

Why the Best Medical Affairs Leaders Already Think in Models

And what happens when you make
those models computational.



Strategic planning in Medical Affairs has an intuition problem.

Not too little intuition. Too much of it staying invisible.

The most experienced Medical Directors and medcomms strategists already weigh competitive timing, regulatory windows, and payer leverage when they plan.

But that reasoning never gets stress-tested before the plan is already in motion. By then it's too late to find the blind spots.



You're already running three mental models.

"If they do X, we should do Y"

That's game theory.

You map your options against competitor moves and choose based on likely responses.

"What are the chances this works?"

That's probabilistic reasoning.

You weigh multiple variables — regulatory risk, payer dynamics, evidence strength — and estimate which scenarios are more likely.

"Given the uncertainty, what's the safest bet?"

That's decision theory.

You choose the strategy that holds up best across the widest range of outcomes, not just the best-case scenario.



The reasoning is sound. The process isn't.

It's locked in one person's head

When the Medical Director moves on, the strategic logic goes with them. Institutional memory evaporates.

It can't be challenged constructively

A steering committee sees the recommendation, never the alternatives that were weighed and rejected.

It doesn't scale across teams

The medcomms team, the field team, and the writers each get a fragment. Nobody sees the whole board.

It's vulnerable to confirmation bias

Without explicit assumptions, it's easy to build a plan that feels right but hasn't been stress-tested.

What changes when you make it computational.

Not replacing your judgement.
Stress-testing it in real time.

From	To
"I think this is the right call"	→ "I stress-tested it before committing"
"Trust my experience"	→ "Challenge my assumptions — now, not in 3 weeks"
"The obvious choice"	→ "The choice that survived 10,000 scenarios"
"We'll revisit if it doesn't work"	→ "We already know how it fails"

Game Theory

What you already call competitive strategy

You have three positioning options for a programme.

Your competitor has two plausible responses.

Each combination produces a different outcome.

Game theory maps all of these combinations and identifies which positions are stable — meaning your competitor can't improve their outcome by changing their response.

When no stable position exists, that's a signal: the environment is too volatile for a rigid strategy. You need to optimise for robustness instead.

The insight:

If you can't find a stable position, don't pretend you have one.

Probabilistic Reasoning

What you already call scenario planning

You know the key variables: competitive density, regulatory timing, payer pressure, evidence cadence, supply-chain fragility.

Scenario planning asks: what if each of these goes well, or badly?

Computational modelling goes further. It runs thousands of combinations simultaneously, varying all the inputs at once, and tells you which strategy wins most often — not just in your best case.

The insight:

The "obvious" strategy often wins in the best case and loses everywhere else.

Decision Theory

What you already call risk management

Two strategies might perform similarly on average.
But they fail differently.

One is exposed to execution complexity.
The other is exposed to competitor narrative shifts.

Decision theory asks: which failure mode
can you survive? Which one can't you?

It synthesises the game-theoretic and probabilistic
layers into a single question:
What's the posture that holds across the widest
range of futures?

The insight:

A robust strategy isn't the one that wins biggest. It's the one that fails smallest.

Three models. One strategic posture.

1

Game Theory

Maps your moves against their moves. Finds stable and unstable positions.



2

Probabilistic Layer

Runs thousands of scenarios across all key variables. Finds what wins most often.



3

Decision Theory

Synthesises into a robust posture — the strategy that holds across uncertainty.



What this looks like for a Medical Affairs leader

Your strategic decisions are stress-tested
in real time, not three weeks after they were made

Your steering committee sees the alternatives
that were considered — and why they were rejected

Your medcomms team gets deliverables traceable
to the same evidence base and strategic logic

Your assumptions are explicit, challengeable,
and updated when the environment shifts

Your plan survives a competitor surprise because
it was stress-tested against one



This doesn't replace the strategist. It raises the floor.

A good Medical Affairs leader with twenty years of experience will still outperform any model on judgement, relationships, and the questions that matter.

But that same leader, with computational support, stress-tests their strategy before committing — not three weeks after the plan is already in motion.

The gap between a well-run team and a poorly-run team gets wider. Not narrower.

**The best leaders
don't need better
intuition.**

**They need faster
ways to test it.**

 | Medical Director | AVTI

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