project that the audit says is not part of the system, and excludes internal staff time, technology infrastructure and administrative support. Gift funds for the project were US$11.59 million in deficit.

What it saved

Not reported [1] [2] [3] [4] [5]

Governance and control

The audit found the project was not approved through MD Anderson's IT governance, that two non-competitive contracts worth about US$41.7 million were not formally justified, that fees were consistently set just below the amount needing Board approval, and that invoices were paid in full regardless of whether services were delivered as agreed. The IBM agreement prohibited use of the system in treating patients except for testing. The project leader told auditors it was a donor-funded research project to which IT project procedures should not apply.

S2 · Accountable owner · Missing (independent source shows it was absent)
A project leader was named, but the audit found the project was not approved through IT governance, and MD Anderson's response cites a lack of clarity over supervision of project leadership. [1]

A1 · Safe use · Evidenced
The IBM agreement stated the system was not ready for human investigational or clinical use and prohibited its use in treating patients except for testing, per the audit. [1]

A2 · Human in the loop · Claimed
MD Anderson described the system as an aid to the physician's treatment and care decisions. [2]

A3 · Monitoring and assurance · Missing (independent source shows it was absent)
The audit found invoices were paid in full regardless of whether services were delivered as agreed, and that review of deliverables was not consistently documented. [1]

A4 · Vendor AI · Missing (independent source shows it was absent)
Only one of seven related service agreements was competitively procured, and two non-competitive contracts worth about US$41.7 million were not formally justified, per the audit. [1]

A5 · Agent controls · Not reported
No agents described.

A6 · Standards and regulation · Outside scrutiny (a regulator, court, auditor or similar body acted)
The University of Texas System Audit Office reviewed the procurement at the Chancellor's request and found that established policies and procedures were not followed. [1]

What worked, what did not, what is unproven

WORKED

– A prototype was shown in October 2013 and internal pilots for leukaemia and lung cancer were run, per MD Anderson and the audit; their results are not reported.

– IBM told the Wall Street Journal that the initial pilot was a success, as relayed by PCWorld.

– MD Anderson's standard procurement procedures were judged sufficient by the audit, provided they are consistently applied.

DID NOT

– As of September 2016 the system was not in clinical use and had not been piloted outside MD Anderson, per the audit.

– The system was not updated to work with the new electronic medical records system, and staff told auditors its drug protocol and clinical trial data were outdated.

– Only one of seven related service agreements was procured through a competitive process, and the project did not follow required IT governance, per the audit.

– The project leader told STAT that teaching a machine to read a medical record "is a lot harder than anyone thought".

UNPROVEN

– How well the system worked. The audit says its results "should not be interpreted as an opinion on the scientific basis or functional capabilities of the system".

– The findings of the external consulting firm that MD Anderson engaged to review the system: Not reported.

– The full cost. The audit total covers payments to external firms only.

Timeline

Jun 2012 First contract with IBM signed: six months at a fixed fee of US$2.4 million [1]

Oct 2013 MD Anderson and IBM announce a prototype of the Oncology Expert Advisor [2]

May 2014 Board of Regents approves IBM funding up to a total of US$32 million [1]

Sept 2016 IBM ends support for the pilot and demo systems; the system is not in clinical use [1]

Feb 2017 Audit findings reported in the press [5]

2 · Grade and SEAM assessment

MarLuc's opinion, made on the evidence above. How cases are graded: marluc.co.uk/case-studies/how-we-rate

Level of change and impact

Claimed: Not applicable. Grade: F, Failure. Proof: Proved. Level of change: Not graded.

No level assessed: band F, a project suspended before clinical use after about US$62.1 million was paid to outside firms. The audit establishes the spending, the procurement failures and the fact of non-use. It gives no opinion on whether the technology worked.

The SEAM view and lessons learnt

The failure recorded by the audit sat in governance and ownership more than in the technology, which the audit did not assess. A large technology build ran outside IT governance as a research project, its scope grew, contracts were extended in steps and payments were not tied to documented deliverables. The hospital also changed its medical records system while the tool was built for the old one. For any larger organisation, an AI build needs the same approval, procurement and delivery checks as any other major project, and a plan for the systems it depends on.

1. Put AI projects through the same governance and procurement as other major technology projects.
2. Tie each payment to a documented deliverable that someone has accepted.
3. Plan for changes in the systems the AI depends on before building.

Evidence

Score 3 of 4. Independent: a special review by the University of Texas System Audit Office, requested by the Chancellor. It covers procurement only and gives no opinion on the system's scientific basis or capabilities.

Evaluation method. Official audit: a special review of procurement records, payment history and staff interviews by the University of Texas System Audit Office; project management and system development were outside its scope.

Sources disagree. The Register says the project was terminated in September 2016 and STAT says MD Anderson cancelled the partnership in February 2017; the audit says IBM ended support from 1 September 2016, and MD Anderson's response refers to the suspension of work. STAT gives the spend as more than three years and US$60 million; the audit gives US$62.1 million on contracts that began in June 2012. The project leader disputed the audit's view that this was an IT project; the UT System's response says an alternative reading of the policy had been advanced and that the ambiguity should be addressed.

3 · Original sources

Read these in full. To challenge a fact or a grade, use the contact form at marluc.co.uk or the link on https://marluc.co.uk/case-studies/md-anderson-oncology-expert-advisor

[1] University of Texas System Audit Office: Special Review of Procurement Procedures Related to the M.D. Anderson Cancer Center Oncology Expert Advisor Project (November 2016, archived copy)
https://web.archive.org/web/20170221142328/http://www.utsystem.edu/sites/utsfiles/documents/system-audit/ut-system-administration-special-review-procurement-procedures-related-utmdacc-oncology-expert-advis/ut-system-administration-special-review-procurement-procedures-related-utmdacc-oncology-expert-advis.pdf

[2] MD Anderson: MD Anderson Taps IBM Watson to Power "Moon Shots" Mission (October 2013)
https://www.mdanderson.org/newsroom/archived-news/md-anderson--ibm-watson-work-together-to-fight-cancer.h00-158833590.html

[3] STAT: IBM pitched Watson as a revolution in cancer care. It's nowhere close
https://www.statnews.com/2017/09/05/watson-ibm-cancer/

[4] PCWorld: Texas hospital struggles to make IBM's Watson cure cancer
https://www.pcworld.com/article/406013/texas-hospital-struggles-to-make-ibms-watson-cure-cancer.html

[5] The Register: Watson can't cure cancer ... or all the stuff that breaks IT projects
https://www.theregister.com/2017/02/20/watson_cancerbusting_trial_on_hold_after_damning_audit_report/

MD Anderson Cancer Center website: https://www.mdanderson.org

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VERSION HISTORY

v1.1 15 November 2026 Method update: standards and regulation (A6) relabelled "outside scrutiny" because the evidence is a regulator, court, auditor or similar body acting, not the organisation's own compliance.
v1.0 15 November 2026 First published