ACADEMIC PUBLICATION SET

VIEN GUT MODEL

Integrated Outpatient Care for Complex Chronic Multimorbidity

Part A — Foundations

Academic Publication Set — Vien Gut Model

DOCUMENT A.3
THE GLOBAL HOW GAP

Why Complex Chronic Multimorbidity Is Not Served
by Existing Single-Disease Guidelines

Vien Gut Model — Academic Publication Set
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1. Practice origin

This document originates from a recurring observation at Vien Gut throughout 18 years of operation: each time a patient with severe complicated gout was admitted, the real problem was not a lack of drugs or guidelines. The problem was the absence of a HOW for simultaneously applying multiple guidelines to a single patient with four to seven severe diseases concurrently.

This observation — initially a clinical intuition, gradually confirmed by cohort data and collaboration with leading EULAR scientists — led to a recognition: this is not a problem unique to Vien Gut or to gout. It is a global, systemic problem that can be described in precise academic language.

Document A.3 frames the problem from that global perspective. Document A.1 (EBM Framework) identified the structural break point in the EBM chain. Document A.2 (Foundational Concept Set) defined the three layers WHAT–HOW–DATA-to-operate. Document A.3 adds international evidence confirming that the HOW gap exists at a global scale — before Parts B and C describe how the Vien Gut Model builds the answer from practice.

2. Scale of the problem — complex chronic multimorbidity is a global reality

Complex chronic multimorbidity — the simultaneous presence of three or more severe chronic diseases in a single patient — is no longer an exception. It is the dominant reality of 21st-century medicine.

Barnett 2012 [1]	Over 1.7 million patients in Scotland: 42% of adults had at least two chronic diseases; >80% among those over 80 years old. In low-income groups (equivalent to LMICs), multimorbidity appeared 10–15 years earlier.
WHO 2023 [2]	Over 60% of the global burden of disease comes from non-communicable chronic diseases, the majority being multimorbid.
UN 2011 [15]	Political declaration: non-communicable diseases are the major challenge of the 21st century, calling on 194 countries to develop national plans.
Vietnam 2015 [3]	Decision 376/QĐ-TTg: non-communicable diseases account for 73% of national mortality and 66% of the national disease burden.

However, the entire clinical medicine system — from physician training, specialty organization, through guideline development and research design — remains organized according to the single-disease model. This is a structural paradox: disease has shifted to multimorbidity, yet the healthcare system still operates by single-disease logic.

3. Cross-referencing two sources of international literature

3.1. Single-disease guidelines — strong WHAT, no HOW for multimorbidity

The major single-disease guidelines — EULAR/ACR for gout [16][17], KDIGO for CKD [18], ESC for heart failure [19], EASL for cirrhosis [20] — all provide excellent WHAT: treatment targets, drugs of choice, intervention thresholds, and evaluation criteria [14]. Yet no guideline describes the HOW when these four guidelines are simultaneously applied to a single patient — who coordinates, in what order, by what conflict resolution mechanism, and with what longitudinal data.

Document B.5 (Enabling Conditions) concretely illustrates this paradox through a matrix of 8 typical disease–disease / drug–disease conflict pairs — none of which is resolved by any single-disease guideline.

3.2. International consensus on multimorbidity — gap acknowledged but not yet filled

NICE NG56 (2016) [4]	The world's first dedicated multimorbidity guideline. Acknowledged that single-disease guidelines are not appropriate for multimorbid patients. Recommended reducing treatment burden and having a clearly designated coordinator — but did not provide specific HOW.
JA-CHRODIS (2016) [5]	Pan-European consensus: the single-disease model leads to highly fragmented care that causes harm. Required clearly designated family physicians and nurses — but did not describe an integrated operational process.
WHO ICOPE (2016) [6]	Integrated, people-centred care framework. Set the right principles — but lacked HOW for complex chronic multimorbidity in LMIC outpatient settings.
Hughes 2013 [7]	Analysis of 5 NICE guidelines: simultaneous application of multiple single-disease guidelines creates an overwhelming treatment burden even at moderate levels.
Muth 2019 [8]	Over 10 years of acknowledging that single-disease guidelines are inappropriate for multimorbidity, yet integrated clinical decision support remains critically lacking.

Synthesis: global medicine has acknowledged the gap. Has set principles. But no model has yet provided specific, structured, operationally tested, and verified HOW + DATA-to-operate for patients with complex chronic multimorbidity in the outpatient setting.

4. Evidence of clinical consequences of the HOW gap

The HOW gap is not an abstract concept — it produces measurable clinical consequences. International studies have documented:

Consequence	Evidence	Source
Increased inappropriate medications + increased mortality	Cohort of 4.7 million Danish citizens: fragmentation independently associated with increased potentially inappropriate medications (PIM) and increased all-cause mortality	Prior et al. 2023 [9]
Increased unplanned emergency visits + increased costs	Systematic review: fragmentation increases emergency visit volume, duplicate testing, and total costs	Jiang 2023 [10]
Patients left to self-coordinate	Multimorbid patients report receiving conflicting information, lacking someone with overall responsibility, and exhaustion from self-coordination	Schiøtz 2017 [11]; Liddy 2014 [12]
Physicians stressed between guidelines and reality	Family physicians report stress between applying single-disease guidelines and the risk of harming multimorbid patients	Johansen 2020 [13]

Detailed analysis of fragmentation consequences in the outpatient treatment plan context: see B.1 Section 12 and B.2 Section 12. Analysis of the guideline paradox when severe multimorbidity creates simultaneous conflicts: see B.5 Section 4.

5. The HOW gap — structural summary

From the above analysis, the global HOW gap can be described by four structural characteristics:

1. No coordinator	No guideline defines who bears overall responsibility when multiple guidelines are simultaneously applied to a single patient. The Vien Gut Model responds with the Clinical Conductor — see B.1, B.2.
2. No conflict resolution	No guideline describes how to resolve situations where a drug beneficial for one axis causes harm on another. The Vien Gut Model responds with the conflict resolution matrix and the

mechanism	vital organ prioritization principle — see B.5 Section 7.
3. No structured longitudinal data	Guidelines rely on cross-sectional snapshots. Multimorbidity requires time series to identify trends and opportunity windows. The Vien Gut Model responds with DATA-to-operate — see A.2, B.3.
4. No safety valve with a pathway	Referrals typically occur late, after decompensation. The Vien Gut Model responds with a bidirectional referral safety valve in standby mode — see B.1 Section 13, B.2 Section 11.

6. The Vien Gut Model's response

The Vien Gut Model does not deny the role of guidelines — WHAT remains fully adhered to. What the model adds are the two layers that guidelines do not provide: HOW (the structured clinical operations layer) and DATA-to-operate (the decision-activating data layer). These two layers have been built, operated, and verified over 18 years of practice at Vien Gut Polyclinic.

Part B (B.1–B.5) describes the HOW architecture in detail — from the first clinical encounter activating the operational system, through the phased treatment plan, opportunity window, patient role, and enabling conditions. Part C verifies outcomes on the four target organs: crystal-free (C.1), renal preservation (C.2), cardiac decompensation reduction (C.3), and hepatic recompensation (C.4).

7. Scope limitations of this document

Document A.3 includes: international evidence on the scale of chronic multimorbidity; cross-referencing of single-disease guidelines and multimorbidity consensus documents; evidence of the clinical consequences of the HOW gap; and a structural summary of the gap and how the Vien Gut Model responds.

Document A.3 does not include: the three-layer EBM framework (see A.1); definitions of WHAT, HOW, and DATA-to-operate (see A.2); specific operational procedures (see B.1–B.5); or clinical evidence on target organs (see Part C).

8. Position within the Vien Gut documentation system

Document A.3 completes the foundational reasoning triad: A.1 identifies the break point in the EBM chain → A.2 defines the three layers that fill the gap → A.3 confirms the gap with international evidence. After A.3, the reader has sufficient foundation to proceed to A.4–A.5 (terminology), Part B (operations), and Part C (verification targets).

9. Conclusion

The HOW gap in the care of patients with complex chronic multimorbidity is not a finding unique to Vien Gut. It is a gap that has been acknowledged by NICE [4], WHO [2][6], JA-CHRODIS [5], and numerous international studies. Its clinical consequences are measurable: increased inappropriate medications, increased mortality, increased emergency visits, increased costs, and lost opportunity windows.

What no one had achieved — until the Vien Gut Model systematized 18 years of practice — is the construction of a specific, structured, operable, and transferable HOW + DATA-to-operate architecture for patients with complex chronic multimorbidity in the outpatient setting. This is the contribution that this publication set presents — and the multi-center verification invitation extended to the international medical community.

References

[1] Barnett K, et al. Epidemiology of multimorbidity. Lancet. 2012;380(9836):37–43.

[2] WHO. Global Action Plan for NCD 2013–2030. Geneva: WHO; 2023.

[3] Prime Minister of Vietnam. Decision 376/QĐ-TTg dated 20/3/2015.

[4] NICE. Multimorbidity: clinical assessment and management (NG56). 2016 (updated 2023).

[5] Onder G, et al.; JA-CHRODIS. Multimorbidity care model. Health Policy. 2015;119(12):1513–1520.

[6] WHO. Framework on Integrated, People-Centred Health Services. 2016.

[7] Hughes LD, et al. Guidelines for people not for diseases. Age Ageing. 2013;42(1):62–69.

[8] Muth C, et al. Evidence supporting the best clinical management of patients with multimorbidity and polypharmacy. J Intern Med. 2019;285(3):272–288.

[9] Prior A, et al. Healthcare fragmentation, multimorbidity, PIM, and mortality. BMC Med. 2023;21(1):305.

[10] Jiang S, et al. Fragmented care and chronic illness outcomes. J Nurs Manag. 2023;2023:3707960.

[11] Schiøtz ML, et al. Involving patients with multimorbidity in service planning. BMC Health Serv Res. 2017;17(1):570.

[12] Liddy C, et al. Challenges of self-management with multiple chronic conditions. Can Fam Physician. 2014;60(12):1123–1133.

[13] Johansen KJ, et al. GP strategies for managing multimorbidity. BMC Fam Pract. 2020;21(1):131.

[14] Tinetti ME, et al. Potential pitfalls of disease-specific guidelines. N Engl J Med. 2004;351(27):2870–2874.

[15] United Nations General Assembly. Political Declaration of the High-level Meeting on the Prevention and Control of Non-communicable Diseases. A/RES/66/2. New York: UN; 2011.

[16] FitzGerald JD, et al. 2020 American College of Rheumatology Guideline for the Management of Gout. Arthritis Care Res. 2020;72(6):744–760.

[17] Richette P, et al. 2016 updated EULAR evidence-based recommendations for the management of gout. Ann Rheum Dis. 2017;76(1):29–42.

[18] KDIGO. 2024 Clinical Practice Guideline for the Evaluation and Management of Chronic Kidney Disease. Kidney Int. 2024; Supplement.

[19] McDonagh TA, et al. 2021 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure. Eur Heart J. 2021;42(36):3599–3726.

[20] EASL. EASL Clinical Practice Guidelines for the management of patients with decompensated cirrhosis. J Hepatol. 2018;69(2):406–460.