INTERNATIONAL ACADEMIC PUBLICATION DOSSIER

THE VIEN GUT MODEL

Integrated Outpatient Care for Complex Chronic Multimorbidity

Section A – FOUNDATIONAL DOCUMENTS

DOCUMENT A.2

FOUNDATIONAL CONCEPT SET

WHAT – HOW – DATA-to-operate

Identification, definition, and differentiation of the three architectural layers of the Vien Gut Model

Foundational reading guide for the entire document set

The Vien Gut Model — International Academic Publication Dossier
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TREATING PHYSICIANS + MULTIDISCIPLINARY TEAM OF VIEN GUT GENERAL CLINIC

Implementation of clinical HOW — risk stratification, windows of opportunity, longitudinal follow-up, risk control, multidrug management, and activation of bidirectional referral safety valves.

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POSITION OF THIS DOCUMENT WITHIN THE ACADEMIC DOCUMENT DOSSIER OF THE VIEN GUT MODEL

Document A.2 is not a procedural document, not a document applied to a single disease axis, and not a document intended to prove the international evidence base of the HOW gap. A.2 is the foundational definition document. If A.1 showed that the modern EBM chain encounters a structural break at the stage of clinical application for patients with complex chronic multimorbidity, then A.2 answers the next question: what exactly are the three layers the Vien Gut Model uses to fill that gap — WHAT, HOW, and DATA-to-operate; where are their boundaries; what do they contain; and why can they not substitute for one another.

Within the four-tier architecture of the dossier, A.2 belongs to Tier 1 — Basic Architecture. It sits between A.1 and A.3, serving as an academic bridge: A.1 identifies the break in the EBM chain; A.2 defines the three layers that fill the gap; A.3 confirms that gap through international evidence; and A.4–A.5 elaborate the operational terminology in detail. At the same time, A.2 is the foundational document for reading the whole of Section B and Section C — where these three layers are operationalized into care processes and verification targets.

GUIDE FOR READERS OF A.2

- To understand the overall architectural statement of the full dossier, read A.0.
- To understand the EBM reference framework and the structural break in the EBM chain, read A.1.
- To understand the international evidence confirming the global HOW gap, read A.3.
- To understand each operational term in detail, read A.4.
- To consult the standardized terminology system, read A.5.
- To see how these three layers are transformed into an outpatient model, read B.1–B.5.
- To see how these three layers are applied across specific disease axes, read C.1–C.n.

SUMMARY

Document A.2 has one single purpose: to identify and define precisely the three architectural layers of the Vien Gut Model — WHAT, HOW, and DATA-to-operate — before the reader proceeds to Section B and Section C. Readers, especially international reviewers unfamiliar with this framework, need to understand what these three layers are, where their boundaries lie, what they contain, and why they do not compensate for one another. A.1 presented the EBM framework and identified the structural break when applied to complex chronic multimorbidity; A.2 answers the next question: what exactly are the three layers that the Vien Gut Model constructs to fill that gap? A.4 will then elaborate each specific operational term in detail.

CONTEXT

Vien Gut emerged from outpatient practice involving patients with severely complicated gout accompanied by complex chronic multimorbidity. In that context, clinicians were not entirely lacking guidelines, nor were they entirely lacking therapeutic principles. What became visible earliest was this: standard therapeutic knowledge may already be available, but when multiple severe diseases coexist in one patient over time, “knowing what to do” does not automatically become “being able to treat safely and sustainably.” From nearly two decades of practice, Vien Gut was compelled to distinguish between three different layers of care: the layer of therapeutic knowledge; the layer of clinical operations; and the layer of data sufficient to activate decisions in longitudinal follow-up.

It is from that need that A.2 was written as a foundational conceptual document. Without A.2, the full set of terms such as Clinical Conductor, window of opportunity, referral safety valve, phased treatment plan, DATA-to-operate, audit trail, or verification targets could easily be read as managerial vocabulary or fragmented internal experience. A.2 repositions all of those terms within a clear architectural reference framework, in which each layer has a distinct role, yet none can be dispensed with.

OBJECTIVES AND SCOPE OF THE DOCUMENT

Document A.2 has six objectives. First, to identify precisely the three foundational architectural layers of the Vien Gut Model. Second, to provide an operational definition for each layer. Third, to define the content and boundaries of each layer so as to avoid confusion between guidelines, operations, and data. Fourth, to operationalize the three layers through concrete examples in Section B and Section C. Fifth, to analyze the structural relationship among the three layers. Sixth, to explain why complex chronic multimorbidity necessarily requires all three layers.

This document does not include: the EBM framework and the structural break in the EBM chain; international evidence regarding the HOW gap; detailed definitions of each specific operational term; the

standardized terminology table; the specific operational procedures of HOW; or organ-target clinical evidence. Those contents belong to A.1, A.3, A.4, A.5, B.1–B.5, and Section C.

1. PRACTICE-BASED ORIGIN OF THE THREE-LAYER FRAMEWORK

The WHAT – HOW – DATA-to-operate framework did not arise from purely theoretical inference. It gradually emerged from practical needs in the outpatient treatment of patients with complex chronic multimorbidity at Vien Gut. As the number of coexisting diseases increased, as treatment targets began to conflict with one another, and as clinical decisions could no longer safely rely on a single laboratory snapshot, implicit operations became insufficient. Implicit HOW became insufficient. DATA based on memory became unsafe.

This is the structural reason: complex chronic multimorbidity necessarily requires all three layers — WHAT clearly designed from guidelines, HOW structurally designed with explicit roles, and DATA-to-operate designed as time-series data with activation thresholds. Not because single-disease care is “less important,” but because the complexity of multimorbidity exceeds the threshold that implicit operations can safely sustain. Document B.5 illustrates clearly that even highly competent physicians coordinating across specialties cannot resolve conflicts if HOW + DATA-to-operate are absent.

2. WHAT — THE THERAPEUTIC KNOWLEDGE LAYER

Identification WHAT (What to do) — the evidence-based therapeutic knowledge layer.

Definition WHAT is the set of treatment targets, clinical principles, biochemical thresholds, drug recommendations, and disease-management strategies established by international guidelines on the basis of evidence from basic research, clinical trials, systematic reviews, and expert consensus.

Content WHAT includes single-disease guidelines such as EULAR, ACR, KDIGO, ESC, EASL, ADA [1–5] and equivalent organizations; international multimorbidity consensus documents such as NICE NG56, JA-CHRODIS, and WHO ICOPE [6,7]; treatment targets such as treat-to-target or remission criteria; disease staging classifications; drug-use principles, contraindications, and drug interactions; diagnostic criteria; and guideline-based risk-stratification frameworks.

Exclusions WHAT does not include: operational organization at the care-site level; the way multiple guidelines are coordinated in a single patient; longitudinal follow-up data that trigger decisions; continuous feedback mechanisms between visits; or organizational components such as the Clinical Conductor, safety valves, SLAs, or audit trails. All of those components belong to HOW and DATA-to-operate.

Operationalization In Section B, WHAT appears whenever clinicians apply guideline principles: indication of urate-lowering therapy according to ACR/EULAR [1,2]; CKD assessment according to KDIGO [3]; heart-failure stratification according to ESC [4]; cirrhosis management according to EASL [5]; and the construction of treatment goals on each disease axis. In Section C, WHAT appears when each disease axis is benchmarked against its corresponding guideline: crystal-free on the gout axis; preservation of renal function and delay of kidney replacement therapy on the renal axis; reduction of decompensation and heart-failure hospitalization on the cardiac axis; and hepatic recompensation on the liver axis. In other words, WHAT is the normative treatment layer that the Vien Gut Model inherits intact, without replacing or denying it.

The core point is this: WHAT is one of the greatest achievements of evidence-based medicine. The challenge of WHAT in multimorbidity is not the absence of guidelines, but the need to reorganize the WHAT from multiple single-disease guidelines into a structured map of clinical priorities for each specific patient. That work belongs to HOW.

3. HOW — THE STRUCTURED CLINICAL OPERATIONS LAYER

Identification HOW (How to operate) — the structured clinical operations layer.

Definition HOW is the system of clinical operational organization — including processes, role allocation, action thresholds, multidisciplinary coordination mechanisms, guideline-conflict resolution mechanisms, and safety-protection mechanisms — that allows the WHAT of guidelines to be applied to the right patient, at the right time, with the right degree of safety, in patients with complex chronic multimorbidity under outpatient conditions.

Content HOW includes: the Clinical Conductor maintaining the longitudinal coordinating axis; the multidisciplinary team operating as a sensor–response chain; T1–T4 risk stratification; phased treatment planning; integrated multidrug management; resolution of disease–disease and drug–disease conflicts; bidirectional referral safety valves; longitudinal follow-up cadence according to disease stage; mechanisms for identifying and preserving windows of opportunity; and patient training with structured assessment of participation capacity.

Exclusions HOW is not a new guideline. HOW is not a therapeutic protocol that replaces WHAT. HOW is also not a rigid protocol applied identically to every patient. It is a flexible operational architecture organized according to the patient profile, with the purpose of translating standard therapeutic knowledge into structured, controllable action. HOW is also not synonymous with software or digital technology, even though technology may support the implementation of HOW.

Operationalization B.1 is where HOW is activated from the very first visit through the Clinical Conductor, risk stratification, identification of priority disease axes, and opening of specialized pathways when needed. B.2 is where HOW becomes a four-phase treatment architecture, defining revisit cadence, priority order, and phase-transition conditions. B.3 is where HOW is connected to the window of opportunity through necessary and sufficient conditions. B.4 is where HOW meets the participation capacity of the patient and family. B.5 is where HOW resolves conflicts when multiple diseases coexist in one patient. The entirety of Group B is the HOW layer operationalized into an integrated outpatient model.

The core point is this: HOW is the layer that the current EBM chain has not yet systematically designed for complex chronic multimorbidity. Without HOW, WHAT remains on paper. Patients with multimorbidity fall into fragmented care, guideline conflicts go unresolved, and high-level treatment targets become very difficult to sustain in real practice.

4. DATA-TO-OPERATE — THE DATA LAYER THAT ACTIVATES DECISIONS

Identification DATA-to-operate — the operational data layer that activates clinical decisions.

Definition DATA-to-operate is the set of data sufficient for action — not data stored merely for completeness. It is a system of longitudinal time-series data designed to identify target-organ injury, pathological loops, downward trajectories, safety boundaries, windows of opportunity, and breaking points — and then to activate the corresponding clinical decisions.

Content DATA-to-operate includes: time-series data for each disease axis; action thresholds that trigger specific responses; trend dashboards for the Clinical Conductor; decision logs and audit trails for decision traceability; follow-up SLAs defining response frequency and responsibility; patient adherence and cooperation data; longitudinal imaging data such as ultrasound, elastography, and DECT; and disease-axis-specific datasets.

Exclusions DATA-to-operate is not “big data” in the sense of sheer volume. It is not the entirety of a routine electronic medical record. It is not accumulated research data for retrospective analysis. It is not every test that could possibly be performed. It is data just sufficient to trigger action at the right moment.

A single snapshot is not DATA-to-operate; it must be a time series sufficient to reveal trends and breaking points.

Operationalization In B.1, DATA-to-operate appears as the minimal paraclinical core that creates baseline data and the triggers that open specialized pathways. In B.2, it appears as phase-based data, phase-transition data, and data that identify decline or stability. In B.3, it helps determine whether the window of opportunity is open, closing, or closed. In B.4, it appears through cooperation, adherence, and participation-capacity data. In B.5, it is tied to the thresholds that activate safety valves and the enabling conditions. In Section C, it enters each verification target: caliper-based ultrasound data in mm^2 on the gout axis; time-series eGFR and albuminuria on the kidney axis; BNP/NT-proBNP, EF, and hospitalization events on the heart axis; and Child–Pugh, MELD, FibroScan, albumin, and ascites on the liver axis.

The core point is this: DATA-to-operate is the condition that prevents HOW from operating blindly. Without DATA-to-operate, the Clinical Conductor is forced to make decisions based on isolated snapshots, personal memory, and fragmented clinical impressions. In complex chronic multimorbidity, that becomes a measurable operational risk.

5. RELATIONSHIP AMONG THE THREE LAYERS — NO SUBSTITUTION, NO COMPENSATION

The three layers WHAT – HOW – DATA-to-operate are not three hierarchical levels, nor are they interchangeable options. They are three structural components of the same architecture. If any one layer is missing, the remaining two are still insufficient to generate sustainable clinical outcomes in patients with complex chronic multimorbidity. A.1 already stated this principle; A.2 clarifies it at the level of definitions and conceptual boundaries.

If HOW is missing, WHAT remains on paper and is not transformed into integrated action. A patient with severe gout plus CKD G4 and heart failure may simultaneously receive three guidelines that are each individually correct, but no one coordinates, no one prioritizes, and the window of opportunity may be lost even though therapeutic knowledge is not lacking.

If DATA-to-operate is missing, HOW operates blindly. The system may have processes, role allocation, and follow-up cadence, but decisions still rely on isolated snapshots; deteriorating trends are not seen in time; and safety-valve activation becomes delayed.

If WHAT is missing, HOW and DATA lose the standard against which they must anchor. Decisions then risk drifting into intuition or pure experience. The Vien Gut Model does not follow that path; WHAT is always preserved intact from international guidelines.

This is why the three layers must be integrated: WHAT determines the targets and principles; HOW determines how action is organized; and DATA-to-operate determines whether trends can be seen so that action occurs at the right time. These are not three tools placed side by side, but three layers of a single system.

6. WHY COMPLEX CHRONIC MULTIMORBIDITY NECESSARILY REQUIRES ALL THREE LAYERS

In single-disease care or in relatively stable situations, some implicit operational practices may still suffice temporarily. But when the number of simultaneous diseases increases, when multiple guidelines apply to one patient, when the medication used for one axis worsens another axis, and when decisions must be sustained over time between many visits, implicit operations exceed the limits of safety. It is

precisely then that separating and at the same time reintegrating the three layers WHAT, HOW, and DATA-to-operate becomes an obligatory architectural condition.

Complex chronic multimorbidity is not merely “harder than single disease” in the sense of having more diseases. It is qualitatively different. It requires reorganizing therapeutic knowledge into integrated clinical priorities, defining operational roles explicitly, and maintaining time-series data sufficient not to miss breaking points. That is why A.2 is not merely a document defining terminology. It identifies the mandatory foundational architecture for complex outpatient multimorbidity.

Document B.5 will show why even physicians highly skilled in multidisciplinary coordination still cannot resolve conflicts if HOW + DATA-to-operate are absent. Section C will show why high-level treatment targets such as crystal-free, dialysis delay, reduction of heart-failure decompensation, and hepatic recompensation — although they already have an international evidence base — remain very difficult to realize sustainably without a full three-layer architecture.

7. LIMITS OF THE DOCUMENT’S SCOPE

This document includes: the identification, operational definitions, content, exclusions, and operationalization of the three layers WHAT – HOW – DATA-to-operate; analysis of the structural relationship among the three layers; and an explanation of why complex chronic multimorbidity necessarily requires all three layers.

This document does not include: the EBM framework and the structural break; international evidence regarding the HOW gap; detailed definitions of individual operational terms; the standardized terminology table; the specific operational procedures of HOW; or target-organ clinical evidence. These contents belong to A.1, A.3, A.4, A.5, B.1–B.5, and Section C.

8. THE POSITION OF A.2 WITHIN THE VIEN GUT DOCUMENT SYSTEM

Document A.2 sits between A.1 and A.3, serving as the bridge of the entire Section A: A.1 identifies the structural break in the EBM chain; A.2 defines the three layers used to fill that gap; A.3 confirms that gap through international evidence; A.4 elaborates the terminology system in detail; and A.5 standardizes the language used throughout the dossier. At the same time, A.2 is the foundational document for understanding the whole of Section B and Section C — where the three layers are transformed into operational models, protocols, and verification targets.

If A.1 is the reference map of the dossier, then A.2 is the foundational definition set of that map. Without A.2, the central terms of the entire model would be easily confused, wrongly conflated, or read as concepts resembling terms in the international literature but not entirely equivalent.

CONCLUSION

WHAT, HOW, and DATA-to-operate are the three foundational architectural layers of the Vien Gut Model. WHAT serves as the normative layer of therapeutic knowledge — inherited intact from international guidelines. HOW serves as the operational-organization layer — transforming knowledge into structured, role-allocated, and controllable action. DATA-to-operate serves as the decision-guidance layer — transforming fragmented data into signals that activate action at the right moment.

In the context of patients with complex chronic multimorbidity — a patient group that global medicine has acknowledged but for which no fully developed operational solution yet exists — the differentiation and simultaneous integration of these three layers is an obligatory architectural condition. This is not a new theory standing outside practice. It is a systematization derived from nearly two decades of integrated

clinical practice at Vien Gut — where these three layers have been operated, tested, and continuously refined in patients with complex chronic multimorbidity.

Illustrative relationship among missing layers

If which layer is missing?	Consequence	Clinical illustration
HOW is missing	WHAT remains on paper and is not transformed into integrated action	Patient with gout + CKD G4 + heart failure: three guidelines conflict, and no one coordinates
DATA-to-operate is missing	HOW operates blindly; decisions rely on isolated snapshots	The Clinical Conductor does not see the downward slope of eGFR and activates the safety valve too late
WHAT is missing	HOW + DATA operate without a normative standard	Does not occur in the Vien Gut Model — WHAT is always preserved intact from international guidelines

REFERENCES

[1] FitzGerald JD, et al. 2020 American College of Rheumatology Guideline for the Management of Gout.

[2] Richette P, et al. 2016 updated EULAR evidence-based recommendations for the management of gout.

[3] KDIGO. 2024 Clinical Practice Guideline for the Evaluation and Management of Chronic Kidney Disease.

[4] ESC guideline documents on heart failure and decompensation prevention.

[5] EASL guideline and related consensus documents on cirrhosis decompensation and recompensation.

[6] NICE NG56. Multimorbidity: clinical assessment and management.

[7] WHO ICOPE and related integrated care frameworks.

[8] Barnett K, et al. Epidemiology of multimorbidity and implications for health care, research, and medical education. Lancet. 2012.

[9] Graham ID, et al. Lost in knowledge translation: time for a map?

[10] Grol R, Grimshaw J. From best evidence to best practice. Lancet. 2003.

Foundational and operational documents within the academic dossier of the Vien Gut Model: A.0, A.1, A.3–A.5, B.1–B.5, C.1–C.n.