

CLINICAL RULE-SET AUDIT

Sample Findings — Physician-Verified Review of an AI-Generated Clinical Dataset

Illustrative excerpt · full audit (72 rules reviewed, 35 defects identified) available on request

SCOPE & REVIEWER

Dataset under review: Synthetic Type 2 Diabetes patient dataset — code-derived clinical rule set (72 rules)

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Note: Findings represent one clinician's assessment. Final ICD-10-CM code selection, where noted, is deferred to a certified coder.

FINDING 1 — CODING-LAYER DEFECT

Rule	Chronic kidney disease (CKD) represented with a non-billable parent-category code.
Defect	The code cited is confirmed in the current FY ICD-10-CM tabular file as an unsubdivided parent category with three billable children (stage-specific leaves). None of the three is selected by the rule.
Verification	Looked up directly against the ICD-10-CM tabular file — not recalled from memory. Reproducible by any certified coder in under a minute against the same source.
Consequence	Guaranteed claim rejection. Every CKD-flagged record in the dataset carries a code that cannot be submitted as a billable diagnosis.
Severity	CRITICAL

FINDING 2 — SIMULATION-LOGIC DEFECT

Rule	Lower medication adherence is modeled to generate an earlier prescription refill date.
Defect	The logic is inverted. A patient with lower adherence takes fewer doses than prescribed and has leftover medication on hand — they refill later, or not at all, never earlier. This is basic days-supply arithmetic, independent of any coding or guideline question.
Verification	Confirmed against standard pharmacy days-supply arithmetic (doses consumed vs. days supplied).
Consequence	Every adherence-linked feature derived from refill timing is backward-signed across the full longitudinal dataset — corrupting any model trained on the adherence signal.
Severity	CRITICAL

METHOD

Every rule in scope is reviewed through five stages: (1) structural code validity by direct lookup against the current ICD-10-CM tabular file, (2) clinical correctness against the intended concept, (3) threshold and cadence verification against current ADA Standards of Care and KDIGO guidance, (4) downstream-consequence analysis, and (5) severity triage. No code is generated, recalled, or suggested from memory anywhere in the audit — every code cited, including every proposed replacement, is quoted from the source tabular file.