# Reducing MD Referrals in Automated Underwriting

## Leveraging rules-driven decisioning to enhance straight-through processing


Eddy Osman
Executive Director
Aura Next Me

Aaron Mohammed
Director of Global Digital Underwriting

Dr. Nico van Zyl
Senior Vice President,
Chief Medical Director


RGA

# Executive Summary


- Life insurers increasingly adopt automated underwriting (AU) for efficiency, yet excessive "Refer to medical director" (RMD) cases remain a barrier to scale. Many RMDs are triggered not by genuinely complex cases but by legacy underwriting manuals and "better-safe-than-sorry" default rules. This undermines straight-through processing (STP) rates and adds cost and delay for insurers and applicants.


- A high-level framework developed in consultation with RGA's Chief Medical Officer Dr. Nico van Zyl safely reduces unnecessary MD referrals by converting predictable triggers into rules-based, automated decisions. The approach includes refining underwriting criteria for select impairments, adding reflexive questions to capture critical nuances, and updating rule sets in alignment with expert medical guidance, including RGA's Global Underwriting Manual (GUM).
- By filtering out false-positive RMDs, carriers can increase STP rates and reduce costs while preserving mortality control. RGA's client experience suggests that a mature AU program can eliminate 15% – 40% of MD reviews via enhanced rules. This translates to faster turnaround, improved applicant experience, and lower expenses — without compromising risk selection.
- The goal is not to remove medical director judgment from truly complex cases. Rather, it is to use technology and data to embed medical insights into automated rules, reserving human expertise for the most nuanced risks. This strategy requires close collaboration among underwriting, medical, and technology teams and should be backed by robust monitoring to ensure mortality neutrality.
- Although carriers may refer to these terms by different names and acronyms, the mechanisms between RUW, RTU, and RMD remain the same and should be called out appropriately when it comes to AU workflows and processes. Definitions for the purposes of this paper are as follows:
    - **RMD** – Refer to medical director
    - **RUW** or **RTU** – Refer to underwriter

From a rule-building perspective, the key distinction is that RUW functions as an actionable workflow outcome that removes a case from straight-through processing, whereas RMD does not. Instead, RMD represents a medical review requirement applied after a case is already in the manual underwriting path. As a result, configuring rules to trigger RUW with a conditional RMD requirement can significantly increase both underwriting and medical review costs if applied too broadly.

## Where AU and Medical Judgment Intersect

Direct-to-consumer (DTC) underwriting has accelerated the push for instant, fluidless risk assessment. Applicants expect purchase experiences in minutes, which puts a premium on high auto-approval rates.

The proliferation of electronic health records (EHR) and databases (prescription histories, MIB, lab results, medical claims) means today's AU engines have access to far more medical information than traditional questionnaires alone. In theory, this should allow medical-grade underwriting decisions without always needing a physician's review.

In practice, however, many carriers under-leverage these capabilities due to outdated processes:

- Traditional underwriting manuals often default to RMD for a wide range of flags (e.g., any mention of certain diagnoses), without distinguishing severity or context.
- Third-party evidence (lab scores and prescription histories, for example) may not be fully ingested by rules or may not trigger tailored follow-up questions.
- Static application questionnaires fail to drill down on key risk details.

By contrast, modern AU platforms enable reflexive questioning – dynamically asking extra questions when specific disclosures or data indicate elevated risk. RGA's Aura Next underwriting engine, for example, uses advanced reflexive interview questions and integrates industry-standard medical data sources to support accurate instant decisions.

Fully automated underwriting is a delicate balance between straight-through efficiency and prudent medical caution. Carriers must decide when to trust the rules engine versus when to pull a case from automation for expert review.

In many environments today, the pendulum swings too far toward caution. This flags genuine high-risk cases but also pulls in many applicants who could have been auto-processed with the right data and rules logic. The result is a drag on the very efficiencies AU aims to create.

## The Economics: Savings vs. Hidden Costs of RMDs

The shift from manual underwriting to AU offers significant savings in requirements and cycle time. However, excess RMD referrals impose hidden costs:

- **Direct costs** – Physician review time is expensive. Each unnecessary case sent to a medical director consumes specialist resources that could be focused elsewhere.
- **Indirect costs** – RMD cases often have longer turnaround times, breaching service level agreements (SLAs) and causing queue backlogs. They might also require additional evidence gathering – such as attending physician statements (APS) and supplementary questionnaires – and time-consuming back-and-forth with agents or applicants.
- **Opportunity cost** – Each avoidable RMD is a missed opportunity for instant approval. Lower STP rates mean fewer policies issued at point-of-sale. This diminishes the value proposition of the AU platform and may frustrate distribution partners and applicants who expect a quick decision.

## Impact Example

Consider a carrier with a relatively mature AU program. If 20% of applications still result in an RMD, one in five cases requires a manual review. Reducing RMDs by half would boost straight-through approvals by 10 percentage points – a material jump in issued-case efficiency.

RGA's experience across multiple carrier implementations indicates that 15%–40% of current RMD cases could be safely auto-decisioned, given better rules and data integration. The financial stake is high: These improvements reduce per-policy underwriting costs and accelerate premium placement while preserving an enhanced client experience and maintaining expected mortality experience.

## Leveraging Predictive Scoring

Predictive models and scoring methodologies are increasingly essential in modern automated underwriting, especially for cases where decisions are not clear-cut – such as distinguishing between Standard and Preferred risk classes, or making an Offer versus No Offer determination. By integrating alternative data sources, these models provide objective, data-driven insights that help clarify outcomes when applicant profiles present mixed risk indicators.

In borderline scenarios, predictive scoring can serve as a decisive tool used to improve acceleration and decrease mortality slippage.

For example, an applicant presenting with elevated ferritin, transferrin saturation (TSAT), and mildly abnormal liver function tests — findings commonly associated with suspected or early hemochromatosis — would traditionally trigger referral for MD review, given the potential for underlying organ involvement. However, when paired with a predictive score, a favorable signal may support proceeding without referral in the absence of additional risk indicators, while an unfavorable signal reinforces the need for escalation or further investigation.

Underwriting engines such as Aura Next enable this approach by incorporating predictive scores, received as an evidence report or third-party data input, alongside traditional evidence inputs leveraging the Aura Next Evidence Framework service and applying conditional rule logic to dynamically adjust referral pathways. This allows carriers to reduce unnecessary MD referrals and improve turnaround times, while maintaining appropriate risk discipline and transparency.

Ultimately, if an applicant shows favorable characteristics in one area but less-favorable disclosures elsewhere, the scoring model can assess the overall risk and resolve ambiguity. A high, favorable score may support a better offer or allow the case to proceed without medical director (RMD) review, accelerating the process and improving applicant experience. Conversely, if the model identifies significant risk factors – whether from lab data, prescription history, or other alternative sources – it can trigger an RMD, ensuring that complex or unfavorable cases receive expert oversight.

This targeted approach enhances acceleration rates for favorable cases while preserving robust mortality control. By guiding RMD referrals based on predictive scoring, insurers reduce unnecessary manual reviews and mortality slippage, optimizing resource allocation and reserving medical director expertise for truly insurable risks. Ultimately, this methodology

benefits both ends of the mortality spectrum: It enables improved offers for borderline but favorable applicants and ensures thorough review for complex, higher-risk cases.

# When an RMD is Not an RMD: Impairments Ripe for Rule Automation

Not every medical impairment labeled "refer to MD" truly requires human judgment. Several use cases – some identified in recent underwriting reviews – highlight how simple rule additions or refinements can safely replace an RMD. These examples are illustrative, not exhaustive, focusing on conditions commonly flagged for MD review where data and medical consensus support a more automated approach.

## Asthma: Well-controlled vs. severe

**Legacy manual trigger** – "≥ 2 asthma episodes – RMD (often resulting in postpone or refer with no offer)." In this case, any indication of multiple asthma attacks triggers an immediate RMD. This blanket rule fails to distinguish controlled asthma from truly high-risk cases.

**Automation opportunity** – Incorporate a reflexive asthma questionnaire and evidence rules to differentiate severity:

- Was the applicant hospitalized or brought to an emergency room for asthma in the past two years?
- Are frequent oral steroid "burst" therapies or novel biologic treatments (i.e., monoclonal antibody treatments) needed?
- How many acute exacerbations have occurred in the past year? Have there been any ICU admissions or intubation?
- Is the applicant a current smoker?
- Does the applicant have comorbid COPD?

With these data points, the rules engine can stratify risk. Well-controlled intermittent asthma with no recent hospitalizations, compliant with inhaler treatment, and no tobacco use can be auto-approved at standard or better rates. In fact, industry statistics show that approximately 95% of applicants with well-controlled asthma qualify for standard or near-standard rates.[1]

By contrast, an applicant with multiple recent ER visits or an ICU stay for asthma would still rightly trigger an RMD or even a decline. The key is moving beyond a binary "≥2 episodes = RMD" rule to a nuanced decision tree that uses applicant disclosures and medical data supported by evidence where available (e.g., prescription or claims data indicating maintenance therapy use). This reduces low-risk RMDs while maintaining vigilance for truly severe cases.

## Bipolar disorder

**Legacy manual trigger** – "History of multiple psychiatric hospitalizations for bipolar – automatic RMD with likely decline or high substandard rating."

Frequency of hospitalization is a critical severity indicator, but not all bipolar histories are equal.

Recent updates to RGA's GUM reflect changes in how to assess Bipolar 1 vs. Bipolar 2. Questions that allow underwriters to determine which type of bipolar the applicant has are vital for accurate risk assessment.

**Automation opportunity** – Refine bipolar rules using time and recurrence criteria:

- Ask "How many mental health-related hospital admissions have occurred, and how long since the last episode requiring hospitalization?"
- Potential rules include: If bipolar diagnosis with 0–1 lifetime admissions and no episodes in >5 years on stable maintenance medication, then auto-approve at a moderate rating.
- Conversely, ≥2 admissions or any within the past five years trigger an RMD due to heightened relapse risk.

The difference between an applicant with a single isolated bipolar episode 10 years ago and stable on-treatment since versus someone with recent recurrent manic hospitalizations is significant. A manual's blanket "multiple admissions" trigger can be converted into a data-driven rule that accounts for both count and timing of episodes.

Medical literature consistently demonstrates that outcomes in bipolar disorder vary materially based on clinical course and treatment continuity. Applicants with sustained long-term stability, infrequent or remote episodes, and adherence to maintenance therapy exhibit substantially more favorable mortality experience than those with recent relapses or recurrent psychiatric hospitalizations. Conversely, relapse-prone or poorly controlled bipolar disorder is associated with markedly elevated risk and appropriately warrants medical director review. Translating these distinctions into time- and recurrence-based rules allows automated underwriting engines to safely auto-decision stable cases while preserving escalation for higher-risk profiles.[5-8]

## Obstructive sleep apnea (OSA)

**Legacy manual trigger** – "Sleep apnea with incomplete workup or high BMI – RMD." Often, underwriting manuals require an RMD if an applicant reports OSA but has not had a recent sleep study or is extremely obese – with a BMI greater than 50 – due to concern for obesity hypoventilation. The intent is to have an MD assess severity and treatment adherence.

**Automation opportunity** – Add reflexive questions and evidence checks around OSA:

- Confirm the diagnosis method: Formal sleep study versus self-reported snoring? A home sleep study versus a formal lab sleep study? A more formal lab sleep study should be referred, while a home sleep study can be a candidate for automation.
- If severe or central OSA is disclosed by an applicant, believe them.
- If on continuous positive airway pressure (CPAP) therapy, ask about usage – hours per night, nights per week. Some connected CPAP devices provide usage data to the insurer.
- Ask about symptoms such as daytime sleepiness and accidents, as well as any complications including pulmonary hypertension. Check prescription records for CPAP supplies or related medications and check evidences for diagnosis codes.

- Consider a BMI-plus-OSA combination. A very high BMI with OSA might still need RMD to evaluate for obesity hypoventilation syndrome or other comorbidities. But moderate OSA with good CPAP adherence could be auto-issued at standard rates.

Consistent CPAP use dramatically lowers the health risks of sleep apnea. A recent meta-analysis found that OSA patients with cardiovascular disease who used CPAP ≥4 hours/night had approximately 30% fewer recurrent cardiac events compared to those with poor adherence.[2]

In underwriting terms, an applicant whose OSA is well-managed on CPAP – and who perhaps can demonstrate it via telemonitoring data or a doctor's statement – has mortality more akin to mild OSA. It is feasible to build rules such as:

- If CPAP use ≥X hours/night, no daytime symptoms, no recent accidents, and no other major issues, then allow an automated standard offer or minor rating.

Only if the applicant reports not using prescribed CPAP or has concerning factors such as extreme obesity or recent hospitalizations is an RMD warranted. This targeted approach avoids reflexively sending all OSA cases to an MD.

## Metabolic risk indicators (diabetes, liver enzymes)

**Legacy manual trigger** – Certain conditions defined primarily by lab values often trigger RMDs because underwriters feel a physician must interpret the labs. Examples include type 2 diabetes with high hemoglobin A1c levels and elevated liver function tests (LFTs) suggestive of possible liver disease.

**Automation opportunity** – Here again, rules can be sharpened:

- For diabetes, rules can combine the A1c reading with age and treatment. For example, an A1c of 7.5% in a 50-year-old on metformin might be an auto-standard, whereas 10.0% in a 30-year-old on insulin remains RMD.
- For abnormal LFTs, a rules engine can incorporate the degree of elevation and other markers. For example, hepatitis screen results, alcohol markers, and BMI can help determine if an MD review is needed or if a moderate rating can be applied automatically. Glycemic control is important, but so is determining if the applicant has end-organ damage or albuminuria. If not, they are more likely to be eligible to automate. In cases of a pregnancy disclosure, rules can be developed for impairments, such as liver dysfunction, to allow for automation on cases that are otherwise good risks.

Abundant population data exists for lab-based risks. For example, the correlation between A1c levels and diabetes complications/mortality is well documented, and a rules engine can be updated to reflect those quantitative thresholds without human intervention.

The same goes for many liver enzyme patterns. By codifying this knowledge into underwriting rules – supported by a research-backed manual such as RGA's GUM and LFT Calculator – carriers can confidently auto-decision more cases that fall into expected ranges while still referring atypical or extreme values to an MD.

## Chest pain for ages younger than 40

**Legacy manual trigger** – This typically is considered an RMD.

**Automation opportunity** – Consider additional questions for this age group:

- Was this triggered due to an accident or other non-cardiac-related incident and was it a one-time occurrence? If so, consider this for approval.
- Was it more than six months ago? If so, again, an automatic approval may be warranted.
- Has a cardiac workup been completed? Are correlating medications being taken? If yes, collect cardiologist information along with primary care to expedite the review.
- If an applicant goes to an emergency room and has normal troponins and no other adverse factors, they may be eligible for automation.

## Multiple relapses for past drug abuse

**Legacy manual trigger** – Many guidelines suggest an RMD if there is any history of multiple drug use with relapse.

**Automation opportunity** – Create reflexive questions to consider declining scenarios with multiple substances and relapse within 10 years. Create automation rules to combine factors such as unemployed or other lifestyle factors with single or multiple drug use history within 10 years with treatment for a decline.

There is no need to RMD these types of cases, which should be automated to postpone or decline.

# Converting Manual Triggers into Rules: A Practical Framework

To systematically reduce RMD rates, carriers should take a structured approach to updating their AU rule sets. Key steps include:

## Map manual RMD triggers through data-driven variables

Start by extracting the exact criteria in the underwriting manual or guidelines that result in RMD. For each trigger, ask: "What is the manual really trying to identify?" Often, it is a proxy for severity. For instance:

- The manual says "Refer if multiple episodes of Condition X."
- Translation: The concern is that frequent episodes indicate severe or uncontrolled disease.
- Next, determine what measurable data can capture that concept more precisely. In the above example, "multiple episodes" could be translated into a rule such as:

- IF episodes_count ≥ 2 AND episode_last_24_months = TRUE, THEN RMD; ELSE auto-decision (with appropriate rating)

This rule uses two specific data points – number of episodes and recency of last episode – instead of a vague notion of "multiple." Hard data such as counts, values, and dates are preferable over generalized language. With EHR and digital applications, many data elements – including prescription fills and lab results – can feed these rules. If the data is not currently captured, consider adding a question or third-party data source to obtain it.

## Add reflexive precision – only when needed

Modern AU platforms make it possible to ask tailored follow-up questions in real time, rather than including every possible question on every application. This reflexive questioning capability – featured in systems such as RGA's Aura Next – allows carriers to keep initial applications short for healthy applicants and drill down on pertinent risk details when an impairment is indicated. To implement this:

- Review RMD cases to identify what additional information the medical director typically seeks to make a decision. This can help determine what an MD would have needed to not have to review the case.
- Implement new reflexive questions to capture that information during the application process. For example, if an applicant admits to a past heart attack, a reflexive question could ask about ejection fraction and current cardiology follow-ups – data an MD would need to decide. Or for a history of cancer, questions about stage, treatment, and last follow-up results can help lead to an automated decision.
- These responses become data points for the rules engine. The goal is to preempt the need for an RMD by supplying the rules with the same kind of information an MD would seek.

By intelligently layering reflexive questions and evidence data, an AU engine can often reach the same decision an underwriter or physician would. One carrier noted that after implementing condition-specific reflexives and rule tweaks, overall referral rates dropped substantially, with no change in issued business mortality.

The key is to be selective. Ask only what is needed, when it is needed, to avoid alienating low-risk applicants with unnecessary questions.

## Leverage medical expertise and global guidelines

Any new or modified rules must be vetted by experienced underwriting and medical personnel. Engaging medical directors early in the rule-design process helps ensure that mortality expectations remain unchanged even if fewer cases are reviewed. One approach is a formal "MD sign-off" process for rule changes that impact traditionally referred impairments.

Medical experts – internal or partner reinsurance physicians – can provide condition-specific guidance. For example:

- What is the largest build (BMI) that can be safely auto-approved with mild sleep apnea?

- What combinations of depression severity and treatment warrant an RMD?

These insights should then be codified into rule logic. Many companies find it useful to refer to an established knowledge base such as RGA's GUM when making such updates. A research-backed manual ensures that any rule changes align with the latest medical consensus and apply consistent risk classification across the organization.

Finally, plan to monitor outcomes of any rule changes. Track whether claim results, audit findings, or distribution feedback indicate any miscalibration. With careful monitoring, rules can be iteratively refined in consultation with medical experts – a continuous improvement loop that keeps automated decisions aligned with human expert decisions.

## Benefits and Challenges of Reducing RMD Reliance

Every change in the underwriting process has ripple effects. It is important to consider the potential benefits and risks of pushing more decisions through without MD review.

### Benefits:

- **Higher STP rates, lower costs** – Fewer manual reviews mean more instant decisions. This directly reduces per-case underwriting costs and accelerates cycle time. Carriers with high STP enjoy competitive advantage with faster policy issue and often improved placement rates.
- **Better applicant experience** – Avoiding unnecessary RMDs spares clients from delays, extra questionnaires, or APS requests. This streamlined experience can improve satisfaction and completion rates, especially in DTC channels.
- **Consistent decision logic** – Decision automation via rules ensures that similar cases get similar outcomes. An MD's judgment can be influenced by individual interpretation or workload pressures; a rules engine applies the same criteria uniformly and can be updated centrally via manuals, such as RGA's GUM, to reflect new medical knowledge.
- **Underwriter focus** – Human underwriters and medical staff can devote attention to truly complex, borderline cases, improving the quality of those decisions.

### Challenges:

- **Rule specification errors** – If a rule is too lenient, it could approve a case that really did merit physician review, potentially impacting mortality. Conversely, a too-stringent rule might decline someone who would have been approved after an MD's nuanced assessment, hurting client acquisition and potentially fairness.
- **Data limitations** – Automated decisions are only as good as the available data. Missing or inaccurate data – such as incomplete medical records or an applicant underreporting symptoms – could lead to inappropriate auto-approvals. MDs often catch subtle inconsistencies that algorithms might miss. If those inconsistencies are not detected via other means, such as back-end data checks, this risks false negatives.

- **Regulatory and legal considerations** – Regulators might be more likely to scrutinize a decision algorithm if an adverse decision is made automatically in a complex medical case. Companies must ensure they can defend the rationale via evidence-based rules to avoid compliance issues. Regular oversight by medical professionals can help validate that auto-underwriting decisions remain within an agreed risk appetite.
- **Edge cases** – No matter how advanced rules become, there will always be atypical cases that defy easy categorization. By lowering RMD thresholds, companies might inadvertently approve more edge cases that deserve human review. It is critical to maintain a safety net – whether periodic audits, random MD reviews for quality control, or a conservative bias in certain high-uncertainty scenarios – to catch situations where a human touch is still needed.

## High-Level Implementation Roadmap

Carriers should approach RMD reduction as a strategic project, involving underwriting, medical, and IT stakeholders. A suggested phased roadmap:

1. **Identify RMD-heavy targets** – Analyze the data to find the top causes of RMD referrals. Which impairments or application flags account for the most MD reviews? Prioritize areas where RMD volume is high and where more information or refined criteria would most significantly boost auto-processing.
2. **Extract and translate triggers** – For each priority impairment/trigger, detail the current underwriting guidance leading to RMD. Then, translate this into rule logic. Engage reinsurers or internal research teams to gather data on the impairment's risk stratification. For example, what are standard approval criteria for well-controlled rheumatoid arthritis and at what point would we confidently decline without an MD?
3. **Design reflexive Q&A and data feeds** – For each trigger, determine if additional data can resolve uncertainty. This could be an extra question in the digital application or an extra data source pulled for review. Design these reflexive questions and integrate any new evidence sources. For example, add a prescription check for medication adherence or obtain a specialty lab test result via an EHR integration.
4. **Rule development and testing** – Modify the rules in the AU engine through a rules management tool. Start with conservative thresholds agreed on with senior underwriters and medical directors. Use archived case data to test the new rules retrospectively and determine how they would have handled real cases. Ensure the rules would have replicated the MD's decision in those cases.
5. **Obtain medical/regulatory sign-off** – Have the medical director and any necessary oversight committees formally review and approve the new rule sets. Document the rationale. For example: "Rule based on RGA GUM guidelines for impairment X, expected mortality equivalent to traditional approach." This documentation helps with internal buy-in and regulatory defense.
6. **Pilot and measure** – Roll out the changes in a controlled manner. For example, implement the new rules for a subset of distribution or for a trial period. Closely

monitor key metrics such as RMD referral rates, STP rate, distribution feedback, and any early claims or mortality red flags. If possible, compare a sample of "before-versus-after cases." How many RMDs are being avoided, and are the outcomes for those cases acceptable?

7. **Iterate and scale** – Adjust the rules as needed based on pilot results. Communicate changes to the underwriting team and distribution. Then extend the program more broadly. Make RMD reduction an ongoing effort. Periodically revisit RMD statistics, especially when underlying guidelines change or when new data sources become available. Over time, as confidence grows, consider expanding automated decisioning to additional impairments.

## Conclusion

Refining automated underwriting to reduce unnecessary RMD referrals is a high-impact opportunity in the quest for efficiency. By using data-driven rules and reflexive questioning, insurers can capture much of the nuance that traditionally triggers a medical review. The payoff is significant: higher STP rates, faster policy issue, and lower costs — all while maintaining the same risk standards through careful rule design and medical oversight.

At its core, this is about engineering medical judgment into an automated underwriting engine. By partnering underwriting expertise with technology:

- Straight-through decisions can be safely expanded into territories once thought to require human interpretation.
- The RGA Global Underwriting Manual and other evidence-based guidelines become embedded in the automated process, providing consistency and confidence in the outcomes.
- Medical directors, rather than combing through routine cases, can focus on truly borderline or novel cases, where their expertise adds the most value.

In the evolving world of digital insurance, companies that successfully strike this balance — maximizing automation for predictable scenarios while leveraging human expertise for the rest — will be best positioned to deliver superior client experiences and strong mortality results.

The path is one of incremental improvements: identify pain points, refine the rules, measure the impact, and repeat. The end state is an underwriting process where "refer to MD" becomes an exceptional outcome reserved only for those cases that genuinely need it, not a crutch for outdated rules. This is how carriers can reduce friction and cost without sacrificing the prudence that policy promises demand.

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