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Research Article

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Public Confidence in Healthcare as an Accumulation Process: A Simple Survey-Informed System Dynamics Model of Ireland's Mid-West

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Abstract

Public confidence reflects perceptions of healthcare responsiveness, including emergency care, but cross-sectional surveys cannot establish how it changes over time. This study develops a simple System Dynamics model in-formed by a published 2024 survey of 358 adults in Ireland's Health Service Executive Mid-West region. The Overall Confidence Index (OCI) provides the measurement framework for a single Public Confidence stock, increased by Confidence Building and reduced by Confidence Erosion. Initial confidence is set to 0.1816, re-constructed from published aggregate survey response counts. Both flows are proportional to the existing stock. Confidence Building Rate and the embedded erosion coefficient remain fixed, while Adverse System Perception determines Confidence Erosion Rate. Three illustrative scenarios compare decline, stability and recovery over 100 months. Using the exact solution, final confidence is approximately 0.0090, 0.1816 and 0.2994, respectively. Stability reflects equal building and erosion rates; recovery represents exponential growth without an imposed upper bound. An interactive dashboard exposes the assumptions, compares trajectories and exports reproducible calculations. These outputs are conditional simulations rather than observed survey trajectories, calibrated forecasts or intervention-effect estimates. The model retains reinforcing building and balancing erosion feedback but does not generate growth followed by saturation. Its contribution is a transparent framework for examining hypotheses about confidence change relevant to emergency and primary care. Repeated, consistently scored OCI measurements and independent evidence about confidence-relevant influences are required for empirical calibration and validation.

Keywords: System Dynamics; public trust; public confidence; Overall Confidence Index; healthcare; Ireland; Mid-West

Abbreviations: ED: Emergency Department; HSE: Health Service Executive; OCI: Overall Confidence Index; SD: System Dynamics.

INTRODUCTION

Timely emergency care is essential to an effective healthcare system. The World Health Assembly has recognised emergency care systems as integral to universal health coverage, emphasising timely access for people with acute illness and injury [1]. Alongside clinical outcomes and service capacity, public confidence captures perceptions of accessibility, competence and responsiveness. These perceptions are relevant to emergency and primary care because they concern expectations of receiving appropriate help when it is needed.

Emergency department (ED) activity occurs within a wider network of services. In Ireland, the multi-centre "better data, better planning" census examined attendance across five EDs, highlighting community referrals, awareness of alternative pathways and perceived healthcare needs [2]. This supports consideration of confidence across primary, community and hospital care. Attendance frequency and confidence nevertheless remain distinct: service use alone does not establish whether an experience builds or erodes confidence.

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Trust provides a conceptual foundation for examining these perceptions. Gilson situates trust within healthcare's social relationships [3], while Hall and colleagues distinguish trust in physicians from trust in medical institutions [4]. Ozawa and Sripad identify diversity in health-system trust measures, and Gille and colleagues offer a conceptual framework based on qualitative evidence [5,6]. These distinctions caution against treating professional trust, institutional trust and public confidence as interchangeable.

Ireland's Health Service Executive (HSE) Mid-West region provides the empirical context. A published 2024 online survey of 358 adults from Clare, Limerick and North Tipperary examined demographic characteristics, health status, ED utilisation and an Overall Confidence Index (OCI) comprising 15 items [7]. Its five dimensions covered satisfaction and general trust, perceived competence and quality, emergency response confidence, overall HSE sentiment and system improvement confidence. Confidence was lower among older respondents, people living with chronic illness and Clare residents compared with Limerick residents. ED utilisation had a negative but non-significant association with confidence. Convenience sampling and geographic imbalance limit population generalisation.

The survey describes perceptions at one time point but cannot identify how confidence accumulates, declines or recovers. Similar scores could occur during different trajectories, while stable aggregate confidence could conceal offsetting influences.

System Dynamics (SD) represents change through stocks, flows and feedback [8]. Here, Public Confidence is a single stock increased by Confidence Building and reduced by Confidence Erosion. Both flows are proportional to existing confidence. Building forms a reinforcing loop; erosion forms a balancing loop, with Confidence Ero-sion Rate increasing with Adverse System Perception. These are modelling hypotheses, not causal relationships established by the survey.

This paper develops a survey-informed, one-stock SD model and compares decline, stability and recovery over 100 months. It asks*: How does the balance between confidence building and confidence erosion shape simulated public confidence under alternative adverse-perception assumptions?* An interactive dashboard exposes the assumptions and calculations.

The contribution is an exploratory framework relevant to family medicine and emergency care. The OCI supplies the measurement framework and aggregate information used to reconstruct the initial condition, while the dynamic rates are assumed. The model supports explicit discussion of confidence change within the wider healthcare system; it does not estimate ambulance performance, forecast regional confidence or quantify service-intervention effects.

METHODS: A ONE-STOCK SYSTEM DYNAMICS MODEL

An exploratory SD model was developed to examine Public Confidence in the HSE Mid-West region. It con-tains one stock, Public Confidence, one inflow, Confidence Building, and one outflow, Confidence Erosion. The published survey and OCI provide the empirical context [7]; the accumulation structure follows established SD principles [8]. Feedback relationships and monthly rates are modelling assumptions rather than findings established by the cross-sectional survey.

Survey context and initialisation

The source survey included 358 adults from Clare, Limerick and North Tipperary. It measured age, county, health status, ED visits during the preceding year and 15 confidence items [7]. Table 1 summarises their roles. Demo-graphic characteristics and service utilisation remain contextual variables rather than causal rate coefficients. The five OCI dimensions provide conceptual context but are not separate stocks. Adverse System Perception is an assumed input rather than a directly measured survey variable.

The OCI contains 15 items scored from 1 to 5, giving a correctly scored total Si between 15 and 75. Its published rescaling is [7]

$$\mathrm{OCI}_i = 100\frac{S_i - 15}{60}. \qquad (1)$$

The model uses the corresponding dimensionless scale, obtained by dividing OCI by 100.

Initial Public Confidence was set to 0.1816, reconstructed from aggregate item-response counts reported in the original survey's supplementary material [7]. Using the aggregate score of 9271 across 358 respondents,

$$\overline{S} = \frac{9271}{358} = 25.896648, \qquad C_0 = \frac{\overline{S} - 15}{60} = 0.1816108. \qquad (2)$$

Table 1: Published survey variables and their roles in the model.

Survey variable	Questions	Model role
Age group	Q1	Population context.
County of residence	Q2	Geographic context; no county-specific stocks.
Health status	Q3	Health context; not assigned a causal coefficient.
ED visits in the previous 12 months	Q4	Service-use context; attendance is not assumed to cause erosion.
Overall Confidence Index	Q5–Q19	Measurement framework for expressing confidence on a normalized scale.

The value was rounded to 0.1816 for implementation. This is a reconstruction from published aggregate infor-mation rather than a respondent-level reanalysis. The same initial condition is used across all scenarios. Under the proportional-flow formulation, changing a positive initial value scales the trajectories without changing their classification as decline, stability or growth.

Dynamic hypothesis and model boundary

SD represents accumulation and feedback, originating in Forrester's work [9], and subsequently applied in public health and medicine [10,11]. Here, higher Public Confidence increases Confidence Building, which adds to the stock, forming a reinforcing loop. Higher confidence also increases Confidence Erosion, which removes from the stock, forming a balancing loop. Adverse System Perception increases Confidence Erosion Rate.

The conceptual arrangement draws on the Limits to Growth archetype [12,13], mapping Growing Action, Condition of Interest, Slowing Action and Limiting Condition to Confidence Building, Public Confidence, Confidence

Erosion and Adverse System Perception. However, the implementation holds adverse perception constant and introduces no evolving constraint. It therefore examines alternative rate balances rather than growth followed by saturation.

The model boundary excludes hospital capacity, staffing, waiting times, ambulance operations, media activity and feedback from service utilisation. It does not estimate intervention effects or assign dynamic characteristics to demographic groups.

Causal loop and stock–flow representations

Figure 1 shows the hypothesised feedback. Public Confidence and Confidence Building have positive links, pro-ducing reinforcing loop R. Public Confidence positively influences Confidence Erosion, while erosion negatively influences confidence, producing balancing loop B. Polarity indicates the assumed direction of influence with other conditions held constant.

Figure 2 represents accumulation explicitly. Public Confidence is the stock, Confidence Building its inflow and Confidence Erosion its outflow. Both flows depend on the current stock and their respective rates. Confidence Erosion Rate additionally depends on Adverse System Perception and the embedded erosion coefficient

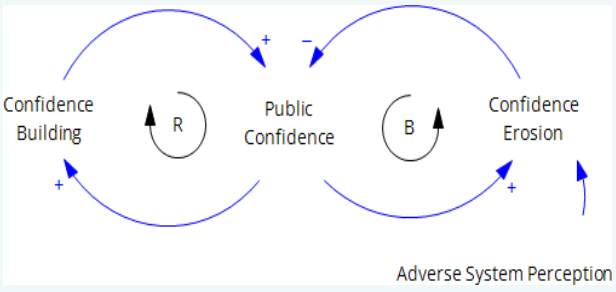


Figure 1: Hypothesised causal loop diagram. Public Confidence and Confidence Building form reinforcing loop R. Public Confidence and Confidence Erosion form balancing loop B. Adverse System Perception strengthens erosion. Link signs indicate the assumed direction of influence.

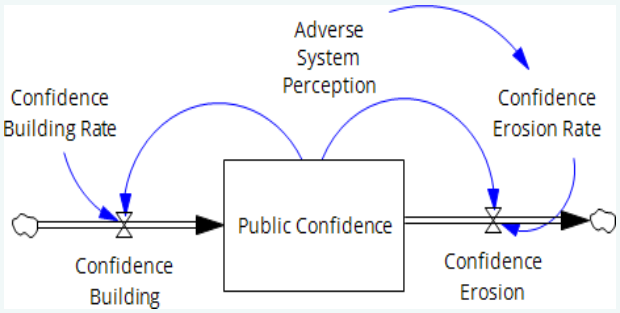


Figure 2: Stock–flow representation of Public Confidence. Confidence Building adds to the stock and Confidence Erosion removes from it. Both flows are proportional to confidence; Confidence Erosion Rate depends on Adverse System Perception

$$\frac{dC}{dt} = B(t) - E(t), \qquad C(0) = 0.1816, \tag{3}$$

$$B(t) = k_b C(t), \tag{4}$$

$$E(t) = k_e C(t), \tag{5}$$

$$k_e = \gamma A, \tag{6}$$

Equations and analytical behaviour

Let *C(t)* denote Public Confidence, *B(t)* Confidence Building and *E(t)* Confidence Erosion. The equations are

where kb is Confidence Building Rate, ke Confidence Erosion Rate, A Adverse System Perception and γ the embedded erosion coefficient. The coefficient γ is not an additional stock; the dashboard exposes it as a control.

Initial confidence is survey-derived, while Confidence Building Rate, the embedded erosion coefficient and adverse-perception scenario values are modelling assumptions.

Time is measured in months. Confidence and adverse perception are dimensionless; *kb, ke* and γ have units of month−1, and both flows have units of dimensionless confidence per month. Default coefficients are kb = 0.01 and γ = 0.05 month−1.

For constant inputs,

$$\frac{dC}{dt} = (k_b - \gamma A)C, \qquad C(t) = C_0 \exp[(k_b - \gamma A)t]. \tag{7}$$

For positive initial confidence, a negative net rate produces decline, zero preserves the initial value and a positive rate produces growth. Exact rate balance does not restore confidence to a unique equilibrium. The exact solution preserves nonnegative confidence but imposes no upper bound. At zero initial confidence, both flows remain zero.

Scenario design and numerical calculation

Three scenarios vary only Adverse System Perception (Table 2). All share *C0* = 0.1816, *kb* = 0.01 and γ = 0.05 month−1. Simulations cover months zero to 100, with a default one-month step and save interval. This is an illustrative horizon rather than a calendar forecast.

The analytical solution provides the reference outputs. Explicit Euler integration supplies a numerical comparison:

Table 2: Assumed scenario inputs and resulting proportional rates

Scenario	Adverse System ception (A)	Per-Erosion rate (ke)	Net rate ($k_b - k_e$)
		(month^{-1})	(month^{-1})
Decline	0.80	0.040	−0.030
Stability	0.20	0.010	0.000
Recovery	0.10	0.005	0.005

$$C_{n+1} = C_n[1 + (k_b - \gamma A)\Delta t]. \tag{8}$$

A shorter final step is used when necessary to reach the specified horizon. Exact and Euler outputs are compared at the same parameters and one-month step; this is not a time-step convergence study or empirical validation.

Dashboard implementation and reproducibility

The dashboard uses HTML, CSS and JavaScript, performs calculations in the browser and displays trajectories using SVG. Dashboard and source-code links will be provided after peer review. Controls expose the initial confidence, rate coefficients, custom adverse perception, horizon, step and calculation method. The graph displays three presets; custom outputs appear in summary cards, the table and CSV export.

The exact method uses the time step only for output spacing; Euler accuracy also depends on the step. Input checks reject invalid values, negative coefficients, confidence or adverse perception outside zero to one, horizons outside one to 1,000 months, more than 50,000 steps, and Euler settings generating negative confidence.

Default trajectories appear on opening. Run model animates them over approximately four seconds; Reset restores defaults and clears outputs. Animation does not alter calculations. CSV export records the latest successful calculation and its settings. These features support reproducibility, but the assumed dynamic rates have not been empirically calibrated.

RESULTS

Scenario trajectories

The model produced decline, stability and recovery from the same assumed initial Public Confidence of 0.1816 described in Section 2.1. All scenarios used Confidence Building Rate of 0.01 per month and an embedded erosion coefficient of 0.05 per month. Only Adverse System Perception varied, taking values of 0.80, 0.20 and 0.10, respectively. Figure 3 shows the behaviour-over-time graph, while Table 3 reports the rates and final values.

In the decline scenario, Confidence Erosion Rate exceeded Confidence Building Rate by 0.030 per month. Initial Confidence Building was 0.001816 per month and Confidence Erosion was 0.007264 per month, giving an initial net change of −0.005448 per month. The exact solution decreased to approximately 0.0090 at month 100, a reduction of 95.0%. Both flows weakened as the stock decreased, but erosion remained greater than building.

In the stability scenario, both rates were 0.010 per month. Confidence Building and Confidence Erosion were each 0.001816 per month, leaving



Figure 3: Public Confidence over 100 months under decline ($A = 0.80$), stability ($A = 0.20$) and recovery ($A = 0.10$). All scenarios share $C_0 = 0.1816$, $k_b = 0.01$ month^{-1} and $\gamma = 0.05$ month^{-1}. These are illustrative model trajectories rather than observed survey changes.

Table 3: Scenario rates and Public Confidence at month 100. Exact values use the analytical solution; Euler values use a one-month step

Scenario	Adverse System ception	Per-Confidence Rate (month−1)	ErosionNet Rate (month−1)	Confidence: Exact	Confidence: Euler
Decline	0.80	0.040	−0.030	0.0090	0.0086
Stability	0.20	0.010	0.000	0.1816	0.1816
Recovery	0.10	0.005	0.005	0.2994	0.2990

Public Confidence unchanged at 0.1816. The flat trajectory therefore reflected offsetting active flows. It preserved the initial stock rather than restoring confidence to a unique target; any initial level would remain stationary under the same rate balance.

In the recovery scenario, Confidence Erosion Rate was 0.005 per month, half the building rate. The initial net increase was 0.000908 per month. Public Confidence reached approximately 0.2994 at month 100, an increase of 64.9%. Both flows strengthened as confidence increased, while building remained twice erosion. Recovery stayed below one within the reported horizon but did not approach a plateau.

Rate balance and numerical comparison

$$A_{\text{balance}} = \frac{k_b}{\gamma} = \frac{0.01}{0.05} = 0.20. \quad (9)$$

For positive initial confidence, values above 0.20 produced decline and values below 0.20 produced growth. This threshold follows from the assumed coefficients rather than an empirical estimate of public perceptions.

The reinforcing building and balancing erosion processes operated throughout each scenario, but their relative strength remained constant. Consequently, the model generated exponential decline, constant confidence or exponential growth without an endogenous transition to saturation.

At a one-month step, Euler integration retained the same qualitative behaviours as the exact solution. The abso-lute final-value differences were approximately 0.000406 for decline and 0.000373 for recovery, corresponding to 4.49% and 0.12% of the exact final values. Stability was unchanged under both methods. These results compare numerical calculations at one selected step and do not constitute a convergence study or empirical validation.

Interactive dashboard outputs

The dashboard displays the three presets as decline in red, stability in purple and recovery in blue (Figure 4). With the default settings and exact method, its final values match (Table 3).

The custom scenario appears in the summary cards, results table and CSV export rather than as a fourth curve. At its default adverse-perception value of 0.80, the summary reports Confidence Erosion Rate of 0.0400 per month, net rate of −0.0300 per month and final confidence of approximately 0.0090.

Default curves appear on opening; Run model animates their presentation and Reset clears the outputs. Exported calculations include the scenario trajectories and associated settings. The default trajectories remain within zero to one throughout the horizon. Modified settings that produce values above one trigger a warning, reflecting the model's absence of an upper confidence bound.

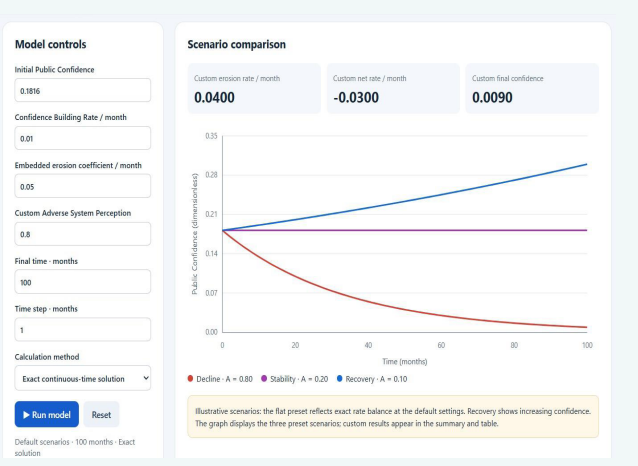


Figure 4: Dashboard controls and default scenario trajectories using the exact solution. Decline is red, stability purple and recovery blue. Summary cards display the custom calculation, here matching decline at $A = 0.80$. Outputs are conditional simulations rather than observed confidence changes.

DISCUSSION

Interpretation of the model

The model distinguishes the level of Public Confidence from its direction of change. The same starting value can decline, remain stable or increase depending on the assumed balance between Confidence Building and Confidence Erosion. A low score alone therefore cannot establish whether confidence is deteriorating or recovering. This is a dynamic hypothesis rather than a new statistical explanation of the survey findings.

The stability scenario demonstrates that unchanged confidence can coexist with active, offsetting flows. At $A = 0.20$, building and erosion balance, preserving the initial stock. This is not restoration to a unique equilibrium: another initial level would also remain unchanged. The balance point follows from kb/γ and changes if either coefficient changes. It is not an empirically established threshold in public perceptions.

The reinforcing building and balancing erosion loops are consistent with the implemented equations. However their relative strength remains constant within each scenario. Although the conceptual arrangement draws on the Limits to Growth archetype [12,13], the equations contain no mechanism that progressively limits growth. They generate exponential decline, constant confidence or exponential growth rather than saturation. Introducing a changing constraint would require a revised dynamic hypothesis and separate evaluation.

Relationship to the survey and healthcare practice

The OCI provides the measurement framework for Public Confidence [7]. Its dimensions identify domains in which confidence-relevant experiences could be investigated, but they are not fitted determinants of the flows. The starting value of 0.1816 is reconstructed from published aggregate survey information, as described in Section 2.1. Subsequent trajectories depend on assumed rates and adverse-perception inputs.

Adverse System Perception is a scenario construct. Its values are neither observed population proportions nor transformations of the dissatisfaction percentage. Similarly, the published associations with age, county and health status do not identify differences in building or erosion rates. Lower confidence in Clare does not demonstrate faster erosion, and chronic illness does not imply a fixed confidence penalty.

The negative but non-significant association between ED utilisation and confidence does not establish that attendance causes erosion [7]. Attendance frequency, experience quality and healthcare need should be distinguished. Irish research on ED attendance also highlights community referrals and alternative pathways [2], supporting consideration of confidence across emergency, primary and community care.

For family medicine and emergency medical services, the model helps articulate how proposed improvements might influence confidence. Reliable care, responsiveness and communication could affect building, erosion or both, but the simulations do not estimate these effects or rank interventions. A change in a rate alters the subsequent trajectory without immediately resetting the stock. This offers a testable hypothesis about confidence accumulation, not evidence of recovery at the simulated speed.

Because the OCI measures broader system confidence, the model does not evaluate ambulance operations, response times or clinical performance. Its practical relevance concerns expectations and perceptions within the wider healthcare pathway.

Contribution of the dashboard

The dashboard exposes assumptions and permits reproducible comparison of trajectories. Readers can change the initial condition, coefficients and calculation settings, while the displayed equations explain how these choices affect outputs. The three preset curves support comparison; custom results are reported in the summary cards, table and CSV export.

The animation illustrates accumulation over simulated time without supplying evidence about real-world adjustment speed. Likewise, agreement between exact and Euler calculations concerns numerical approximation rather than empirical validity. Preset names describe the default parameters and may cease to describe behaviour when shared coefficients are edited.

The interface may support teaching and public dialogue by distinguishing confidence levels from trajectories. These benefits have not been evaluated through a user study. Transparency therefore supports inspection of assumptions but should not be presented as demonstrated improvement in understanding or decision-making.

Limitations

The source survey used convenience sampling and overrepresented Clare [7]. It does not establish a representative regional baseline. The initial value is reconstructed from aggregate survey information, while the dynamic rates are assumed rather than empirically calibrated. The cross-sectional design cannot identify monthly rates, temporal feedback or causal effects; the model is not dynamically calibrated.

Treating a composite perception measure as a stock is a modelling hypothesis. Normalisation does not establish that proportional changes have equivalent psychological meanings throughout the scale. Aggregation may conceal different responses across people, questionnaire dimensions and population groups.

The proportional equations impose no upper confidence bound. Continued positive growth eventually exceeds one, even though default outputs remain within the intended scale during the reported horizon. The dashboard warning identifies this issue but does not resolve it. The model also excludes saturation, endogenous adverse perceptions, explicit delays, separate distrust and service-use feedback. At zero confidence, both flows vanish, preventing recovery without a structural change.

The scenarios do not constitute comprehensive sensitivity analysis, and the one-month exact–Euler comparison is not a convergence study. Neither numerical agreement nor the expected directional behaviour establishes predictive validity. The dashboard does not estimate parameters, produce empirical uncertainty intervals or evaluate intervention effectiveness.

Future empirical testing

Testing would require repeated OCI measurements with consistent wording and scoring. A panel could distinguish within-person change from changing respondent composition, subject to attrition assessment. Representative repeated cross-sections could identify population trends if recruitment and weighting remained comparable.

Confidence-relevant influences should be measured independently of the OCI. Service experiences, perceived responsiveness and documented conditions are possible candidates, but their relationship to Adverse System Perception requires justification. Administrative measures such as waiting times cannot automatically substitute for public interpretation.

Under constant inputs, observed confidence trajectories primarily identify the net rate $kb - \gamma A$, rather than its separate components. Independent measurements or justified constraints would be needed to distinguish building from erosion. Candidate predictions should be compared with persistence and evaluated on observations not used for estimation when sufficient data are available.

Measurement comparability across groups and survey waves also requires assessment; high internal consistency alone does not establish unchanged meaning over time. Qualitative inquiry could clarify how experiences revise expectations. These steps would determine whether the simple structure adequately explains confidence change or whether additional mechanisms are warranted.

CONCLUSION

This study develops a one-stock SD model connecting the published OCI measurement framework to explicit hypotheses about Confidence Building and Confidence Erosion in the HSE Mid-West region. From a common survey-derived initial value of 0.1816, the three 100-month scenarios illustrate decline, stability and recovery according to the assumed balance between the two proportional rates.

The conceptual feedback structure and quantitative equations are consistent, but the constant-rate formulation does not generate growth followed by saturation. Stability represents exact rate balance rather than restoration to a unique confidence level. The simulations should therefore be interpreted as conditional exploratory scenarios rather than regional forecasts or estimates of service-intervention effects.

The accompanying dashboard exposes the assumptions, displays the equations and supports reproducible inspection of the outputs. The next empirical step is repeated, consistently scored OCI measurement alongside independent evidence about service experiences and perceived conditions. Until those requirements are met, the model provides a transparent framework for discussing confidence in emergency and primary care while distinguishing observed survey findings from assumed dynamic mechanisms.

DECLARATIONS

Author contributions

The sole author conceived the study, specified the research question and model assumptions, directed model and dashboard development, interpreted the simulation outputs, and drafted and revised the manuscript with the AI assistance disclosed below.

Ethics approval and consent to participate

This study uses published aggregate information and illustrative simulations. It involved no new participant recruitment, collection of personal information or respondent-level reanalysis. The ethics and consent arrangements for the original survey are described in the source publication [7].

Data availability

The reconstruction of initial Public Confidence from published aggregate survey information is reported in Section 2.1. Dynamic rate coefficients and adverse-perception scenario values are assumed. The published regional survey and its supplementary materials are available through the source article [7]. No respondent-level dataset was reanalysed for this study. Model equations, initial conditions and scenario parameters are reported in this manuscript. Simulated confidence trajectories and associated calculation settings can be exported from the inter-active dashboard as comma-separated values (CSV) files.

Code availability

The dashboard is implemented in HTML, CSS and JavaScript and supports export of simulated trajectories and calculation settings. Public dashboard and repository links have been supplied separately to the editorial office and withheld from this review copy to reduce direct author identification.

Relationship to survey publication

This manuscript develops an exploratory dynamic modelling framework informed by the published regional survey [7]. It does not report a new participant sample, repeat the original regression analysis or present simulated trajectories as observed survey findings. The earlier publication is acknowledged as the source of the survey information and OCI measurement framework. The contribution of the present manuscript is the explicit dynamic formulation, illustrative scenario analysis and accompanying interactive dashboard.

Declaration of generative artificial intelligence use

OpenAI's ChatGPT was used during manuscript preparation to assist with revising text, preparing LaTeX equa-tions and tables, developing the HTML, CSS and JavaScript dashboard, inspecting mathematical calculations, and identifying inconsistencies between the model and manuscript. The author retains responsibility for reviewing and correcting the AI-assisted material, verifying references and calculations, and approving the final manuscript and code.

A Model specification

Table 4 summarises the model variables, equations and simulation controls. Only Adverse System Perception changes between scenarios: 0.80 for decline, 0.20 for stability and 0.10 for recovery. Initial Public Confidence remains at 0.1816 in all runs. Rate coefficients and scenario inputs are illustrative assumptions.

Table 4: Model specification and scenario-dependent values. Confidence Building and Confidence Erosion are flows, listed as auxiliaries in Vensim

Variable	Type	Units	Equation or value
Public Confidence	Stock	Dimensionless	INTEG($B - E$, 0.1816)
Confidence Building (B)	Auxiliary (inflow)	month^{-1}	$k_b C$
Confidence Erosion (E)	Auxiliary (outflow)	month^{-1}	$k_e C$
Confidence Building Rate (k_b)	Constant	month^{-1}	0.01 in all scenarios
Confidence Erosion Rate (k_e)	Auxiliary	month^{-1}	$0.05A$
Adverse System Perception (A)	Constant	Dimensionless	Decline: 0.80; stability: 0.20; recovery: 0.10
INITIAL TIME	Constant	Month	0
FINAL TIME	Constant	Month	100
TIME STEP	Constant	Month	1
SAVEPER	Auxiliary	Month	TIME STEP

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