



**AGREEMENT BETWEEN THE OFFICE OF ARTIFICIAL INTELLIGENCE POLICY,
THE DIVISION OF PROFESSIONAL LICENSING, AND AUGUST LABS, INC.**

Section 1. Parties

A. The Office of Artificial Intelligence Policy created in Utah Code § 13-72-201, an office within the Utah Department of Commerce (hereinafter “Office”).

B. The Division of Professional Licensing, a division within the Utah Department of Commerce (hereinafter “Division”).

C. August Labs, Inc. (hereinafter “Participant”).

Section 2. Commencement Date and Participation Period

A. This Agreement shall be effective for twelve (12) months beginning on the Commencement Date.

B. The Commencement Date shall be the date on which Participant makes the AI technology available to customers and delivers written notice to the Office that the AI technology is available.

Section 3. Purpose and Authority

A. The Office is a state agency authorized to administer the Artificial Intelligence Learning Laboratory Program (Utah Code. § 13-72-301).

B. The Office may, in consultation with relevant agencies, negotiate and grant limited regulatory mitigation agreements to further the purposes of the Artificial Intelligence Learning Laboratory Program (Utah Code § 13-72-401).

C. The Division is a state agency that administers and enforces all licensing laws of Title 58, Occupations and Professions (Utah Code § 58-1-103).

D. Participant has applied to the Office for this regulatory mitigation and the applicant’s final proposal and safety protocol is incorporated in Schedule B of this Agreement (hereinafter referred to as the “Proposal”).

E. This agreement is a grant of regulatory mitigation only and does not constitute an endorsement or approval from the State of Utah or any of its political subdivisions of Participant's use of artificial intelligence technologies.

Section 4. Scope of Mitigation

A. The Office, in agreement with the Division, grants regulatory mitigation, reflected in Schedule A, to Participant's provision of services using artificial intelligence technologies solely as outlined in the Proposal. The term of this Agreement, along with the term of any subsequent agreement extensions, shall constitute Participant's demonstration period.

B. The demonstration period and accompanying mitigation specified in Schedule A shall become effective on the Commencement Date, provided that, prior to or on such date, this Agreement has been signed by all parties.

C. Participant is subject to all applicable Federal, State, and local laws not expressly waived or modified by the terms of this Agreement, including any changes to existing law during the demonstration period (Utah Code § 13-72-401(7)). If relevant laws change during the demonstration period and affect the enforceability of any provision of this Agreement, the Office may require the parties to amend this Agreement. If such amendment is required, the terms and mitigation described in this Agreement will remain in full force and effect until any amendment is executed. If no new agreement can be made, this Agreement will be terminated effective on the day the relevant law went into effect or when the parties mutually agree no amendment can be reached, whichever date is later.

D. Except as related to the relief granted in this Agreement, nothing in this Agreement prevents any user of the Participant's AI technology, any third party, the State of Utah, or any of its subdivisions other than the Division, from seeking any legally available remedy from Participant under laws not expressly waived or modified by the terms of this Agreement in the event such user or third party is physically harmed as a result of using the Participant's AI technology.

Section 5. Scope of Activities

A. Participant shall perform all relevant activities in accordance with the methodologies and safety protocols set forth in the Proposal. The Proposal may be amended by Participant or the Office's Director, in agreement with the Division, as long as the amendment approval is in writing and signed by all Parties.

B. Participant may not use regulatory mitigation specified in this agreement to create or provide goods, services, or labor not specified in the Proposal.

Section 6. General Participant Obligations

Unless the Office determines otherwise in writing, Participant agrees as follows:

A. Capacity

Participant shall possess the technical expertise, financial resources, and capability to responsibly deploy and use the proposed artificial intelligence technology. Participant shall also have an effective plan to monitor and minimize both identified and potential risks from the activities of Participant's AI technology.

B. Safeguards

1. Participant shall abide by safeguards, including safety measures, testing protocols, quality assurance, and oversight methodologies outlined in the Proposal to protect users of Participant's AI technology from potential harm that may result from such activities. Participant shall abide by any other safeguards prescribed by the Office set forth in this Agreement.
2. Participant is fully responsible for the proper and efficient monitoring, operation, and maintenance of any activities stemming from the mitigation granted in this Agreement.
3. Participant's Terms of Service, Terms of Use, End User License Agreements, or any other agreements presented to or required of end users to engage in Participant's artificial intelligence technology shall not disclaim, limit, restrict, or exclude Participant's legal liability for physical, medical, or legal harm resulting from the outputs of Participant's artificial intelligence technology authorized under this Agreement. Participant shall submit all current and proposed user-facing Terms of Service, Terms of Use, and End User License Agreements to the Office for review prior to the Commencement Date.

C. Registration

Participant must be registered to do business in the State of Utah.

D. Permissions

1. Participant may make public statements or engage in related publicity consistent with scope and purpose of this Agreement, except that Participant shall not include any statement in advertising, media, or promotional materials that implies the Office's or

State of Utah's endorsement of Participant or Participant's technology. Factual statements will not be considered as implying any endorsement.

2. Except as related to the relief granted in this Agreement, Participant is responsible for obtaining and maintaining all necessary permits, licenses, and permissions required for the activities in Participant's Proposal from other federal, state, or local government agencies having jurisdiction over activities in the Proposal. Participant shall furnish any such permits and approvals to the Office upon request.

E. Data Security

1. Participant shall comply with all privacy and safe data usage requirements as set forth in the Proposal and as stipulated by the Office in this Agreement.

2. Participant shall not advertise a specific product or service to a Utah user engaging with Participant's artificial intelligence technology, unless Participant:

- a. clearly and conspicuously identifies the advertisement as an advertisement; and
- b. clearly and conspicuously discloses to the Utah user any sponsorship, business affiliation, or agreement that the supplier has with a third party to promote, advertise, or recommend the product or service.

3. Participant shall not sell, lease, license, or otherwise transfer user data, personal health information, or derived metadata to any third-party.

4. Notwithstanding Section 6(E)(3), Participant may disclose user data solely under the following defined circumstances:

- a. To cloud infrastructure, hosting, or technical service providers acting strictly on Participant's behalf for services necessary to engage in the activities described in Schedule B of this Agreement.
- b. To licensed Utah pharmacists, pharmacies, or treating providers, solely as necessary to issue, transmit, and fulfill prescription orders or deliver telehealth care authorized by this Agreement.
- c. To the Office, the Division, or OAIP-vetted third-party auditors to fulfill mandatory reporting, statistical validation, and evaluation requirements under

Section 6(H) and Section 20(E), provided that individual-level data shared for external validation is de-identified.

d. As required to comply with applicable federal or state law, judicial orders, or administrative subpoenas.

e. To third parties specifically designated by the user/patient upon receiving the user's explicit, affirmative consent or direct instruction in accordance with Section 20(D).

f. Participant may disclose or transfer user data, personal health information, and derived metadata in connection with a bona fide merger, acquisition, reorganization, or sale of all or part of Participant's business to which the data relates, including necessary due diligence, provided that the disclosure, transfer, and subsequent use comply with applicable law, existing privacy commitments, and applicable limitations in Section 13 of this Agreement.

F. Cybersecurity

1. Participant shall implement reasonable protections against data leaks to minimize the risk of breach of confidential information in accordance with the data security and privacy protection protocols described in Participant's Proposal and with general cybersecurity best practices. These protections include, as applicable:

a. Keeping data system testing environments separate from production environments;

b. Maintaining reasonable server and storage capacity to enable continuous availability of data systems;

c. Formally managing technology assets through their lifecycle; and

d. Using integrity checking mechanisms to verify software, firmware, and information integrity.

2. Participant shall ensure that its cyber security framework is regularly updated to address emerging threats and vulnerabilities.

G. Disclosures

1. Participant shall abide by the disclosure requirements specified in Schedule A of this Agreement.

H. Reporting

1. Participant shall, for the duration of this Agreement, submit monthly, quarterly, and annual reports to the Office at ai@utah.gov. All reports shall include the information specified in Schedule A of this Agreement.

2. Subject to the Office's confidentiality obligation described in Section 10 of this Agreement, for the duration of this Agreement, the Office will make the quarterly reports, as submitted by Participant, available to the public.

3. Participants will share de-identified individual level data (as available) from the pilot with a third-party auditor vetted by the Office for external validation at a monthly, quarterly, and annual basis. To the extent any audit process requires data that is not deidentified to HIPAA standards, Participant will not be required to provide that data until appropriate measures are in place to meet Participant's HIPAA obligations. Participant shall comply with all reasonable data sharing requirements, including the minimum number of samples required for statistical testing articulated in Schedule A.

J. Failure to meet obligations.

1. If Participant fails to meet any of the obligations set forth in this Section or Schedule A, the Office may request more comprehensive reports from Participant and a mutually agreeable plan for resolving any issues related to such obligations. Participant shall have at least thirty (30) business days to propose and implement a cure. The Office shall not unreasonably withhold or delay acceptance of Participant's proposed plan or cure. If, after good-faith collaboration and the expiration of the applicable cure period, Participant cannot put forward a plan to adequately resolve the issue, as determined by the Office, the Office may elect to terminate this Agreement. In the event the Office terminates this Agreement under this provision, the Participant shall be given 30 days to cease operations of the AI Technology in Utah ("Unwinding Period").

2. Notwithstanding the Unwinding Period expressed in Section 6 (J)(1) the Office may forgo the Unwinding Period in the event of a Sentinel Safety event as described in the Proposal.

Section 7. Notice

All notices required to be given, by either Party to the other, shall be deemed fully given when delivered by email addressed and sent, with any required copies, as provided on the signature page of this Agreement. Any party may change its notice address by giving the other party notice of the change in accordance with this Section.

Section 8. Indemnification

Participant agrees to hold the Office and the Division, including their agents, officers, and employees harmless from any claims, liabilities, damages, losses, or expenses arising from the services and technology provided by Participant under its Proposal and enabled by the mitigation granted in this Agreement.

Section 9. Intellectual Property

Nothing in this Agreement shall be construed to transfer, assign, license, or otherwise convey any intellectual property rights from one party to the other. Each party retains all right, title, and interest in and to any intellectual property (including algorithms, models, software, data structures, protocols, designs, developments, documentation, improvements, inventions, processes, techniques, technology, tools, and any other proprietary rights) it owns, develops, or otherwise controls, whether created before, during, or after the term of this Agreement, and regardless of whether such development occurs in connection with, in performance of, or independently of this Agreement. No rights are granted by implication, estoppel, or otherwise.

Section 10. Public Records

A. The Office is a governmental entity subject to the Government Records Access and Management Act, Utah Code §§ 63G-2-103 to 63G-2-901 (“GRAMA”). Accordingly, records in the Office’s possession, including this Agreement, may be subject to public disclosure. The Office’s confidentiality obligations shall comply with GRAMA. The Office will classify Participant’s application for regulatory mitigation and any reports required by Section 6(H) of this Agreement as protected records, where permitted by applicable law, in accordance with Utah Code §§ 63G-2-305 and 63G-2-309, except where explicitly stated in this Agreement or a Pilot Addendum

B. Participant shall submit all confidentiality claims to the Office in accordance with Utah Code § 63G-2-309 for any confidential, proprietary, or trade secret information. To the extent permitted by GRAMA, the Office shall treat Participant’s additional information (collectively, with Participant’s application and any required reports, “Participant Information”) submitted in connection with this Agreement or any Pilot Addendum as protected records in accordance with Utah Code § 63G-2-305, except where explicitly stated in this Agreement or a Pilot Addendum.

The Office shall provide Participant with prompt written notice of any GRAMA request or other legal process seeking disclosure of Participant Information and, where permitted, a reasonable opportunity to seek protection prior to disclosure. To the extent disclosure is required, the Office shall disclose only the portion required by law and use reasonable efforts to redact Participant Information. The Office shall use Participant Information solely for purposes of administering this Agreement and shall not use such information to develop or train artificial intelligence systems without Participant's prior written consent.

Section 11. Choice of Law, Venue, and Jurisdiction

This Agreement shall be governed by and construed pursuant to the laws of the State of Utah. The Parties will submit to the jurisdiction of the court of the State of Utah for any dispute arising out of this agreement or the breach thereof. Venue shall be in the Salt Lake Department, Third Judicial District in and for Salt Lake County, State of Utah.

Section 12. Termination

The Office or Participant may terminate this Agreement at any time, and for any reason, prior to the completion of the 12-month mitigation period or during any subsequent extension term. (Utah Code § 13-72-401(8)). Upon providing notice of termination by the Office, Participant shall be given an Unwinding Period. During this Unwinding Period, the Agreement continues in full force and effect. Termination shall be effective upon expiration of the Unwinding Period.

Section 13. Assignment, Transfer, and Collateral Use

Participant may not assign or transfer regulatory mitigation granted in this Agreement without the prior written consent of the Office. Approval of an assignment does not establish any legal relationship between the Office and any other third party. The Office shall not be liable for any act or omission committed pursuant to such an assignment.

Section 14. Entire Agreement

A. This Agreement, including all referenced documents and attachments, constitutes the entire agreement between the Parties regarding the subject matter hereof.

B. This Agreement, together with any amendments or addenda approved by the Office, supersedes any other written or oral understanding of the Parties. This Agreement may not be modified except by a written instrument executed by all Parties. This Agreement may be signed in counterparts and may be signed electronically.

Section 15. Agreement Extension

Participant may request no more than two (2) extensions of up to 12 months for regulatory mitigation. Extension requests must be made no later than 30 days before the end of the ongoing period. The Office, in agreement with the Division, shall grant or deny an extension request before expiration of the initial demonstration period or any subsequent extension term in accordance with Utah Code § 13-72-403. In the event the Office, in agreement with the Division, denies the extension request, Participant shall be granted an Unwinding Period.

Section 16. Severability

If any portion of this Agreement is held to be invalid or unenforceable, the remaining portions of this Agreement will remain in full force and effect. Any invalid or unenforceable portions will be interpreted to give effect to the intent of the original portion. If such construction is not possible, the invalid or unenforceable portion will be severed from this Agreement but the rest of the Agreement will remain in full force and effect.

Section 17. Survival

Sections 4 (Scope of Mitigation); 8 (Indemnification) 9 (Intellectual Property); 10 (Public Records); 11 (Choice of Law); 16 (Severability); and Schedule A, and any other provisions that by their nature are intended to survive or expiration, will survive the termination or expiration of this Agreement.

Section 18. Signatures

The individuals executing this Agreement represent and warrant that they have the legal capacity and authority to do so on behalf of their respective legal entities.

IN WITNESS WHEREOF, the Parties have executed this Agreement and the 12-month Demonstration Period shall be effective as of the Commencement Date specified in Section 2.


Zachary Boyd (Oct 1, 2026 12:03:58 EDT)
ZACHARY BOYD, PhD
Director
Office of Artificial Intelligence Policy

10/01/2026

Date



MARK STEINAGEL

Director

Department of Professional Licensing

10/02/2026

Date



Anuruddh Mishra (Oct 1, 2026 21:31:28 GMT+5.5)

ANURUDDH MISHRA

Chief Executive Officer

August Labs, Inc.

10/01/2026

Date

Schedule A

Section 19. Mitigation Offered

The Office, in agreement with the Division, grants Participant the following regulatory mitigation measures during the demonstration period articulated in Section 2 and Section 4 so long as Participant abides by the terms of this Agreement:

A. Participant may, using its artificial intelligence technology, deploy a prescription refill platform for routine refills of existing, provider-prescribed medications for patients with an established treatment plan under Utah Code § 58-17b.

B. The Division will, regarding the activities described in Section 19(A) of this Agreement, forgo any enforcement action against Participant under the following provisions solely for routine refills of existing, provider-prescribed medications for patients with an established treatment plan:

1. Utah Code § 58-1-501(1) and (2) and administrative rule UAC R156-1-501(2)(b);
2. Provisions relating to unlawful conduct in Utah Code §§ 58-17b-501, 58-31b-501, 58-67-501, and 58-68-501;
3. Provisions relating to unprofessional conduct in Utah Code §§ 58-17b-502, 58-31b-502, 58-67-502, and 58-68-502; and
4. Provisions relating to unprofessional conduct in Utah Admin. Code R156-17b-502, R156-31b-502, R156-67-502, and R156-68-502.

C. The Division will forgo any enforcement action against Participant under Utah Code § 26B-4-704(6) and administrative rule UAC R156-1-602 provided that Participant's artificial intelligence technology meets all obligations of telehealth providers in Section 20(A) of this Agreement.

D. The Division will, regarding the activities described in Section 19(A) of this Agreement, forgo any enforcement action against any affiliated professional entity or provider employed or contracted by Participant who (1) acts in reliance on Participant's artificial intelligence technology to authorize medical care described in the Proposal and (2) does not interact directly with a patient or other health care provider under the following provisions solely for routine refills of existing, provider-prescribed medications for patients with an established treatment plan:

1. Utah Code § 58-1-501(1) and (2) and administrative rule UAC R156-1-501(2)(b);
2. Provisions relating to unlawful conduct in Utah Code §§ 58-17b-501, 58-31b-501, 58-67-501, and 58-68-501;
3. Provisions relating to unprofessional conduct in Utah Code §§ 58-17b-502, 58-31b-502, 58-67-502, and 58-68-502; and
4. Provisions relating to unprofessional conduct in Utah Admin. Code R156-17b-502, R156-31b-502, R156-67-502, and R156-68-502.

E. The nonenforcement mitigation articulated in this Section applies only to actions authorized by this Agreement and does not preclude enforcement actions for other unlawful or unprofessional conduct.

F. No mitigation articulated in this section applies to any other services offered by Participant on <https://www.meetaugust.ai/> or any August Labs, Inc. apps. The mitigation articulated in this Agreement applies only to Participant's technology that autonomously refills existing, provider-prescribed medications for patients with an established treatment plan, as described in the Proposal. No mitigation articulated in this Section provides any exemption to, stay of enforcement of, or other mitigation from, any other provision of law related to such additional services.

Section 20. Additional Participant Obligations

In addition to the General Participant Obligations detailed in Section 6 of this Agreement, Participant agrees as follows:

A. Capacity

1. Participant's artificial intelligence technology shall adhere to all requirements as a telehealth provider as set forth in Utah Code § 26B-4-704, with the exception of the following:
 - a. Participant's artificial intelligence technology is deemed in compliance with subsections (2)(a)(i), (2)(b), and (2)(e) of such section if Participant's artificial intelligence technology follows the protocols outlined in Schedule B.

b. Participant's artificial intelligence technology is deemed not in violation of subsection (4) of such section if Participant's artificial intelligence technology follows the protocols outlined in Schedule B.

c. Utah Code § 26B-4-704(5) shall not apply to Participant's artificial intelligence technology.

2. Participants shall maintain patient's electronic health records in a portable format or allow patients to promptly download or share their electronic health records upon request.

B. Safeguards

1. Prior to the Commencement Date specified in Section 2, Participant shall furnish the Office with a Certificate of Insurance or other satisfactory documentation evidencing the requisite professional liability insurance coverage. Participant shall possess and continuously maintain such professional liability insurance coverage throughout the duration of this Agreement.

2. Participant shall abide by the procedures and safety protocols in the Proposal and ensure that:

a. Activities described in the Proposal comply with federal regulations, including 45 CFR § 164.

b. Any health care provider, as defined in 45 CFR § 160.103, who interacts directly with an individual residing in the State of Utah through a telehealth service, as defined in Utah Code § 26B-4-704(1)(h) is a provider, as defined in Utah Code § 26B-4-704(1)(f).

c. Participant does not utilize its artificial intelligence technology to authorize any medications not identified in the Proposal.

C. Permissions

1. Participant shall not commence any succeeding phase without the prior written approval of the Office.

2. Participant acknowledges that the Office will require strict adherence to the statistical protocol for sequential gated performance established in the Office's most recent version of *Evidentiary Expectations for Healthcare AI Sandbox*.

D. Disclosures to Users and Pharmacists

1. Participant shall disclose the following to the user:
 - a. The name and contact information of Participant.
 - b. That the user is interacting with generative artificial intelligence pursuant to Utah Code §§ 13-77-103(2);
 - c. The precise manner, means, and extent in which all user data and information, including all correspondence with Participant's AI technology, will be used or shared by Participant; and
 - d. That the user is engaging with a temporary offering of AI technology through an agreement with Utah's Office of Artificial Intelligence Policy. Participant shall share with users a phone number and/or website address provided by the Office where users may provide feedback regarding the use of Participant's AI technology.
2. Disclosures to users shall be provided in a clear and conspicuous form and a user shall acknowledge receipt of the disclosure before a user may access any functions of Participant's AI technology.
3. Participant shall disclose the following to any pharmacist or pharmacy receiving a prescription authorized by this agreement:
 - a. That the prescription was generated by artificial intelligence technology.
 - b. That such prescriptions are authorized by the Office of AI Policy and the Division of Professional Licensing pursuant to this agreement. This may be achieved by including this information in the prescription notes section of an e-prescription.
 - c. Contact information for licensed physicians employed by Participant that can answer any questions from the pharmacist or pharmacy.
4. Participant shall disclose to the Office the manner in which they will communicate such required disclosures to pharmacists or pharmacies.

E. Reporting

Reports required under Section 6(H) shall include the following:

1. Immediate notification (within 24 hours): Any adverse events should be reported to the office as soon as feasible but no later than 24 hours after detection of such an event. Adverse events include:

- a. Starting a new prescription (rather than renewal) for a patient, including:
 - i. Starting a prescription for a new drug entirely
 - ii. Altering dosage or frequency of medication
 - iii. Switching from XR to IR or vice versa
- b. Any medication related complications or adverse drug reactions reported to or discovered by Participant, including:
 - i. Severe side effects
 - ii. Severe allergic reactions
 - iii. Medication interactions with other medications
 - iv. Medication interactions with drugs or alcohol
- c. Worsening of patient condition
 - i. Any case where a patient's condition worsened or required hospitalization or urgent/emergency care
 - ii. Any unexpected incident involving death or serious physical injury or mental trauma
- d. Failure to escalate a case that meets escalation thresholds articulated in the Proposal
 - i. [including specific triggers if applicable]

e. AI encouragement of risky behavior, delayed care-seeking, or discontinuation of a provider-prescribed treatment.

f. System failures

i. Instances where the AI model hallucinates facts about a patient's history

ii. Failure to escalate a case that meets escalation thresholds

iii. ID verification failure (e.g. someone successfully obtaining a medication prescribed to someone else)

iv. AI providing clinical advice or performing actions outside its defined regulatory or contractual scope

v. Loss, corruption, or unavailability of clinical records accessed by the AI

vi. Any failure in the authentication process that allows clinical recommendations or renews medications/procedures not intended for patient

vii. Instances where the AI provides an output that is later determined to be dangerously incorrect

viii. Cybersecurity incidents including ransomware, denial of service, or other integrity compromises affecting clinical decision support

g. Data privacy

i. Any suspected data leak or unauthorized access to the model training/inference environment

ii. Any suspected data leak or unauthorized access to private health information

iii. Re-identification of user or patient data that was treated as de-identified.

h. Clinician oversight

i. Immediate notification of any licensed clinicians involved with the pilot that are terminated or removed from the pilot for cause.

2. Monthly Reports: Monthly reports are to be sent to the office in a downloadable format via email to ai@utah.gov. If a shared document is being updated, an email with a downloadable version of the report is expected for tracking purposes. These reports should be submitted by the 15th of the following month (e.g. January's data should be submitted by February 15th). These reports should include:

a. Basic User Information

- i. Total AI-processed prescriptions (#)
- ii. Number patients who were omitted because of exclusionary presentation (#)
- iii. Agreement rate between overseeing/reviewing clinician and AI (%)
- iv. AI approval rate, total (#) and broken down by prescription (#)
- v. Count of prescriptions issued, broken down by drug (#)
- vi. User complaints (all complaints, technical or otherwise, deidentified but otherwise in their entirety)
- vii. Technical completion rate (number of prescriptions greenlit vs. sent to pharmacy) (# of both)
- viii. Time to renewal efficiency (time)
- ix. Comparison of current accuracy/agreement against baseline validation data (comparison)

b. Confidence scores (If AI outputs includes confidence in decisions) of

- i. distribution of confidence scores,
- ii. input regimes (e.g., patient demographics, medication type) of consistently low confidence scores
- iii. Input regimes of consistently high confidence scores

iv. Correlation between confidence scores and human and AI-initiated escalation

c. Breakdown of reasons for escalation

i. Total visits escalated to a human provider (#) and reasons for escalation (qualitative)

ii. Total agreement rate after escalation (denied/ approved by human provider) (#)

iii. Specific reasons for all escalations (qualitative)

d. Sensitivity analysis of escalation

i. Count of false positives or false negatives (#)

ii. Evaluation of if escalated interactions actually needed human review (%)

e. HIPAA Compliant Chat Logs

i. Random sampling of successful and escalated interactions; deidentified, for illustrative purposes (qualitative)

ii. Cases where AI and human provider disagreed (qualitative)

f. Observations from reviewing Clinicians

i. Trends or observations made by clinicians overall (qualitative)

ii. Random sampling of deidentified logs of clinician review (qualitative)

iii. Quality of patient assessment and clinical reasoning (qualitative)

iv. Clinical appropriateness of renewal decisions (yes/ no %)

v. Accuracy of patient history taking (complete/ incomplete #)

vi. Effectiveness of drug interaction screening (effective/ ineffective #)

g. Patient Demographics

- i. Patients who use the tool to completion more than once (#)
- ii. Breakdown of agreement rates and outcomes by [appropriate demographics] (#)
- iii. Distribution of first visit user ages
- iv. Distribution of returning user ages
- v. Distribution of time and day patients use the tool
- vi. Deidentified and aggregated patient location data
- vii. Deidentified and aggregated pharmacy location data
- viii. Discovery of a systematic error where the AI provides incorrect prescription based on a patient's protected characteristics (age, race, gender, etc.) (qualitative)

h. Technical metrics

- i. Unplanned downtime (time)
- ii. Any model version updates or changes to the underlying algorithm/architecture (qualitative)

3. Quarterly Public Reports: These reports can be shared by the Company at any time, but must be submitted to OAIP at the time of their third monthly report. For example, if a contract is commenced on January 1st, the monthly reports would be submitted on February 15th, March 15th, and April 15th, where the Quarterly public data would be expected on April 15th. These reports should include, at a minimum:

- a. Agreement rate (%)
 - i. Medications involved in provider-AI disagreement

- ii. Agreement rate broken down by each prescription/prescription class
- b. Number of prescriptions filled (#)
- c. Total patients served (#)
- d. Disclosure of current pilot phase progress for each medication group
- e. Disclosure of the following for all phase 2 or 3 medications:
 - i. Clinical appropriateness of renewal decisions (yes/ no %)
 - ii. Accuracy of medication history taking (complete/ incomplete %)
 - iii. Effectiveness of drug interaction screening (effective/ ineffective %)
 - iv. AI approval rate: eligible renewal requests approved without modification
 - v. Physician agreement rate: agreement between AI physician review
 - vi. Technical completion rate: successful prescription transmission to pharmacy systems

4. Final Report: To be submitted to the office no later than 30 days prior to the expiration of an ongoing 12-month demonstration period (e.g. if a contract commences on Jan 1, 2020, the Final Report *with an extension request* should be submitted by the company no later than December 1, 2020). If the agreement is renewed, an additional report will be required at the end of the second year, according to the same terms. The annual report should include:

- a. Overview of deployment and scope
- b. Ending phase of each medication or medication group
- c. Overall #s
 - i. Prescriptions filled
 - ii. # of adverse events

iii. Agreement rate

d. Impact analysis

e. All user complaints

f. Any longitudinal data collected by the company

Schedule B

August Labs Inc. × State of Utah

Regulatory Mitigation Agreement for AI-Assisted Safe Prescription Refills

Proposal to the Utah Office of Artificial Intelligence Policy (OAIP) | February 2026 (Updated September 2026)

Executive Summary

August AI proposes a 12-month Regulatory Mitigation Agreement with the Utah Office of Artificial Intelligence Policy to deploy an AI-assisted prescription refill platform focused on safe medication continuity. The platform is designed for routine, guideline-based renewals of existing maintenance medications already prescribed by licensed providers. It is intended to reduce delays in refill authorization, improve medication adherence, and relieve administrative burden on healthcare providers, while operating within narrow clinical and regulatory boundaries.

The proposed platform is a paid direct-to-consumer service for eligible Utah residents. It processes only 30-, 60-, or 90-day refills for medications on a pre-approved formulary of non-controlled substances agreed upon with OAIP and Utah's Department of Professional Licensing. It does not issue new prescriptions, modify treatment plans, handle controlled or addictive substances, or operate outside the approved formulary.

Every refill request is screened for identity verification, prescription validity, drug interactions, dosage safety, contraindications, changes in patient-reported symptoms, required monitoring status, and suicidality risk before any authorization is issued. Cases that trigger a hard stop are escalated to a Utah-licensed healthcare provider. The pilot advances through three evidence-gated phases of licensed healthcare provider oversight, with progression contingent on OAIP evaluation and approval rather than a predetermined timeline.

This proposal sets out the pilot's clinical scope, workflow, safety architecture, healthcare provider, accountability model, patient experience, reporting commitments, data protections, and monitoring framework.

1. Why Utah, and Why This Pilot

Utah ranks #5 in overall health (America's Health Rankings) and #1 in the share of hospitals earning Leapfrog "A" safety grades. These headline metrics mask a growing access and affordability crisis. Nearly 70% of Utahns experienced a healthcare affordability burden in a recent year.¹ Average family premiums rose 35% from 2017 to 2022.² The state carries 67 primary care Health Professional Shortage Areas affecting 703,000 people.³ In rural counties, patients may drive over two hours for routine care,⁴ and one in five physicians is over 65.⁵

Prescription refills sit at the center of this strain. They account for roughly 80% of all medication activity, yet delays in renewals, driven by overburdened clinics, phone systems patients commonly describe as unreachable,⁶ and wait times that stretch across weeks,⁴

cause medication lapses associated with preventable ER visits, hospitalizations, and long-term health deterioration. Utah's per-capita healthcare spending grew 6.6% from 2022 to 2023 while personal incomes grew only 5.6%;⁷ rising service prices, not utilization, are the primary driver. Automating safe, routine refills can reduce administrative load on overstretched providers while improving medication adherence for the patients who need it most. The Utah AI Learning Laboratory creates a practical path for testing a narrowly scoped clinical workflow under state oversight. Rather than asking regulators to evaluate a generalized clinical AI system in the abstract, this proposal focuses on one bounded use case: renewing medications that a patient is already taking stably and without issue, within established safety limits, with clear escalation criteria, human oversight, and structured reporting throughout. That makes prescription refills an appropriate first workflow for a Utah pilot.

2. About August AI

August AI offers an AI health companion that helps users understand symptoms, medications, lab results, and condition-specific questions in the context of their own health data. Users can connect health-data sources and, when needed, access a licensed healthcare provider through a full telehealth consultation. To date, August AI has interacted with more than 7 million patients and processed over 221 million messages.

August AI brings to this pilot a combination of technical, clinical, and data-science expertise in building and operating healthcare AI at scale. The company has developed a safety-first architecture with structured guardrails and a rigorous evaluation framework, including standardized medical benchmarks and healthcare provider-led internal testing of diagnostic reasoning, safety, escalation, and medical-document understanding. The proposed refill service applies that existing foundation to a narrower, more bounded workflow: the renewal of stable maintenance medications under Utah-licensed healthcare provider oversight, phased review requirements, full audit logging, and conservative escalation rules.

All AI features are developed with the help of in-house licensed healthcare providers, including benchmarks, test cases, prompts etc. We have governance guidelines for both AI and clinical workflows.

- **AI Policy/Organizational Process:** Establishes organizational guardrails, clinical risk tolerances, and clear boundaries for where autonomous prescribing is permitted versus human-in-the-loop requirements. Pre-deployment validation, algorithmic bias testing across cohorts, and post-deployment monitoring.
- **Organizational Structures/Resources:** Clear accountability bodies (AI Governance, Quality/Clinical Safety) responsible for signing off on algorithmic models and managing clinical risk in a virtual care setting. Dedicated clinical, data science, and infrastructure, audit data quality, model drift, and system performance.

3. Proposed Scope

The platform is intended for Utah residents of legal age seeking renewal of existing, non-controlled maintenance medications. Adults with stable chronic medications are in scope. Children may not use the platform directly nor may caregivers use the platform on behalf of a minor. Pregnant patients, patients with recent clinical instability, patients on specialist-directed high-risk regimens, and patients whose medication management requires active specialist-directed monitoring are not served through the autonomous pathway.

The pilot is limited to a pre-approved formulary of non-controlled maintenance medications (enclosed in appendix A). Controlled substances are categorically excluded. The platform authorizes refills only within guideline-established dosage ranges and approved refill parameters. All guidelines are sourced from FDA labels for medications and updated regularly. In addition, published guidelines from respective specialties are sourced to reflect best practices. Each medication class has a limit on consecutive AI-authorized refills, after which the patient must see the original prescriber or another human provider. No medication class starts above three consecutive AI refills in the pilot. This limit may be adjusted over the course of the pilot with mutual agreement between August AI and OAIP. The outer limit for the clinical lookback period is 12 months. The service is designed for stable maintenance refills, not complex medication management. It is not intended to initiate new therapy, substitute medications, modify treatment plans, or operate in cases where the relevant clinical picture is unstable, unclear, or dependent on higher-touch specialist management.

4. Clinical Workflow

The refill workflow is designed to mirror the process a careful licensed healthcare provider would ordinarily follow before renewing an existing maintenance prescription.

First, the patient verifies identity through a NIST IAL2-compliant partner. Duplicate-account checks are used to prevent multiple accounts for the same individual. The patient then submits prescription evidence, such as a bottle label or prescription label, which is checked against the verified identity and parsed for medication details.

Second, August AI queries Surescripts to confirm that the requested medication remains the patient's current active prescription and has not been discontinued, replaced, or modified by the original prescriber. Autonomous refill authorization proceeds only when the uploaded evidence, the verified identity, the Surescripts record, and the patient's clinical assessment are consistent with one another.

Third, the platform conducts an exhaustive medication-focused medical interview through an AI-led conversation that mirrors the clinical questioning process a licensed healthcare provider would ordinarily follow before renewing an existing prescription. This interview covers medication verification, indication, efficacy, side effects, adverse effects, tolerability

changes, allergy status, current prescription medications, over-the-counter products, supplements, symptom changes, interval medical events, and any medication-specific monitoring requirements.

Fourth, where monitoring is relevant, the platform checks whether required data is available and acceptable. Patients may connect external health-data sources to make recent labs or monitoring information available, and the platform also accepts patient-confirmed lab data. If required monitoring data is missing, overdue, or abnormal, the case is escalated to a licensed healthcare provider.

At the time of each refill request, the platform performs comprehensive medication reconciliation and interaction screening. This screening evaluates the requested medication against the patient's verified prescription history, as well as self-reported over-the-counter products, supplements, and allergies. Based on these inputs, the AI actively informs the patient about relevant side effects and potential drug interactions prior to refill authorization. If the screening identifies a clinically significant risk, the system triggers a hard stop and escalates the case; if the profile remains within safe operational parameters, the platform provides targeted patient education regarding the medication's safety profile.

Only when identity, prescription status, clinical stability, and safety checks are all satisfied does the platform authorize the refill autonomously. Otherwise, it escalates the case.

5. Safety Architecture and Hard Stops

August AI uses a layered safety architecture that combines structured AI interviewing, deterministic safety rules, prescription reconciliation, monitoring checks, and licensed healthcare provider escalation. The AI may authorize a refill only when the patient's identity, requested medication, and current maintenance regimen have all been verified; the medication is within the approved formulary and scope of the pilot; the patient is clinically stable on the medication; and no material safety signal is present.

Hard stops include, among other things, identity mismatch; unreadable or inconsistent prescription evidence; requests outside formulary or approved refill parameters; Surescripts evidence that the medication has been discontinued or changed; non-routine refill timing; patient-reported treatment-plan changes; unclear indication; new side effects, adverse effects, allergy, or intolerance; clinically significant interactions or contraindications; missing or abnormal required monitoring; new medical events that may affect refill safety such as recent hospitalizations or emergency department visits; exhaustion of the permitted AI refill count; patient or pharmacist request for licensed healthcare provider review; incomplete or internally conflicting information; and emergency warning signs.(further operational detail outline in Appendix B)

For medications associated with suicidality risk, the platform applies a dedicated mental-health safety protocol. The AI may not autonomously authorize a refill when the patient reports suicidal ideation, recent self-harm, suicidal thoughts with plan or intent, severe

worsening psychiatric symptoms, or any inconsistency that prevents a confident safety determination. Imminent-risk cases are removed from the refill pathway, directed to urgent crisis resources, and routed for urgent licensed healthcare provider review. More broadly, the platform is tuned to escalate on uncertainty rather than approve through ambiguity.

6. Provider Oversight and Phased Rollout

The pilot follows Utah's three-phase, evidence-gated oversight model.

Pre-deployment the entire system must pass the internal validation benchmark with 100% accuracy.

In Phase 1, for the first 250 refills, every AI-generated refill decision is reviewed by a Utah-licensed healthcare provider before it reaches the patient. This phase generates baseline safety data and allows direct benchmarking of AI recommendations against licensed healthcare provider judgment.

In Phase 2, the AI authorizes the next 1,000 refills, each reviewed retrospectively by a Utah-licensed healthcare provider. If a reviewing licensed healthcare provider determines that an AI-authorized refill was not clinically appropriate, the licensed healthcare provider judgment controls. Non-material disagreements are logged and used for quality improvement. Clinically material disagreements trigger patient follow-up and, where operationally relevant, pharmacy notification. Phase progression from phase 1 to phase 2 takes place when there is at least a 97% concordance between the AI and the reviewing healthcare provider/s.

In Phase 3, after sustained safe performance, licensed healthcare provider oversight shifts to randomized spot-check review of a statistically significant sample of processed renewals. The percentage of patients picked for spot check shall be determined based on characteristics of real-world data generated, to determine the right sampling strategy. A minimum of 5% of prescriptions per class of medications will be spot checked by physicians. Full escalation protocols remain active throughout, and the review rate can be increased if concerning patterns emerge. Phase progression from phase 2 to phase 3 takes place when there is at least 98% concordance between the AI and the reviewing healthcare provider/s.

For phase progression, the situation where a physician determines that a prescription should have been refilled while the AI declined the refill do not count as discordance as it is okay to have a slant towards safety in the pilot.

A Utah-licensed health care provider remains the accountable named prescriber for each refill and retains override authority at all times. The pilot is supported by a trained group of Utah-licensed healthcare providers rather than a single reviewing provider. At least one Utah-licensed healthcare provider will review each prefill decision. Review quality is protected through healthcare provider training, benchmarked concordance tracking, full auditability of AI decision-making, and monthly reporting to OAIP. All provider reviews and visits will be within 1 business day.

7. Patient Experience, Records, and Care Continuity

The platform is available through web and mobile applications. It is designed to make routine refill access easier while preserving clear pathways to human review when needed.

Following each dispensed refill, the platform may initiate optional post-refill check-ins to gather general patient-reported information related to their medication experience. These check-ins are informational in nature, conducted solely for internal quality improvement purposes, and do not constitute clinical monitoring, medical evaluation, or a substitute for professional medical follow-up by the patient's treating provider.

Any interaction beyond the prescription refill itself is limited to the provision of general health information only. The platform may also send supportive administrative reminders related to refill timing or pickup, but such reminders do not replace refill screening, hard-stop detection, or licensed healthcare provider escalation.

If the AI declines a refill request, escalates it to a licensed healthcare provider or the reviewing healthcare provider decides that a follow up telehealth visit is necessary, the patient is informed in clear, patient-friendly language of the principal reason and the next step. In the scenario that the reviewing healthcare provider decides that a follow up telehealth visit is necessary, the same will be offered to the patient at the standard telehealth consultation rate. Patients may request a licensed healthcare provider review at any point in the workflow. When a patient elects licensed healthcare provider review in a case that would otherwise remain in the AI-led pathway, the request is converted into a standard telehealth consultation and billed at August AI's standard telehealth consultation rate (\$39 at the time of submission of the proposal, subject to change) in effect at the time of booking. In the scenario that the AI declines a refill, escalates it to a licensed healthcare provider or the reviewing healthcare provider decides that a follow up telehealth visit is necessary, and a patient decides to not opt for a telehealth consultation, the restrictions in Appendix B.4 will apply.

Approved refills are transmitted electronically to the pharmacy designated in the refill request. AI-authorized renewals are clearly identified to pharmacists as originating from an AI-assisted platform, and pharmacists are given a direct escalation pathway to August AI's licensed healthcare provider group.

In the case that the prescription refill requires prior authorization, August AI will inform the patient in patient friendly terms of the same, and ask them to engage the prescribing physician for the same. In such a scenario, any fees the patient has paid for the prescription refill will be refunded to the patient.

The platform does not override the original prescriber's most recent treatment decision. That decision remains the governing source of truth for whether a medication is active, modified, or discontinued. August AI does not currently maintain a direct information exchange with the patient's PCP or specialist, but patients may provide details of their primary care provider or other providers that they would want to receive automatic notifications of their prescription

refill by August via email or request a copy of their refill history and refill-interaction records and may share them with any provider of their choosing. August AI will make a best effort attempt to notify the provider in case the patient provides the details.

For each refill request, August AI creates a limited refill-interaction record for clinical safety, licensed healthcare provider oversight, quality assurance, and regulatory reporting. This is not a substitute for a full longitudinal EHR; it is a focused record of the refill encounter and the safety review performed as part of the pilot. Patients may request access to records generated through the service, subject to identity verification and applicable law. Requests for deletion are honored to the extent permitted by legal, clinical, and regulatory obligations.

The platform does not require external EHR integration to operate safely within the pilot, though patient-authorized external data may be used as a supplemental input when relevant to refill safety.

8. Cost, Privacy, and Liability

August AI will charge consumers a minimal per prescription refill (starting at \$4). This is a direct-to-consumer service fee for the refill workflow itself. The platform does not coordinate with insurers or pharmacy benefit managers at this time, and the August AI refill fee is not intended to be reimbursed by insurance. If a case is escalated to, or voluntarily converted into, a telehealth consultation with a Utah licensed healthcare provider, that visit is billed separately at August AI's standard telehealth consultation rate in effect at the time of booking (\$39 at the time of submission of the proposal).

August AI will operate the pilot in a HIPAA-compliant manner. Patient data will not be sold, used for advertising, or shared with third parties for advertising purposes. Data collected through the refill workflow may be used internally to operate, monitor, safety-test, and improve the product, but only in a manner consistent with HIPAA and other applicable law. Use of patient-authorized external health data is limited to the minimum necessary for refill evaluation. After the pilot concludes, data will be retained, deleted, or de-identified in accordance with applicable clinical, legal, compliance, and reporting obligations.

Nothing in the pilot is intended to waive, limit, or modify any legal remedy otherwise available under applicable law. Except for the specific regulatory mitigation granted in the RMA, August AI and participating clinical providers remain subject to applicable legal and regulatory requirements. Participating clinical entities will maintain applicable professional liability coverage, and August AI will maintain appropriate corporate and malpractice insurance coverage for the platform. The State of Utah, OAIP, and the Division are not responsible for claims arising from August AI's operations under the pilot.

Prior to any clinical interaction, the platform presents a mandatory disclosure gateway identifying August AI as the rendering clinical entity, complete with company name and contact information. The patient must affirmatively acknowledge this disclosure to proceed. A named, Utah-licensed healthcare provider affiliated with August AI serves as the

accountable prescriber of record for each authorized refill. Prescriptions transmitted to the pharmacy carry this provider's National Provider Identifier (NPI), rather than the original prescriber's, and are clearly flagged for pharmacists as originating from an AI-assisted platform to ensure full transparency.

The platform explicitly communicates to the patient that the service is limited to continuing an established treatment plan and does not constitute an assumption of primary care. Requests for care modifications, such as dose changes, trigger a hard stop and prompt immediate redirection to the original prescriber.

In accordance with Utah Code §13-77-103, explicit generative AI disclosures are presented prominently before the refill workflow commences, rather than solely within standard terms of service. The patient is required to acknowledge the use of generative AI, applicable data practices, and the right to file a complaint with the OAIP. During the interaction, the system provides explanations of its clinical boundaries. If a hard stop is triggered, whether due to a drug interaction, abnormal symptom, or missing laboratory data, the platform provides a clear, plain-language explanation of the clinical reason and the subsequent escalation steps. Patients maintain the option to request human provider review at any stage.

9. Pre-Deployment Testing, Monitoring, and Risk Management

Before Phase 1 launch, August AI will run the refill system through a Task-based **Simulated Virtual Residency**: a medication-specific evaluation using curated refill scenarios and physician-authored clinical vignettes created by August AI clinicians. These test sets include diverse condition and population characteristics, healthcare provider-authored edge cases, adversarial scenarios, and simulated patient interactions that exercise the refill workflow under realistic conversational conditions. Each run includes approximately 15–20 test cases per medication. Test cases per medication are constructed as a four-quadrant design rather than sampled: unambiguous approvals, ambiguous cases requiring clarification before disposition, unambiguous denials with overt contraindications, and non-obvious denials with hidden warning signs. The quadrants map directly onto the pre-launch benchmarks in C.3, i.e., approval accuracy, false-positive escalation, hard-stop detection, and missed hard-stop and false-negative escalation respectively. Cases within each quadrant are varied across indication, dose, age, renal and hepatic function, interaction profile, and interval history, and coverage is assessed per risk bucket. The fourth quadrant is expanded beyond five cases where performance has not stabilized, since it carries the greatest safety consequence. This method adapts August AI's prior benchmarking for in-conversation clinical reasoning to the narrower safety requirements of medication renewal. The goal is not exact-match scoring; it is whether the system reaches the correct refill disposition: autonomous approval, escalation to Utah licensed healthcare provider review, or redirection to urgent or emergency care.

August AI will complete this Task-based Simulated Virtual Residency before deployment and repeat it before any changed version of August AI or the refill workflow is used in the pilot, including changes to model behavior, prompts, clinical rules, formulary configuration, or escalation logic. Benchmarks before launch and after each change include licensed healthcare provider concordance on final disposition, missed hard-stop rate, false-negative escalation rate, false-positive escalation rate, prescription-verification discrepancy detection, clinically significant interaction detection, and technical completion rate. Performance is reviewed separately by medication risk bucket so that strong performance in one class does not mask weaker performance in another. Robustness testing includes altered or low-quality prescription images, ambiguous or contradictory patient histories, duplicate-account behavior, disguised dose-change or new-prescription attempts, omitted medications or supplements, and missing or abnormal monitoring data. No medication risk bucket enters Phase 1 unless it meets predefined launch thresholds approved internally by August AI's clinical lead and disclosed to OAIP; no modified version is used in the live pilot unless it meets the applicable regression thresholds. Stanford clinicians are separately validating the refill system and evaluation approach.

In live operation, each medication in the formulary is assigned a risk tier based on monitoring burden, interaction profile, adverse-effect severity, and the clinical consequence of an inappropriate refill. Higher-tier medications receive shorter maximum AI-refill limits, more frequent post-refill follow-up, and a lower threshold for escalation. The platform maintains ongoing surveillance for rising escalation rates, licensed healthcare provider disagreement, adverse event patterns, and other safety signals across medication classes and patient populations. Where monitoring identifies a statistically significant deviation from baseline, August AI may escalate all pending refill requests for the affected medication class to licensed healthcare provider review while the signal is evaluated and remediated. When a miss is material, August AI will remediate the issue, repeat regression testing under the Task-based Simulated Virtual Residency framework, and, where needed, roll back to a more conservative review mode.

10. Reporting, External Review, and Accountability

August AI will submit monthly reports to OAIP covering refill volumes and outcomes, escalation rates, licensed healthcare provider review outcomes, licensed healthcare provider-AI concordance, patient satisfaction, time-to-renewal, adverse events, complaint volume and resolution, and other agreed safety and access metrics. A final written report will be submitted within 30 days after the end of the agreement describing deployment, use, harm incidents, legal actions, and complaints. A sample of up to 3 de-identified patient conversations will be provided to OAIP for external review. This reporting structure is intended to align with the accountability logic already present in Utah's RMA framework.

OAIP reporting remains the pilot's primary accountability mechanism. In parallel, August AI will conduct independent licensed healthcare provider audits, ongoing concordance analysis,

equity review, and complaint tracking. August AI also works with researchers at Stanford University to support rigorous analysis of the pilot's safety, performance, and clinical outcomes. As the pilot generates sufficient data, August AI intends to collaborate with Stanford-affiliated researchers on analyses that may support manuscripts for submission to peer-reviewed venues, including work on licensed healthcare provider-AI concordance, clinical safety, patient experience, and health equity. Any such academic work will proceed on its own timeline and does not replace or delay August AI's reporting obligations to OAIP.

Conclusion

This pilot is intentionally narrow. It is designed for one specific problem: stable patients should not lose access to maintenance medication because routine refill workflows are slow and operationally difficult.

The platform is designed from the ground up to be accessible to populations that face the highest barriers to routine prescription renewal. This means a mobile-first experience that works on low-bandwidth connections, a simplified and transparent payment structure that removes cost uncertainty, and significantly lower wait times since the AI is available around the clock without scheduling constraints as seen with conventional platforms.

For rural patients in Utah, the core value proposition is straightforward: getting a stable maintenance medication renewed should not require a multi-hour drive to the nearest clinic, time off work, and a multi-week wait for an appointment. The platform removes those barriers by design, not as a special program, but as the default experience

August AI's proposal combines a restricted formulary, per-request hard-stop screening, structured symptom assessment, prescription verification, phased licensed healthcare provider oversight, audit logging, monthly reporting, and accountable Utah-licensed healthcare provider review. The goal of the pilot is not to expand beyond those boundaries during the demonstration period, but to generate credible evidence about whether AI-assisted prescription renewals can improve access and continuity safely under Utah's supervision.

Appendix A: Proposed Formulary

The following formulary lists each medication by generic drug name, the conditions for which refills would be authorized, the medication class, the approved dosage range, and the rollout cohort. This formulary is proposed for agreement with OAIP and Utah's Department of Professional Licensing. Controlled substances, narcotics, stimulants, injectables, antibiotics, and any medication used for acute or short-term illness are excluded. The formulary may be amended by the OAIP Director, in consultation with the Division, with written approval.

The medications will be opened cohort by cohort, with C1 being the first cohort of medications to enter phase 1 of the pilot. Each cohort will independently go through all three phases (Phase 1, Phase 2, Phase 3) and advancement of one cohort will not depend on, or imply advancement of, any other cohort. For example, C2 may begin Phase 1 while C1 is in Phase 2 or Phase 3. Cohorts (C1, C2, C3) represent a tiered approach to medication complexity with C1 being mostly lower risk medications while the C3 cohort contains higher risk medications. We have eliminated OTC and other higher risk medications that we deemed needing a specialist or physician in the loop to refill safely.

Generic Drug Name	Disease/ Diagnosis	Drug Dosing	Dose Range	Unit	Frequency	Group	Cohort 1	Cohort 2	Cohort 3
Alendronate	Osteoporosis	Osteoporosis: 70 mg PO once weekly or 10 mg once daily. Take first thing with plain water and remain upright >=30 min.	Oct-70	mg	once daily / once weekly	Endocrine or Bone	Yes	No	No
Cyanocobalamin	Vitamin B12 Deficiency	Common adult oral replacement: 1,000 mcg PO daily; route and duration depend cause/severity.	1,000	mcg	daily	Vitamin/Nutrition	Yes	No	No
Finasteride	Benign Prostatic Hyperplasia	BPH: 5 mg PO once daily.	5	mg	once daily	BPH/GU	Yes	No	No
Sucralfate	Duodenal Ulcer - Maintenance	Active duodenal ulcer: 1 g PO QID on an empty stomach for 4-8 weeks; maintenance 1 g BID.	1	g	QID → BID	GERD/Ulcer	Yes	No	No
Famotidine	Peptic Ulcer	Active duodenal/gastric ulcer: 40 mg PO at bedtime (20 mg BID is also effective for duodenal ulcer); renal adjustment may be required.	20–40	mg	20 mg BID or 40 mg nightly	GERD/Ulcer	Yes	No	No

Famotidine	GERD	20 mg PO BID for symptomatic GERD up to 6 weeks; erosive esophagitis 20-40 mg BID up to 12 weeks. Renal adjustment may be required.	20–40	mg	BID	GERD/Ulcer	Yes	No	No
Lidocaine Patch	Chronic Pain	1-3 patches (5% per patch) 12 hours on/ 12 hours off. Same regimen for localized neuropathic pain; do not apply to broken skin and consider total lidocaine exposure from other products.	up to 3 (5%)	patches	up to 12h on/12h off in 24 hour period	Pain/MSK	Yes	No	No
Diclofenac	MSK Pain	Formulation-specific. Common oral regimens include diclofenac 50 mg PO BID-TID or ER 100 mg once daily; use lowest effective NSAID dose/shortest duration.	50–100	mg	BID → TID	Pain/MSK	Yes	No	No
Linagliptin	Diabetes	5 mg PO once daily; no routine renal dose adjustment.	5	mg	once daily	Diabetes	Yes	No	No
Metformin	Diabetes	IR: 500 mg PO BID or 850 mg once daily with meals; increase gradually. Maximum 2,550 mg/day IR. Renal function determines eligibility/dose.	500–2,550	mg/day	1–3 divided doses with meals	Diabetes	Yes	No	No

Sitagliptin	Diabetes	100 mg PO once daily if renal function allows; 50 mg daily for eGFR 30-<45, 25 mg daily for eGFR <30 or dialysis.	25–100	mg	once daily	Diabetes	Yes	No	No
Doxazosin	Benign Prostatic Hyperplasia	1 mg PO once daily initially; monitor for up-titration as doc may adjust every 1-2 weeks to 2, 4, then 8 mg once daily as needed (max 8 mg/day for BPH).	1–8	mg	once daily	BPH/GU	Yes	No	No
Tamsulosin	Benign Prostatic Hyperplasia	0.4 mg PO once daily about 30 min after the same meal; may increase to 0.8 mg daily after 2-4 weeks if inadequate response.	0.4–0.8	mg	once daily	BPH/GU	Yes	No	No
Finasteride	Male Pattern Baldness	Male-pattern hair loss: 1 mg PO once daily.	1	mg	once daily	Derm or Topical	Yes	No	No
Amlodipine	Hypertension	5 mg PO once daily; may increase to 10 mg once daily. Consider 2.5 mg start in frail/elderly or hepatic impairment.	2.5–10	mg	once daily	Hypertension	Yes	No	No

Atenolol	Hypertension	25-50 mg PO once daily; if needed may increase to 100 mg once daily. Renal function can require lower dosing.	25–100	mg	once daily	Hypertension	Yes	No	No
Bisoprolol	Hypertension	2.5-5 mg PO once daily; Some patients on 10 mg	2.5–20	mg	once daily	Hypertension	Yes	No	No
Carvedilol	Hypertension	6.25 mg PO BID; goal based on HR/BP	6.25–25	mg	BID	Hypertension	Yes	No	No
Diltiazem	Hypertension	Extended-release: commonly 120-240 mg PO once daily initially	120–240	mg	once daily	Hypertension	Yes	No	No
Doxazosin	Hypertension	1 mg PO once daily initially; high risk beyond 4mg, monitor BP response.	1–4	mg	once daily	Hypertension	Yes	No	No
Hydralazine	Hypertension	10 mg PO QID for 2-4 days, then 25 mg QID for remainder of week; may increase to 50 mg QID. 300mg max/day	10–50	mg	BID-TID	Hypertension	Yes	No	No

Labetalol	Hypertension	100 mg PO BID initially; usual maintenance 200-400 mg BID. monitor BP/HR	100–400	mg	BID	Hypertension	Yes	No	No
Metoprolol Succinate	Hypertension	Metoprolol succinate ER: 25-100 mg PO once daily	12.5–100	mg	once daily	Hypertension	Yes	No	No
Metoprolol Tartrate	Hypertension	Metoprolol tartrate: 12.5-100 mg PO BID ; goal HR < 60 but BP above 90	12.5–100	mg	BID	Hypertension	Yes	No	No
Nebivolol	Hypertension	5 mg PO once daily	2.5–40	mg	once daily	Hypertension	Yes	No	No
Nifedipine	Hypertension	Extended-release: 30 mg PO once daily initially; usual 30-60 mg/day	30–60	mg	once daily	Hypertension	Yes	No	No
Propranolol	Hypertension	40 mg PO BID initially; usual maintenance 120-240 mg/day in divided doses.	40 initial; 120–240 maintenance	mg/day	BID initially; maintenance divided	Hypertension	Yes	No	No
Verapamil	Hypertension	Formulation-specific. IR often 80 mg PO TID; ER commonly 180-240 mg once daily	80–240	mg	TID → once daily	Hypertension	Yes	No	No

Propranolol	Migraine/Anxiety /Tremor	Indication-specific. Migraine prevention commonly uses 80-240 mg/day; essential tremor often starts 40 mg BID. Anxiety use is off-label and individualized.	40 per dose; 80–240/day (migraine)	mg	indication-specific / divided	Neuro/Psych/Sleep	Yes	No	No
Chlorthalidone	Hypertension	25 mg PO once daily initially; may increase to 50 mg once daily. Higher doses increase electrolyte adverse effects and are rarely needed.	25–50	mg	once daily	Hypertension	Yes	No	No
Hydrochlorothiazide	Hypertension	12.5-25 mg PO once daily initially; may increase to 50 mg/day in 1-2 doses.	12.5–50	mg	1–2 doses/day	Hypertension	Yes	No	No
Lisinopril ; Hydrochlorothiazide	Hypertension	Usually used after monotherapy. Common strengths: lisinopril/HCTZ 10/12.5 or 20/12.5 mg PO once daily	10 (Lis)+12.5 (HCTZ) to 20 (Lis) +12.5 (HCTZ)	mg/mg	once daily	Hypertension	Yes	No	No
Losartan ; Hydrochlorothiazide	Hypertension	Losartan/HCTZ 50/12.5 mg PO once daily; may increase to 100/25 mg once daily.	50 (Los)+12.5 (HCTZ) to 100 (Los) + 25 (HCTZ)	mg/mg	once daily	Hypertension	Yes	No	No

Triamterene ; Hydrochlorothiazide	Hypertension	Usual 37.5/25 mg PO once daily; may use 1-2 tablets daily, or 75/50 mg once daily. Not preferred as initial therapy unless hypokalemia is a concern.	37.5 (Triam) + 25 (HCTZ) to 75 (Triam) + 50 (HCTZ)	mg/mg	once daily	Hypertension	Yes	No	No
Benazepril	Hypertension	10 mg PO once daily initially (5 mg if taking a diuretic); usual 20-40 mg/day in 1-2 doses. Renal impairment requires adjustment.	5-40	mg	1-2 doses/day	Hypertension	Yes	No	No
Enalapril	Hypertension	5 mg PO once daily initially (2.5 mg if on a diuretic); usual 10-40 mg/day in 1-2 doses.	2.5-40	mg	1-2 doses/day	Hypertension	Yes	No	No
Irbesartan	Hypertension	75-150 mg PO once daily; may increase to 300 mg once daily.	75-300	mg	once daily	Hypertension	Yes	No	No
Lisinopril	Hypertension	2.5-10 mg PO once daily initially (2.5-5 mg if taking a diuretic); usual 20-40 mg once daily.	2.5-40	mg	once daily	Hypertension	Yes	No	No
Losartan	Hypertension	25-50 mg PO once daily; may increase to 100 mg once daily. Consider 25 mg start if volume depleted.	25-100	mg	once daily	Hypertension	Yes	No	No

Olmesartan	Hypertension	10-20 mg PO once daily; may increase to 40 mg once daily.	10–40	mg	once daily	Hypertension	Yes	No	No
Spironolactone	Hypertension	50-100 mg/day PO in 1-2 doses per labeling; monitor potassium and renal function closely.	50–100	mg	1–2 doses/day	Hypertension	Yes	No	No
Telmisartan	Hypertension	20-40 mg PO once daily; may increase to 80 mg once daily.	20–80	mg	once daily	Hypertension	Yes	No	No
Valsartan	Hypertension	40-160 mg PO once daily	40–320	mg	once daily	Hypertension	Yes	No	No
Cyanocobalamin	Pernicious Anemia	Pernicious anemia usually requires a parenteral or reliably absorbed replacement strategy; loading/maintenance schedule is product/protocol-specific.	1,000	mcg	daily	Vitamin/Nutrition	Yes	No	No
Colchicine	Gout	Acute gout flare: 1.2 mg PO at first sign, then 0.6 mg 1 h later. Prophylaxis: 0.6 mg once or BID. Renal/hepatic function and CYP3A/P-gp interactions can require major changes.	0.6–1.2	mg	acute: once + 1 h later; prophylaxis: QD–BID	Gout	Yes	No	No

Fenofibrate	Hyperlipidemia	Formulation-specific. Common tablet regimens include 48-145 mg PO once daily or 54-160 mg once daily; reduce/avoid in renal impairment per product label.	48–160	mg	once daily	Statins/Fibrates/H LD Meds	Yes	No	No
Icosapent Ethyl	Hypertriglyceridemia	2 g PO BID with food (total 4 g/day).	2	g	BID	Statins/Fibrates/H LD Meds	Yes	No	No
Lovastatin	Cardiovascular Disease and Prevention	20 mg PO with evening meal initially; range commonly 10-80 mg/day, but interaction-based dose caps are common.	10–80	mg	once daily (evening)	Statins/Fibrates/H LD Meds	Yes	No	No
Atorvastatin	Hyperlipidemia	Established ASCVD/high-intensity therapy:10-20 or 40-80 mg PO once daily when appropriate and tolerated. Goal set by LDL-C response and target. Maximum 80 mg/day.	10–80	mg	once daily	Statins/Fibrates/H LD Meds	Yes	No	No
Ezetimibe	Hyperlipidemia	10 mg PO once daily.	10	mg	once daily	Statins/Fibrates/H LD Meds	Yes	No	No

Lovastatin	Hyperlipidemia	20 mg PO with evening meal initially; range commonly 10-80 mg/day, but interaction-based dose caps are common.	10–80	mg	once daily (evening)	Statins/Fibrates/H LD Meds	Yes	No	No
Omega-3-acid Ethyl Esters	Hyperlipidemia	4 g/day PO (either 4 g once daily or 2 g BID depending product).	4	g/day	once daily or 2 g BID	Statins/Fibrates/H LD Meds	Yes	No	No
Pravastatin	Hyperlipidemia	10-40 mg PO once daily	10–80	mg	once daily	Statins/Fibrates/H LD Meds	Yes	No	No
Rosuvastatin	Hyperlipidemia	5-10 mg PO once daily initially	5–40	mg	once daily	Statins/Fibrates/H LD Meds	Yes	No	No
Simvastatin	Hyperlipidemia	10-20 mg PO once daily in the evening; may use 40 mg in high-risk patients. The 80 mg dose is restricted to chronic tolerant users.	5–80	mg	once daily	Statins/Fibrates/H LD Meds	Yes	No	No
Ferrous Sulfate	Anemia	325mg (65mg elemental) tablet PO BID-TID	325	mg	BID-TID	Vitamin/Nutrition	Yes	No	No

Levothyroxine	Hypothyroidism	12.5-200 mcg daily in the morning without food for at least 2 hours. Dose is weight-, age-, cardiac-, pregnancy-, and TSH-dependent. Full replacement in healthy adults is often about 1.6 mcg/kg/day, but do not calculate/apply without patient inputs; goal is tied to TSH/free T4.	12.5 - 300	mcg	once daily	Endocrine or Bone	Yes	No	No
Omeprazole	Erosive Esophagitis	20 mg PO once daily before a meal for maintenance of healing erosive esophagitis.	20	mg	once daily	GERD/Ulcer	Yes	No	No
Pantoprazole	Erosive Esophagitis	40 mg PO once daily	40	mg	once daily	GERD/Ulcer	Yes	No	No
Esomeprazole	GERD	GERD: 20 mg PO once daily for 4 weeks; erosive esophagitis 20-40 mg once daily for 4-8 weeks.	20–40	mg	once daily	GERD/Ulcer	Yes	No	No
Esomeprazole	Peptic Ulcer	Peptic-ulcer regimen depends ulcer type and H. pylori/NSAID status. If H. pylori positive, use a complete eradication regimen rather than PPI alone.	Indication-specific	N/A	Indication-specific	GERD/Ulcer	Yes	No	No

Omeprazole	Peptic Ulcer	Ulcer regimen depends site and H. pylori status; duodenal ulcer commonly 20 mg daily, gastric ulcer 40 mg daily.	20–40	mg	daily	GERD/Ulcer	Yes	No	No
Pantoprazole	Peptic Ulcer	Peptic-ulcer treatment is cause-specific; H. pylori requires complete eradication therapy. Pantoprazole monotherapy dosing varies by ulcer context.	40	mg	once daily	GERD/Ulcer	Yes	No	No
Fluticasone	Allergic Rhinitis	Allergic rhinitis: fluticasone propionate nasal spray 50 mcg/spray, 2 sprays per nostril once daily; may reduce to 1 spray/nostril daily when controlled.	1–2	spray	once daily	Allergy	Yes	No	No
Mometasone	Allergic Rhinitis	Mometasone nasal spray: 2 sprays per nostril once daily for allergic rhinitis.	2	spray	once daily	Allergy	Yes	No	No
Hydroxyzine	Pruritus	Pruritus: 25 mg PO TID-QID. Insomnia use is off-label and should not be inferred from the anxiety dose.	25	mg	TID → QID	Allergy	Yes	No	No

Ipratropium	Rhinorrhea	Rhinorrhea: nasal 0.03% usually 2 sprays/nostril 2-3 times daily; 0.06% usually 2 sprays/nostril 3-4 times daily depending indication.	2	sprays/ nostril	2–4 times daily (product-specific)	Allergy	Yes	No	No
Albuterol	Asthma	Metered-dose inhaler: 2 inhalations every 4-6 h PRN; nebulized dosing is formulation-specific.	2	inhalation	q4-6h → PRN	Asthma/COPD	Yes	No	No
Budesonide; Formoterol	Asthma	Asthma: budesonide/formoterol HFA usually 2 inhalations BID; strength (80/4.5 vs 160/4.5 mcg) depends severity/current therapy.	2	inhalation	BID	Asthma/COPD	Yes	No	No
Fluticasone	Asthma	Asthma: 1 inhalation BID; exact strength (e.g., 44-220 mcg) depends severity/product.	2	inhalation	BID	Asthma/COPD	Yes	No	No
Fluticasone; Salmeterol	Asthma	Asthma: 1 inhalation BID; exact strength (e.g., 100/50, 250/50, 500/50 mcg) depends severity/product.	1	inhalation	BID	Asthma/COPD	Yes	No	No
Fluticasone; Umeclidinium; Vilanterol	Asthma	Asthma: 1 inhalation once daily; Trelegy strengths 100/62.5/25 or 200/62.5/25 mcg depending control/severity.	1	inhalation	once daily	Asthma/COPD	Yes	No	No

Fluticasone; Vilanterol	Asthma	Asthma: 1 inhalation once daily; 100/25 or 200/25 mcg depending prior therapy/severity.	1	inhalation	once daily	Asthma/COPD	Yes	No	No
Mometasone	Asthma	Asthma: 1-2 inhalation 1-2 times daily; 110 - 220 mcg depending prior therapy/severity.	1	inhalation	once daily	Asthma/COPD	Yes	No	No
Tiotropium	Asthma	Asthma: Respimat 2 inhalations of 1.25 mcg each once daily (total 2.5 mcg); controller add-on, not rescue.	2	inhalations	once daily	Asthma/COPD	Yes	No	No
Albuterol	COPD	2 inhalations every 4-6 h PRN for bronchospasm; frequent need should trigger reassessment of COPD control.	2	inhalation	q4-6h → PRN	Asthma/COPD	Yes	No	No
Albuterol; lpratropium	COPD	COPD: Combivent Respimat 1 inhalation QID (max 6/day) or DuoNeb 3 mL nebulized QID, depending product.	1 (respimat) / 3 (neb)	inhalation or mL	q4-6h → PRN	Asthma/COPD	Yes	No	No
Budesonide; Formoterol	COPD	COPD: 160/4.5 mcg, 2 inhalations BID for the HFA product.	2	inhalation	BID	Asthma/COPD	Yes	No	No

Fluticasone; Salmeterol	COPD	COPD: for fluticasone propionate/salmeterol Diskus, 250/50 mcg, 1 inhalation BID.	1	inhalation	BID	Asthma/COPD	Yes	No	No
Fluticasone; Umeclidinium; Vilanterol	COPD	COPD: 100/62.5/25 mcg, 1 inhalation once daily.	1	inhalation	once daily	Asthma/COPD	Yes	No	No
Fluticasone; Vilanterol	COPD	COPD: 100/25 mcg, 1 inhalation once daily.	1	inhalation	once daily	Asthma/COPD	Yes	No	No
Ipratropium	COPD	COPD: ipratropium HFA 2 inhalations QID; nebulized 0.5 mg every 6-8 h is another formulation-specific option.	2 inhalations / 0.5	inhalations / mg nebulized	QID / q6–8h	Asthma/COPD	Yes	No	No
Tiotropium	COPD	COPD: HandiHaler 18 mcg capsule inhaled once daily, or Respimat 2 inhalations of 2.5 mcg each once daily (total 5 mcg).	18 / 2	mcg capsule / inhalations	once daily (product-specific)	Asthma/COPD	Yes	No	No

Lactulose	Constipation	15-30 mL PO daily initially (10 g/15 mL), goal 1-2 soft stools/day. Monitor for diarrhea	15–30	mL	once daily initially	Constipation	Yes	No	No
Linaclotide	Constipation	Chronic idiopathic constipation: 145 mcg PO once daily (72 mcg once daily may be used in selected patients), on an empty stomach before first meal.	72–145	mcg	once daily	Constipation	Yes	No	No
Chlorhexidine	Gingivitis	Chlorhexidine 0.12% oral rinse: 15 mL swish for 30 sec and spit BID after brushing.	15	mL	BID	Dental	Yes	No	No
Hydrocortisone	Inflammation	Route-specific. Topical hydrocortisone is usually applied thinly up to 1-3 times daily short term; systemic inflammatory dosing is diagnosis-specific.	2.5	% topical	up to 3–4 times daily	Derm or Topical	Yes	No	No
Triamcinolone	Inflammation	thin layer 1-2 times daily	0.025-0.1	%	Indication-specific	Derm or Topical	Yes	No	No

Clobetasol	plaque psoriasis/moderate to severe eczema	Clobetasol 0.05% topical: thin layer to affected area BID; typically limit to 2 consecutive weeks and product maximum (often <=50 g or mL/week).	0.05	% topical	BID	Derm or Topical	Yes	No	No
Linaclotide	Irritable Bowel	IBS-C in adults: 290 mcg PO once daily on an empty stomach before first meal.	290	mcg	once daily	GI - Lower	Yes	No	No
Dicyclomine	Irritable Bowel Syndrome	20 mg PO QID initially; if tolerated/needed may increase after 1 week to 40 mg QID. Stop if ineffective or poorly tolerated.	20–40	mg	QID	GI - Lower	Yes	No	No
Bimatoprost	Glaucoma	Bimatoprost ophthalmic 0.01%: 1 drop in affected eye(s) once nightly. More frequent dosing can reduce effect.	1	drop	nightly	Glaucoma/OHT	Yes	No	No
Brimonidine	Glaucoma	Brimonidine ophthalmic (0.1-0.2%): 1 drop in affected eye(s) TID, about 8 h apart; exact concentration/product matters.	1	drop	TID	Glaucoma/OHT	Yes	No	No
Dorzolamide	Glaucoma	Dorzolamide 2%: 1 drop in affected eye(s) TID.	1	drop	TID	Glaucoma/OHT	Yes	No	No

Dorzolamide; Timolol	Glaucoma	Dorzolamide 2%/timolol 0.5%: 1 drop in affected eye(s) BID.	1	drop	BID	Glaucoma/OHT	Yes	No	No
Latanoprost	Glaucoma	Latanoprost 0.005%: 1 drop in affected eye(s) once daily in the evening.	1	drop	once daily	Glaucoma/OHT	Yes	No	No
Timolol	Glaucoma	Timolol ophthalmic 0.25% or 0.5%: 1 drop in affected eye(s) BID initially; some patients can reduce to once daily after control.	1	drop	BID → once daily	Glaucoma/OHT	Yes	No	No
Brimonidine	Ocular Hypertension	Same glaucoma/OHT regimen: 1 drop affected eye(s) TID; verify concentration.	1	drop	TID	Glaucoma/OHT	Yes	No	No
Dorzolamide	Ocular Hypertension	1 drop in affected eye(s) TID.	1	drop	TID	Glaucoma/OHT	Yes	No	No
Dorzolamide; Timolol	Ocular Hypertension	1 drop in affected eye(s) BID.	1	drop	BID	Glaucoma/OHT	Yes	No	No
Latanoprost	Ocular Hypertension	1 drop in affected eye(s) once daily in the evening.	1	drop	once daily	Glaucoma/OHT	Yes	No	No

Timolol	Ocular Hypertension	Same regimen; monitor systemic beta-blocker effects.	1	drop	BID initially; may reduce to once daily	Glaucoma/OHT	Yes	No	No
Montelukast	Allergic Rhinitis	10 mg PO once daily for allergic rhinitis; because of the boxed neuropsychiatric warning, reserve for patients inadequately treated/intolerant of alternatives.	10	mg	once daily	Allergy	No	Yes	No
Montelukast	Asthma	10 mg PO once daily in the evening for asthma (adult/adolescent regimen).	10	mg	once daily	Asthma/COPD	No	Yes	No
Terazosin	BPH	1 mg PO at bedtime initially; stepwise titration to 2, 5, then 10 mg once daily; some patients require up to 20 mg/day.	1–10	mg	nightly initially; then once daily	BPH/GU	No	Yes	No
Hydroquinone	Pigmentation	Hydroquinone 2-4% topical: apply a thin layer to hyperpigmented areas 1-2 times daily depending product; reassess if no improvement after a few months.	2–4	% topical	1–2 times daily	Derm or Topical	No	Yes	No

Hydrocortisone	Adrenal Insufficiency	15-25 mg/day total dosing; usually 10mg in the AM and 5 mg in early evening	15-25 (total daily dose)	mg	BID (total daily dosing split)	Endocrine or Bone	No	Yes	No
Metoclopramide	Diabetic Gastroparesis	Diabetic gastroparesis: typically 10 mg PO 30 min before meals and at bedtime for 2-8 weeks; renal adjustment may be needed.	10	mg	before meals + bedtime (QID)	GI - Other	No	Yes	No
Celecoxib	Anti-inflammatory (OA/RA)	OA: 200 mg/day as 200 mg once daily or 100 mg BID; RA: 100-200 mg BID. Use lowest effective dose/shortest duration.	100–200	mg	once daily → BID	Pain/MSK	No	Yes	No
Indomethacin	Anti-inflammatory (OA/RA)	25 mg PO BID-TID initially for inflammatory arthritis; frequency is based on response. Total daily dose generally should not exceed 200 mg/day.	25	mg	BID → TID	Pain/MSK	No	Yes	No
Meloxicam	Chronic Pain	Same: 7.5-15 mg PO once daily depending response/risk.	7.5–15	mg	once daily	Pain/MSK	No	Yes	No

Etodolac	Inflammation	Formulation-specific. IR etodolac is commonly 300 mg BID-TID or 400-500 mg BID; ER 400-1,000 mg once daily. Use lowest effective NSAID dose.	300–500 IR; 400–1,000 ER	mg	BID–TID (IR); once daily (ER)	Pain/MSK	No	Yes	No
Meloxicam	Inflammation (OA/RA)	7.5 mg PO once daily; may increase to 15 mg once daily. Use lowest effective dose/shortest duration.	7.5–15	mg	once daily	Pain/MSK	No	Yes	No
Naproxen	Inflammation (OA/RA)	Inflammatory arthritis commonly 250-500 mg PO BID; use lowest effective dose/shortest duration.	250–500	mg	BID	Pain/MSK	No	Yes	No
Celecoxib	Pain	Acute pain: 400 mg PO once, then an additional 200 mg if needed on day 1; thereafter 200 mg BID PRN.	200–400	mg	day 1 loading sequence; then 200 mg BID PRN	Pain/MSK	No	Yes	No
Naproxen	Pain	Common adult pain regimen: 250-500 mg PO BID; acute pain may use 500 mg initially then 250 mg every 6-8 h. Observe product daily maximums.	250–500	mg	BID; acute regimen may use q6–8h after initial dose	Pain/MSK	No	Yes	No

Glipizide	Diabetes	Formulation-specific. IR: 5 mg PO 30 min before breakfast initially (2.5 mg in higher-risk patients); ER: 5 mg once daily with breakfast.	2.5–5	mg	once daily initially (formulation-specific)	Diabetes	No	Yes	No
Dapagliflozin	Diabetes	Type 2 diabetes: 5 mg PO once daily; may increase to 10 mg once daily for additional glycemic control. eGFR limits apply for glycemic efficacy.	5–10	mg	once daily	Diabetes	No	Yes	No
Empagliflozin	Diabetes	Type 2 diabetes: 10 mg PO once daily; may increase to 25 mg once daily for additional glycemic control.	10–25	mg	once daily	Diabetes	No	Yes	No
Glimepiride	Diabetes	1-2 mg PO once daily with breakfast/first main meal; dose based on glucose response at 1-2 week intervals; maximum 8 mg/day. Hypoglycemia risk.	1–8	mg	once daily	Diabetes	No	Yes	No
Empagliflozin	Heart Failure	Heart failure: 10 mg PO once daily.	10	mg	once daily	Heart Failure	No	Yes	No

Buspirone	Anxiety	Anxiety: 7.5 mg PO BID initially; increase by 5 mg/day every 2-3 days as needed. Common total 20-30 mg/day divided; max 60 mg/day. Not an antidepressant monotherapy.	10-May	mg	BID-TID	Anxiety/Depression	No	Yes	No
Venlafaxine	Anxiety	GAD/panic/social anxiety: XR often 75 mg once daily (panic may start 37.5 mg); up to 225 mg/day.	37.5–225	mg	once daily	Anxiety/Depression	No	Yes	No
Doxepin	Anxiety and Depression Combined	Anxiety/depression: 75 mg/day PO initially; usual 75-150 mg/day. Higher doses require specialist monitoring. 2nd/Third line agent	75–150	mg	daily / indication-specific	Anxiety/Depression	No	Yes	No
Bupropion	Depression	Depression (XL): 150 mg PO each morning, then usually 300 mg each morning if tolerated. Bupropion is not an approved primary treatment for anxiety and can be activating.	150–300	mg	once daily (morning)	Anxiety/Depression	No	Yes	No
Desvenlafaxine	Depression	50 mg PO once daily; doses above 50 mg/day have not shown added benefit for MDD though higher doses are labeled in some products.	50	mg	once daily	Anxiety/Depression	No	Yes	No

Fluoxetine	Depression	Depression: 20 mg PO each morning; commonly 20-60 mg/day.	20–60	mg	once daily (morning)	Anxiety/Depression	No	Yes	No
Paroxetine	Depression	20 mg PO daily	10–50	mg	once daily	Anxiety/Depression	No	Yes	No
Venlafaxine	Depression	Extended-release: commonly 75 mg PO once daily; some patients start 37.5 mg daily for 4-7 days.	37.5–75	mg	once daily	Anxiety/Depression	No	Yes	No
Sertraline	Depression/Anxiety	MDD/OCD: 50 mg PO once daily. Panic/PTSD/social anxiety often start 25 mg daily then 50 mg. max 200 mg/day.	25–200	mg/day	once daily	Anxiety/Depression	No	Yes	No
Fluoxetine	OCD	OCD: 20 mg PO daily initially; commonly 20-60 mg/day (maximum 80 mg/day).	20–80	mg	daily	Anxiety/Depression	No	Yes	No
Sertraline	PTSD	PTSD: 25 mg PO once daily initially, then 50 mg daily; max 200 mg/day.	25–200	mg	once daily	Anxiety/Depression	No	Yes	No

Atenolol	Atrial Fibrillation	25-50 mg PO once daily; if needed may increase to 100 mg once daily. Renal function can require lower dosing.	25–100	mg	once daily	Atrial Fibrillation/PSVT	No	Yes	No
Diltiazem	Atrial Fibrillation	Extended-release: commonly 120-240 mg PO once daily	120–240	mg	once daily	Atrial Fibrillation/PSVT	No	Yes	No
Metoprolol Succinate	Atrial Fibrillation	Metoprolol succinate ER: 12.5-100 mg PO once daily ; goal HR < 60 but BP above 90	12.5–100	mg	once daily	Atrial Fibrillation/PSVT	No	Yes	No
Metoprolol Tartrate	Atrial Fibrillation	Metoprolol tartrate: 12.5-100 mg PO BID ; goal HR < 60 but BP above 90	12.5–100	mg	BID	Atrial Fibrillation/PSVT	No	Yes	No
Verapamil	Atrial Fibrillation	Formulation-specific. ER SR commonly 180-240 mg once daily.	120–240	mg	Daily	Atrial Fibrillation/PSVT	No	Yes	No
Tadalafil	Benign Prostatic Hyperplasia	Take 5-10 mg orally as needed 1-2 hours before anticipated sexual activity. Max 1 dose in 24 hours. Nitrates are contraindicated.	5–20	mg	once daily (BPH) / PRN (ED)	BPH/GU	No	Yes	No

Mirabegron	Overactive Bladder	25 mg PO once daily; may increase to 50 mg once daily based on response. Renal/hepatic impairment can cap the dose; monitor BP.	25–50	mg	once daily	BPH/GU	No	Yes	No
Oxybutynin	Overactive Bladder	Extended-release: 5-10 mg PO once daily initially; doses may change by 5 mg weekly up to 30 mg/day. Immediate-release: 5 mg BID-TID; formulation matters. Antimuscarinics: contraindicated in untreated narrow-angle glaucoma; use caution with existing cardiac arrhythmias; solifenacin and tolterodine may prolong QT; anticholinergic burden is associated with cognitive impairment/dementia risk, warranting caution in older adults.	5–30 ER; 5 IR per dose	mg	once daily (ER) / BID–TID (IR)	BPH/GU	No	Yes	No
Nifedipine	Chronic Stable Angina	Extended-release: commonly 30-60 mg PO once daily; dosed by response to symptoms and product labeling.	30–60	mg	once daily	Cardiovascular - Other	No	Yes	No
Sildenafil	Erectile Dysfunction	ED: 50 mg PO about 1h before sexual activity; 25-100 mg, max once daily. Nitrates are contraindicated.	25–100	mg	PRN; no more than once daily	Erectile Dysfunction	No	Yes	No

Tadalafil	Erectile Dysfunction	ED-only PRN: 10 mg before activity, may adjust 5-20 mg. Nitrates are contraindicated.	5–20	mg	once daily (BPH) / PRN (ED)	Erectile Dysfunction	No	Yes	No
Bisoprolol	Heart Failure	2.5-5 mg PO once daily; Some patients on 10 mg	2.5–10	mg	once daily	Heart Failure	No	Yes	No
Carvedilol	Heart Failure	HFrEF: 3.125 mg PO BID; double about every 2 weeks as tolerated toward 25 mg BID (up to 50 mg BID in selected patients >85 kg).	3.125–50	mg	BID	Heart Failure	No	Yes	No
Metoprolol Succinate	Heart Failure	Metoprolol succinate ER: 12.5-100 mg PO once daily ; goal HR < 60 but BP above 90	12.5–100	mg	once daily	Heart Failure	No	Yes	No
Nebivolol	Heart Failure	1.25-10 mg PO Daily ; Not FDA approved in the US	1.25-10	N/A	once daily	Heart Failure	No	Yes	No
Verapamil	Hypertension	Formulation-specific. ER 100-240 mg once daily	100–400	mg	Daily	Hypertension	No	Yes	No
Terazosin	Hypertension	1 mg PO at bedtime initially.	1–5	mg	nightly	Hypertension	No	Yes	No

Doxepin	Insomnia (sleep maintenance)	Insomnia: 3-6 mg PO within 30 min of bedtime; do not take within 3 h of a meal.	3–6	mg	once nightly	Neuro/Psych/Sleep	No	Yes	No
Bupropion	Smoking Cessation	Smoking cessation (SR): 150 mg PO daily x 3 days, then 150 mg BID at least 8 h apart (max 300 mg/day); start about 1 week before quit date. (ER) 300mg PO Daily instead of the BID dosing)	150–300	mg	once daily x3 days, then BID(IR) or daily(ER)	Smoking Cessation	No	Yes	No
Ramipril	Cardiovascular Disease and Prevention	High-risk cardiovascular patients: label-based titration commonly starts 2.5 mg daily, then 5 mg daily, toward 10 mg daily as tolerated.	2.5–10	mg	daily	Heart Failure	No	Yes	No
Benazepril	Heart Failure	10 mg PO once daily initially (5 mg if taking a diuretic); usual 20-40 mg/day in 1-2 doses. Renal impairment requires adjustment.	5–40	mg	1–2 doses/day	Heart Failure	No	Yes	No
Enalapril	Heart Failure	2.5 mg PO BID initially;Dose commonly toward 10-20 mg BID; monitor renal function and potassium.	2.5–20	mg	BID	Heart Failure	No	Yes	No

Furosemide	Heart Failure	For edema due to HF: 20-80 mg PO 1-3times daily ; Chronic dose is individualized.	20–80	mg	initial; may repeat q6-8h	Heart Failure	No	Yes	No
Irbesartan	Heart Failure	75-150 mg PO once daily; may increase to 300 mg once daily.	75–300	mg	once daily	Heart Failure	No	Yes	No
Lisinopril	Heart Failure	2.5-10 mg PO once daily initially (2.5-5 mg if taking a diuretic); usual 20-40 mg once daily.	2.5–40	mg	once daily	Heart Failure	No	Yes	No
Losartan	Heart Failure	25-50 mg PO once daily; may increase to 100 mg once daily. Consider 25 mg start if volume depleted.	25–100	mg	once daily	Heart Failure	No	Yes	No
Sacubitril; Valsartan	Heart Failure	49/51 mg PO BID initially; double after 2-4 weeks as tolerated to 97/103 mg BID. Use 24/26 mg BID in selected low-dose/renal/hepatic patients. Allow 36 h after an ACE inhibitor.	24 (Sacu) + 26 (Val) to 97 (Sacu) + 103 (Val)	mg/mg	BID	Heart Failure	No	Yes	No
Spironolactone	Heart Failure	25 mg PO once daily if potassium/renal function permit; may increase to 50 mg once daily.	25–50	mg	once daily	Heart Failure	No	Yes	No

Telmisartan	Heart Failure	Cardiovascular risk reduction: 80 mg PO once daily in indicated high-risk patients unable to take ACE inhibitors. Unclear if doses before 80 are beneficial	80	mg	once daily	Heart Failure	No	Yes	No
Valsartan	Heart Failure	40-160 mg PO once daily	40–320	mg	once daily	Heart Failure	No	Yes	No
Torsemide	Heart Failure/Edema	Edema: commonly 10-20 mg PO once daily initially depending cause; dose based on diuretic response.	10–20	mg	once daily	Heart Failure	No	Yes	No
Amlodipine; Benazepril	Hypertension	Combination is usually used after monotherapy. Product strengths are formulation-specific; commonly 2.5/10 to 5/20 mg PO once daily; maximum 10/40 mg once daily.	2.5(Amlo) + 10 (Benz) to 10 (Amlo) + 40 (Benz)	mg/mg	once daily	Hypertension	No	Yes	No
Ramipril	Hypertension	1.25-2.5 mg PO once daily initially; 2.5-20 mg/day in 1-2 doses.	1.25–20	mg	1–2 doses/day	Hypertension	No	Yes	No
Duloxetine	Anxiety/Depression	MDD/GAD: usually 60 mg PO once daily; some start 30 mg daily for 1 week. MDD may be 40-60 mg/day.	30–60	mg	once daily	Anxiety/Depression	No	Yes	No

Clopidogrel	ASCVD	Usually 75 mg PO daily for established atherosclerotic disease. ACS/PCI may require a loading dose and DAPT; regimen is event/procedure-specific.	75	mg	daily	Anti-Thrombotic/Platlet	No	Yes	No
Ticagrelor	Coronary Artery Disease	No single ASCVD dose. ACS/history of MI: 180 mg load, then 90 mg PO BID for first year; 60 mg BID after 1 year. Chronic CAD without prior MI/stroke: 60 mg BID. Use with low-dose aspirin unless contraindicated.	60–180	mg	BID	Anti-Thrombotic/Platlet	No	Yes	No
Allopurinol	Gout	Start 100 mg PO once daily (lower in CKD), serum urate is the target; maximum labeled dose 800 mg/day.	100–800	mg/day	once daily initially; divide doses >300 mg/day	Gout	No	Yes	No
Apixaban	Atrial Fibrillation	5 mg PO BID for NVAf. Reduce to 2.5 mg BID if at least 2: age ≥80 y, weight ≤60 kg, SCr ≥1.5 mg/dL.	2.5–5	mg	BID	Anti-Thrombotic/Platlet	No	Yes	No
Apixaban	Chronic DVT/PE	Acute DVT/PE: 10 mg PO BID x 7 days, then 5 mg BID. Extended recurrence prevention after ≥6 months: 2.5 mg BID.	2.5–10	mg	BID	Anti-Thrombotic/Platlet	No	Yes	No

Rivaroxaban	DVT/PE	DVT/PE: 15 mg PO BID with food x 21 days, then 20 mg once daily with food. Extended prevention after >=6 months: 10 mg once daily.	10–20	mg	BID → once daily	Anti-Thrombotic/Platelet	No	Yes	No
Rivaroxaban	Atrial Fibrillation	NVAF: 20 mg PO once daily with evening meal if CrCl >50 mL/min; 15 mg once daily with evening meal if CrCl <=50; avoid if CrCl <15.	15–20	mg	once daily	Atrial Fibrillation/PSVT	No	Yes	No
Solifenacin	Overactive Bladder	5 mg PO once daily; may increase to 10 mg once daily if needed/tolerated. Severe renal or moderate hepatic impairment generally limits to 5 mg/day. Antimuscarinics: contraindicated in untreated narrow-angle glaucoma; use caution with existing cardiac arrhythmias; solifenacin and tolterodine may prolong QT; anticholinergic burden is associated with cognitive impairment/dementia risk, warranting caution in older adults.	5–10	mg	once daily	BPH/GU	No	Yes	No

Pancrelipase (Amylase; Lipase; Protease)	Enzyme Replacement	4,000-30,000 USP units of before/with each meal or snack. Dose in lipase units and requires body weight, meal fat content, and exact pancrelipase product. Use the product-specific weight-based enzyme-replacement protocol; do not interchange products unit-for-unit without review.	4,000-33000	USP	with meals	GI - Other	No	Yes	No
Duloxetine	Neuropathic Pain	Diabetic neuropathic pain: 60 mg PO once daily. Renal/hepatic limitations apply.	60	mg	once daily	Neuropathic Pain	No	Yes	No
Pioglitazone	Diabetes	15-30 mg PO once daily; may increase to 45 mg once daily. Avoid initiating in NYHA III-IV HF and monitor edema/weight.	15–45	mg	once daily	Diabetes	No	Yes	No
Niacin	Hyperlipidemia	Lipid-lowering niacin is formulation-specific and not a routine substitute for statins; ER therapy often starts at 500 mg nightly with safety monitoring.	500	mg	nightly	Statins/Fibrates/H LD Meds	No	Yes	No

Calcitriol	Chronic Hypoparathyroidism	0.25 mcg daily in the morning	0.25-2	mcg	once daily	Endocrine or Bone	No	Yes	No
Paroxetine	Anxiety	10-20 mg PO daily	10–20	mg	daily	Anxiety/Depression	No	Yes	No
Dutasteride	Benign Prostatic Hyperplasia	0.5 mg PO once daily.	0.5	mg	once daily	BPH/GU	No	Yes	No
Hydroxyzine	Anxiety	Anxiety: labeled adult dose 50-100 mg PO QID, but lower doses are often used clinically; sedation/QT/anticholinergic risk should guide dosing.	50–100	mg	QID	Anxiety/Depression	No	Yes	No
Nortriptyline	Depression	Depression: commonly 25 mg PO TID-QID or total 75-100 mg/day; max 150 mg/day, with lower starts in older adults.	25	mg	TID → QID	Anxiety/Depression	No	Yes	No

Citalopram	Depression	20 mg PO once daily; may increase to 40 mg/day. Maximum 20 mg/day in many higher-risk groups (e.g., age >60 or CYP2C19 inhibition) because of QT risk.	20–40	mg	once daily	Anxiety/Depression	No	Yes	No
Escitalopram	Depression	10 mg PO once daily; may increase to 20 mg once daily.	10–20	mg	once daily	Anxiety/Depression	No	Yes	No
Tolterodine (ER)	Overactive Bladder	Extended-release: 2-4 mg PO once daily	2–4 ER	mg	once daily (ER)	BPH/GU	No	Yes	No
Nortriptyline	Neuropathic Pain	Neuropathic-pain use is off-label; commonly starts 10-25 mg PO at bedtime. Dose cautiously based on effect/anticholinergic risk.	10–100	mg	nightly	Neuropathic Pain	No	Yes	No
Citalopram	Panic disorder	10mg once daily	Oct-40	mg	Indication-specific	Anxiety/Depression	No	Yes	No
Escitalopram	Anxiety	GAD: 10 mg PO once daily; may increase to 20 mg once daily.	10–20	mg	once daily	Anxiety/Depression	No	Yes	No

Rimegepant	Migraine	Acute migraine: 75 mg ODT once PRN; maximum 75 mg in 24 h. Preventive treatment: 75 mg every other day.	75	mg	once PRN (acute) / every other day (prevention)	Headache	No	No	Yes
Rizatriptan	Migraine	5 or 10 mg PO at migraine onset; may repeat after ≥ 2 h. Maximum 30 mg/24 h. With propranolol use 5 mg doses and lower daily maximum.	5–10	mg	at onset; may repeat after ≥ 2 h	Headache	No	No	Yes
Mesalamine	Ulcerative Colitis/Crohn's	2.4-4.8gm daily. Ulcerative colitis dosing is formulation-specific. Mesalamine is not standard therapy for most Crohn disease; clarify diagnosis/location/product before dosing.	2.4-4.8	g	Indication-specific	GI - Other	No	No	Yes
Methocarbamol	Chronic Muscle Spasm	Initial: 1,500 mg PO QID for 48-72 h; then reduce to about 4,000 mg/day in divided doses. Product strengths differ.	1,500 initial; ~4,000/day maintenance	mg	QID initially; then divided daily	Muscle Spasm	No	No	Yes
Baclofen	Chronic Muscle Spasm	Spasticity: 5 mg PO TID initially; goal might be 10-20 mg TID as needed/tolerated (max 80 mg/day). Avoid abrupt withdrawal.	5–20	mg	TID	Muscle Spasm	No	No	Yes

Pramipexole	Parkinson's	Parkinson disease: 0.125 mg PO TID	0.125	mg	TID	Parkinsons/Motor Disorder	No	No	Yes
Pramipexole	Restless Leg Syndrome	RLS: 0.125 mg PO once daily 2-3 h before bedtime	0.125–0.5	mg	once nightly	Parkinsons/Motor Disorder	No	No	Yes
Ropinirole	Restless Leg Syndrome	RLS: 0.25 mg PO once daily 1-3 h before bedtime; maximum 4 mg once daily.	0.25–4	mg	once daily before bedtime	Parkinsons/Motor Disorder	No	No	Yes
Ethinyl Estradiol; Etonogestrel	Abnormal Uterine Bleeding	Vaginal ring: one ring inserted vaginally and left in place continuously every 4 weeks; follow exact product instructions. Dose ethinyl estradiol 0.015 mg per 24 hours and Etonogestrel 0.12 mg per 24 hours	1	ring	replace every 4 weeks	Estrogen/Progest erone	No	No	Yes
Ethinyl Estradiol; Levonorgestrel	Abnormal Uterine Bleeding	Combined oral contraceptive: 1 tablet PO daily according to the exact levonorgestrel/ethinyl-estradiol pack schedule. 1 tablet = 0.20 mcg ethinyl estradiol /0.1 mg levonorgestrel	20-30 (EE) + 0.09-0.1 (Levo)	mcg/m g	once daily	Estrogen/Progest erone	No	No	Yes

Ethinyl Estradiol; Norelgestromin	Abnormal Uterine Bleeding/Secondary Amenorrhea/menstrual suppression	Transdermal patch: 1 patch weekly for 3 weeks, followed by 1 patch-free week, with patches applied on the same "patch change day" each week and no more than 7 days in the patch-free interval. This is the standard regimen described for contraception with the ethinyl estradiol/norelgestromin patch in patients with BMI <30 kg/m ² . Contraindicated in patients with BMI > 30 kg/m ²	1 (Ethinyl Estrodial 20 - 35 mcg + norelgestromin 150-220 mcg)	patch	weekly x3, then 1 week off	Estrogen/Progest erone	No	No	Yes
Ethinyl Estradiol; Norethindrone	Abnormal Uterine Bleeding/Secondary Amenorrhea/menstrual suppression	Norethindrone/ethinyl estradiol 0.4/0.035mg PO daily for 28 days	0.4 (EE) + 0.035 (Nor)	mg	once daily	Estrogen/Progest erone	No	No	Yes

Ethinyl Estradiol; Etonogestrel	Contraception	Vaginal ring: one ring inserted vaginally and left in place continuously for 3 weeks, then removed for 1 week; insert a new ring 7 days after the last was removed (even if bleeding is not complete), at approximately the same time of day; follow exact product instructions. Dose ethinyl estradiol 0.015 mg per 24 hours and Etonogestrel 0.12 mg per 24 hours	1	ring	3 weeks in, 1 week out	Estrogen/Progest erone	No	No	Yes
Ethinyl Estradiol; Levonorgestrel	Contraception	Combined oral contraceptive: 1 tablet PO daily according to the exact levonorgestrel/ethinyl-estradiol pack schedule. 1 tablet = 0.20 mcg ethinyl estradiol /0.1 mg levonorgestrel	20-30 (EE) + 0.09-0.1 5 (Levo)	mcg/m g	once daily	Estrogen/Progest erone	No	No	Yes
Ethinyl Estradiol; Norethindrone	Contraception	Norethindrone/ethinyl estradiol 0.4/0.035mg PO daily for 28 days	0.4 (EE) + 0.035 (Nor)	mg	once daily	Estrogen/Progest erone	No	No	Yes

Ethinyl Estradiol; Norgestimate	Contraception	Combined oral contraceptive: 1 tablet PO daily according to the exact norgestimate/ethinyl-estradiol pack schedule. Monophasic 0.25 mg norgestimate / 0.035 mg EE, or triphasic 0.18/0.215/0.25 mg norgestimate with 0.025 or 0.035 mg EE; 21 active + 7 inert tablets daily	1	tablet	once daily	Estrogen/Progest erone	No	No	Yes
Ethinyl Estradiol; Norgestrel	Contraception	Combined oral contraceptive: 1 tablet PO daily according to the exact norgestrel/ethinyl-estradiol pack schedule. 1 tablet = 0.3 mg Ethinyl Estradiol / 0.3 mg Norgestrel. 28 day cycle (21 days active, 7 days inactive pill). Day 1 Start: Start on first day of menstrual cycle. Quick start: Start on the day the patient receives the prescription. If initiated >5 days after the onset of menses, use an additional method of contraception (nonhormonal) until 7 days of consecutive administration.	30-50 (EE) + 0.3-0.5 (Nor)	mg/mg	once daily	Estrogen/Progest erone	No	No	Yes

Norethindrone	Contraception	Norethindrone 20-35 mcg progestin-only pill: 1 tablet PO at the same time every day continuously, with no hormone-free interval. Day 1 Start: Start on first day of menstrual cycle. Quick start: Start on the day the patient receives the prescription. If initiated >5 days after the onset of menses, use an additional method of contraception (nonhormonal) until 7 days of consecutive administration.	20-35	mcg	once daily, continuous	Estrogen/Progest erone	No	No	Yes
Progesterone	Hormone Replacement	Micronized progesterone for endometrial protection with estrogen: 100 mg PO at bedtime	100	mg	once daily	Estrogen/Progest erone	No	No	Yes
Estradiol	Hypogonadism	Hypogonadism dosing is etiology-, age-, route-, and target-level-specific; no single estradiol dose applies.	1–2	mg	once daily	Estrogen/Progest erone	No	No	Yes
Estradiol	Menopause	Menopausal hormone therapy is route/dose specific; use the lowest effective estrogen dose. If uterus is present, adequate progestogen is generally required unless contraindicated.	0.5–2	mg	once daily	Estrogen/Progest erone	No	No	Yes

Ethinyl Estradiol; Levonorgestrel	Menstrual suppression	Ethinyl estradiol 30 mcg / levonorgestrel 0.15 mg	20-35 (EE) + 0.15 mg (Levo)	mcg/m g	once daily	Estrogen/Progest erone	No	No	Yes
Medroxyprogest erone	Secondary Amenorrhea	5-10 mg by mouth daily at the same time for 10 days. Range: 5–10 mg PO daily × 5–10 days (10 mg × 10 days for optimum secretory transformation) Disp: #10 tablets	5–10	mg	Indication-specific	Estrogen/Progest erone	No	No	Yes
Norethindrone (acetate)	Secondary Amenorrhea	2.5-5 mg by mouth daily	2.5-10	mg	Indication-specific	Estrogen/Progest erone	No	No	Yes

Ethinyl Estradiol; Norelgestromin	Contraception	Transdermal patch: 1 patch weekly for 3 weeks, followed by 1 patch-free week, with patches applied on the same “patch change day” each week and no more than 7 days in the patch-free interval. This is the standard regimen described for contraception with the ethinyl estradiol/norelgestromin patch in patients with BMI <30 kg/m ² . Contraindicated in patients with BMI > 30 kg/m ²	1 (Ethinyl Estrodial 20 - 35 mcg + norelgestromin 150-220 mcg)	patch	weekly x3, then 1 week off	Estrogen/Progest erone	No	No	Yes
Metformin	PCOS	500 mg TID or 875 mg BID; PCOS use is off-label; regimen is individualized. Do not assume the diabetes maximum is appropriate for PCOS.	1500-2500	mg	formulary dependent (BID-TID)	Endocrine or Bone	No	No	Yes
Ethinyl Estradiol ; Drospirenone	Contraception	Ethinyl estradiol 20 mcg / Drospirenone 3 mg by mouth daily	20-35 (EE) + 3 (Dros)	mcg/mg	once daily	Estrogen/Progest erone	No	No	Yes
Donepezil	Alzheimer Disease	5 mg PO once daily; after 4-6 weeks may increase to 10 mg daily. The 23 mg dose is only for selected moderate-severe AD patients after at least 3 months on 10 mg.	5–23	mg	once daily (titration-dependent)	Dementia	No	No	Yes

Memantine	Alzheimer Disease	Immediate release: 5 mg PO once daily, increase by 5 mg weekly to 10 mg BID (20 mg/day) as tolerated.	5–10	mg	once daily initially; target BID	Dementia	No	No	Yes
Lactulose	Hepatic Encephalopathy	30-45 mL PO 3-4 times daily; goal is 2-3 soft stools/day. More intensive initial regimens are inpatient/clinician-directed.	30–45	mL	TID–QID	Hepatic Encephalopathy	No	No	Yes
Tizanidine	Chronic Muscle Spasm	Spasticity: start 2-4 mg PO; repeat every 8 h as needed, max 3 doses/24 h. maximum 36 mg/day. Avoid with ciprofloxacin or fluvoxamine.	2–4	mg	q8h PRN	Muscle Spasm	No	No	Yes
Hydroxychloroquine	Rheumatoid Arthritis	RA: 400-600 mg/day PO initially in 1-2 doses, then maintenance 200-400 mg/day; keep chronic dose within retinal-toxicity limits and monitor eyes/renal risk.	200–600	mg	1–2 doses/day	Autoimmune	No	No	Yes
Hydroxychloroquine	Lupus	Lupus: 200-400 mg PO daily in 1-2 doses; doses >400 mg/day are generally not recommended.	200–400	mg	1–2 doses/day	Autoimmune	No	No	Yes

Ropinirole	Parkinson Disease	Parkinson disease: 0.25 mg PO TID initially	0.25	mg	TID initially	Parkinsons/Motor Disorder	No	No	Yes
Flecainide	Atrial Fibrillation/PSVT	Arrhythmia-specific and specialist-directed. For paroxysmal AF/SVT, a common start is 50 mg PO BID with ECG-guided titration; avoid in significant structural/ischemic heart disease.	50	mg	BID	Atrial Fibrillation/PSVT	No	No	Yes

Appendix B, Hard-Stop and Escalation Matrix

Purpose: This appendix enumerates every scenario in which the AI refill system must halt autonomous processing and either refuse to proceed or escalate the case to a human licensed healthcare provider, organized as a structured matrix for regulatory review.

B.1 Governing Principles

1. The AI may authorize a refill **only** when all of the following are true: the patient's identity has been verified; the requested medication and current maintenance regimen have been verified; the medication is within the approved formulary and scope of the pilot; the patient remains clinically stable; and no material signal that hampers safety is present.
2. Hard-stop screening is performed on **every refill request**. The system does not rely on passive continuous monitoring as the basis for autonomous authorization.
3. When a hard stop fires, the default action is **escalation to a Utah-licensed provider**. When emergency warning signs are identified, the patient is **directed to urgent or emergency care** and the case is flagged for immediate provider attention.
4. All hard stops, escalations, provider overrides, and final dispositions are **logged** and included in performance reporting to OAIP.
5. For purposes of this pilot, the patient's "established care plan" means the last verified maintenance regimen for that medication, including the medication, strength, route, dosing schedule, indication, refill cadence, and any medication-specific monitoring requirements. No doses will be adjusted during the encounter.

B.2 Hard-Stop Matrix

#	Trigger Condition	Detection Method(s)	System Action	Escalation Path	Resolution Owner
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HS-01	Identity cannot be verified, or verified identity does not match prescription evidence	NIST IAL2-compliant identity verification (Clear / ID.me); duplicate-account checks; image-quality validation; OCR and computer-vision extraction from prescription label/bottle; deterministic matching of patient name and medication details against verified identity	Refill blocked; autonomous pathway halted	Case escalated to Utah-licensed healthcare provider	Reviewing healthcare provider; identity verification re-attempted if healthcare provider directs
HS-02	Prescription evidence is unreadable, incomplete, or inconsistent	internal consistency checks across uploaded evidence and patient responses	Refill blocked	Case escalated to Utah-licensed healthcare provider	Reviewing healthcare provider

HS-03	Medication is outside the approved scope of the pilot	Formulary lookup and rules-based scope validation blocking any: controlled substance, medication not on the approved formulary, new prescription request, substitute medication, dose change, schedule change, route change, or quantity outside approved refill parameters	Refill blocked; request rejected	Patient informed the medication is outside scope; no escalation to healthcare provider unless patient requests telehealth consultation	System (automatic rejection); patient may independently seek care
HS-04	Surescripts shows the requested prescription is not the patient's current regimen	Post-verification query of Surescripts; field-by-field reconciliation of medication, strength, dosing schedule, prescriber, and status; hard stop if discontinuation, replacement, or conflicting directions detected	Refill blocked	Case escalated to Utah-licensed healthcare provider, or patient directed back to original prescriber as appropriate	Reviewing healthcare provider or original prescriber

HS-05	Refill pattern suggests the request is non-routine	Refill-timing rules; prior request history; bottle-date parsing; Surescripts-based refill-history comparison to detect: early refill, duplicate refill, reported lost/stolen medication, or cadence inconsistent with expected use	Refill blocked	Case escalated to Utah-licensed healthcare provider	Reviewing healthcare provider
HS-06	Patient reports that the treatment plan has already been changed	Required structured question asking whether any healthcare provider has instructed the patient to stop, hold, taper, or change the medication, and whether the patient has self-adjusted dose or frequency; contradiction checks against verified prescription record.	Refill blocked	Case escalated to Utah-licensed healthcare provider	Reviewing healthcare provider

HS-07	Indication is unclear or inconsistent with the medication requested	Indication-confirmation questions tied to medication class; logic checks comparing reported reason for use with approved formulary indication and known treatment plan	Refill blocked	Case escalated to Utah-licensed healthcare provider	Reviewing healthcare provider
HS-08	Patient reports a new side effect, adverse effect, allergy, or intolerance	Standardized medication-safety questionnaire; medication-class-specific branching questions; allergy verification; severity grading; automatic hard stop for any symptom that could materially change risk-benefit profile	Refill blocked	Case escalated to Utah-licensed healthcare provider	Reviewing healthcare provider
HS-09	Patient reports new or worsening symptoms suggesting the underlying condition is no longer stable	Standardized symptom screen on every refill request; medication-specific follow-up questions; any positive red-flag response, worsening symptom trend, or instability threshold triggers escalation	Refill blocked	Case escalated to Utah-licensed healthcare provider	Reviewing healthcare provider

HS-10	Clinically significant drug interaction, contraindication, duplicate therapy, or pregnancy-related safety issue identified	Medication reconciliation covering current prescriptions, OTC medications, and supplements; contraindication and interaction rules; duplicate-therapy checks; pregnancy and breastfeeding questions where relevant to medication class	Refill blocked	Case escalated to Utah-licensed healthcare provider	Reviewing healthcare provider
HS-11	Required monitoring is missing, overdue, or abnormal	Medication-specific monitoring rules checking for required labs, vitals, home readings, or follow-up assessments within predefined lookback window; threshold rules for abnormal values	Refill blocked	Case escalated to healthcare provider	Reviewing healthcare provider
HS-12	New medical event or care transition could affect refill safety	Interval-history questions on every refill covering: hospitalization, ED visit, new diagnosis, surgery/procedure, pregnancy, acute kidney or liver issue, specialist intervention, or other clinically significant changes since last refill	Refill blocked	Case escalated to Utah-licensed healthcare provider	Reviewing healthcare provider

HS-13	Patient has reached maximum consecutive AI-authorized refills or is overdue for required human follow-up	Refill counters and encounter-recency rules maintained at medication or medication-class level; automatic block when permitted count or follow-up interval exceeded	Refill blocked	Patient directed to see their original prescriber or another human provider	Original prescriber or August AI healthcare provider (for telehealth consultation)
HS-14	Patient requests review by a human licensed healthcare provider	Always-available healthcare provider-review option throughout workflow; natural-language detection of patient requests for a human healthcare provider	Refill pathway paused	Case routed to Utah-licensed healthcare provider	Reviewing healthcare provider
HS-15	Pharmacist requests human review	Dedicated pharmacist escalation pathway tied to refill record; all pharmacist-raised concerns treated as hard stops	Refill held pending review	Case escalated to Utah-licensed healthcare provider; pharmacist provided direct communication channel to August AI licensed healthcare provider group	Reviewing healthcare provider

HS-16	Case is incomplete, internally conflicting, or below confidence threshold	Required-field checks; cross-source consistency checks (patient answers, prescription evidence, external prescription data); secondary automated QA review for unresolved ambiguity	Refill blocked	Case escalated to Utah-licensed healthcare provider	Reviewing healthcare provider
HS-17	AI generates a recommendation outside the permitted action space	Constrained-output templates; rules validators; post-response safety checks blocking any attempt to initiate new therapy, modify the care plan, or provide unsupported clinical recommendations beyond refill authorization	Output blocked; refill not issued	Case escalated to Utah-licensed healthcare provider	Reviewing healthcare provider

HS-18	Emergency warning signs identified	High-sensitivity emergency screening at intake and symptom-branch points for: chest pain, severe shortness of breath, stroke-like symptoms, severe allergic reaction, major bleeding, suicidality, severe hypoglycemia, or other acute instability signals	No refill processed. Patients are directed to emergency or urgent care immediately.	Case flagged for immediate Licensed healthcare provider attention; patient given emergency/urgent care instructions	Emergency/urgent care services; licensed healthcare provider from August AI for follow-up
HS-19	Dosage is outside the conventional range for the medication	Formulary-level dosage guardrails; comparison against clinical-guideline dosage range	Refill blocked	Case escalated to Utah-licensed licensed healthcare provider	Reviewing licensed healthcare provider
HS-20	Prescription status cannot be confirmed with sufficient confidence	Surescripts query returns ambiguous or unavailable data; inability to reconcile prescription status across sources	Refill blocked (default is not to refill autonomously)	Case escalated to Utah-licensed licensed healthcare provider or patient directed to original prescriber	Reviewing licensed healthcare provider or original prescriber

B.3 Suicidality and Mental Health Hard Stops

These are a specialized subset of hard stops applicable to medications with known associations with suicidal ideation (certain antidepressants, anticonvulsants).

#	Trigger Condition	System Action	Escalation Path
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MH-01	Active suicidal ideation	Refill flow stopped; crisis instructions presented	Urgent review by Utah-licensed licensed healthcare provider; patient directed to 988 Suicide and Crisis Lifeline and immediate crisis resources
MH-02	Recent self-harm or suicide attempt	Refill flow stopped; crisis instructions presented	Urgent review by Utah-licensed licensed healthcare provider; patient directed to 988 and crisis resources
MH-03	Suicidal thoughts with plan, intent, or access to means	Refill flow stopped; crisis instructions presented	Urgent review by Utah-licensed licensed healthcare provider; patient directed to 988 and crisis resources
MH-04	Severe worsening depression, agitation, akathisia, impulsivity, mania, psychosis, or inability to answer safety questions reliably	Refill flow stopped	Case removed from autonomous pathway; escalated for licensed healthcare provider review before any refill decision
MH-05	Inconsistent information preventing confident safety determination	Refill flow stopped	Case removed from autonomous pathway; escalated for licensed healthcare provider review before any refill decision
MH-06	Positive mental health screen, not at imminent risk	Refill flow stopped	Case removed from autonomous pathway; escalated for licensed healthcare provider review before any refill decision (mirrors NIMH telehealth pathway)

B.4 Re-Initiation Restrictions

- Patients may **not** reinitiate an AI-led request once one has already been declined for the same medication.
- Patients may still obtain their prescription renewal through a licensed healthcare provider on the platform.

B.5 Detection Architecture Summary

All hard stops are detected through a combination of seven layers:

1. **Identity verification** - NIST IAL2-compliant (Clear / ID.me)
 2. **Prescription-image extraction and validation** - OCR, computer vision
 3. **Surescripts-based prescription reconciliation** - field-by-field matching
 4. **Structured medication-specific questionnaires** - symptom screening, safety questions pre-interaction, indication confirmation
 5. **Medication reconciliation and interaction screening** - drug-drug, drug-supplement, contraindication, duplicate therapy, pregnancy
 6. **Monitoring and refill-history rules** - lab lookback, refill counters, encounter recency
 7. **Automated confidence and consistency checks** - cross-source validation, output-schema validation, secondary QA
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Appendix C - Pre-Deployment Testing Plan and Risk Buckets

Purpose: This appendix specifies the testing protocol that must be completed before Phase 1 launch, including what is tested, how it is tested, pass/fail criteria, and the risk-tiering framework that governs ongoing operational parameters by medication class.

C.1 Testing Scope

Before Phase 1 launch, August AI validates the refill system on **medication-specific test sets** composed of:

1. **Curated refill scenarios** -representative routine refill cases per medication class
2. **Healthcare Providerauthored edge cases** -scenarios designed by licensed healthcare provider to probe boundary conditions
3. **Adversarial scenarios** -inputs designed to test system robustness against manipulation and error
4. **Simulated patient interactions** -conversational interactions exercising the full refill workflow under realistic conditions

The evaluation approach is informed by August AI's previously demonstrated benchmarking methodology for in-conversation clinical reasoning, together with subsequent internal refinements, adapted to the safety requirements of medication renewal.

C.2 Evaluation Methodology

- Evaluation measures whether the system reaches the **clinically appropriate action** within the constrained refill workflow: autonomous approval, escalation to licensed healthcare provider review, or redirection to urgent/emergency care.
- Rather than relying on exact-match logic, the evaluation uses **provider-adjudicated reference answers** as the gold standard.
- Metrics are reviewed **separately by medication risk bucket** so that strong performance in one class does not mask weaker performance in another.
- Safety pathways are tuned to **escalate on uncertainty** rather than approve through ambiguity.

C.3 Pre-Launch Benchmarks

Metric	Description
Provider concordance on final disposition	Agreement rate between the AI's recommended action and a licensed healthcare provider's independent judgment on the same case
Missed hard-stop rate	Ratio of cases where a hard-stop condition was present but the AI failed to detect it
False-negative escalation rate	Ratio of cases that should have been escalated but were not
False-positive escalation rate	Ratio of cases escalated unnecessarily (no clinical issue found upon licensed healthcare provider review)
Prescription-verification discrepancy detection	Rate at which the system correctly identifies mismatches between patient-submitted evidence and Surescripts data

Clinically significant interaction detection	Rate at which the system correctly identifies clinically significant drug-drug or drug-supplement interactions
Clinically material disagreement rate	Rate at which AI recommendations diverge from licensed healthcare provider judgment in ways that would materially affect patient safety
Technical completion rate	Ratio of refill requests that complete the full workflow without system errors

Note: The target values for each metric will be finalized in collaboration with OAIP prior to Phase 1 launch and disclosed in the pilot's reporting framework. Performance thresholds are benchmarked against published error rates in conventional prescription refill processes, including community pharmacy dispensing error rates and licensed healthcare provider renewal error rates.

C.4 Robustness and Adversarial Testing

The following adversarial and edge-case categories are explicitly tested before launch:

Test Category	Description
Altered or low-quality prescription images	Images that are blurry, cropped, rotated, glare-affected, or digitally modified
Ambiguous or contradictory patient histories	Patients providing conflicting information about symptoms, medications, or medical events
Duplicate-account behavior	Attempts to create multiple accounts for the same individual
Dose-change or new-prescription requests disguised as refills	Requests that subtly alter dosage, frequency, or medication while appearing routine

Omitted medications or supplements	Patients failing to pre-emptively disclose current medications relevant to interaction screening
Missing or abnormal monitoring data	Scenarios where required labs are absent, overdue, or show values outside safe ranges

C.5 Hard-Stop Validation Protocol

Each hard-stop detection protocol (see Appendix B) is validated **separately** before launch:

1. **Define** the trigger condition, inputs, required action, and acceptable miss rate for each protocol
2. **Evaluate** on curated refill cases, healthcare provider-authored edge cases, and adversarial scenarios
3. **Assess** against licensed healthcare provider-adjudicated reference answers
4. **Focus** on missed hard-stop rate, false-negative escalation rate, clinically material disagreement rate, and technical completion
5. **Tune** safety pathways to escalate on uncertainty rather than approve through ambiguity

C.6 Launch Gate

- No medication risk bucket enters Phase 1 unless it meets pre-defined launch thresholds approved internally by August AI's clinical lead and disclosed to OAIP.
- Each hard-stop detection protocol must pass validation independently.
- Advancement between phases is contingent on **OAIP evaluation and approval**, not on a predetermined timeline.

C.7 Risk-Tiering Framework

Each medication in the formulary is assigned a **risk tier** at onboarding. The document does not prescribe a fixed number of tiers (e.g., low/medium/high) but defines the tiering dimensions and operational consequences.

C.7.1 Tiering Dimensions

Dimension	Description
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Monitoring burden	Frequency and type of lab tests, vitals, or clinical assessments required for safe ongoing use
Interaction profile	Breadth and severity of known drug-drug and drug-supplement interactions
Adverse-effect severity	Seriousness and frequency of known adverse effects
Clinical consequence of inappropriate refill	Potential patient harm if a refill is authorized when it should not have been

C.7.2 Operational Consequences by Risk Tier

Parameter	Lower-Risk Tiers	Higher-Risk Tiers
Maximum consecutive AI-authorized refills	Up to 3 (pilot cap; no class starts above 3)	Fewer than 3
Escalation threshold	Standard hard-stop logic	Lower threshold for escalation

C.7.3 Tier Review and Updates

Risk tiers are reviewed and updated as the pilot generates real-world data. Updates are informed by:

- Phase-specific concordance rates per medication class
- Adverse event patterns by medication class
- Escalation rate trends
- Licensed healthcare provider feedback and qualitative insights

C.8 In-Operation Validation (Post-Launch Monitoring)

After launch, reliability is measured through:

1. **Phased provider review** - 100% pre-issuance in Phase 1 up to 250; 100% post-issuance in Phase 2 up to 1000; spot-check in Phase 3
2. **Case-level benchmarking** - ongoing comparison of AI decisions against licensed healthcare provider judgments
3. **Override analysis** - tracking of cases where licensed healthcare provider overrides the AI recommendation
4. **Escalation tracking** - monitoring escalation rates by type and medication class
5. **Formal quality assurance** - review of disagreements, complaints, and adverse events
6. **Automated surveillance dashboards** - real-time monitoring of escalation rates, licensed healthcare provider disagreement rates, adverse event frequency, and hard-stop trigger patterns across medication classes, patient demographics, and time periods

Any material miss triggers remediation, regression testing, and rollback to a more conservative review mode if needed. A material miss is a case where both of the following are true: a clinician would have reached a different disposition, and that difference would have exposed the patient to a risk the correct disposition would have avoided. The determination is clinical rather than rule-based, made by the reviewing clinician.

Appendix D - Reporting Metric Definitions

Purpose: This appendix defines every metric referenced in the proposal that will be reported to OAIP or used for internal monitoring, including its precise definition, data source, calculation method, reporting frequency, and any thresholds that trigger review or action.

D.1 Phase-Specific Performance Metrics

D.1.1 Phase 1 Metrics

Metric	Definition	Data Source	Calculation	Reporting Frequency
AI approval rate	Ratio of eligible renewal requests that the AI approves without modification, prior to licensed healthcare provider review	Refill-interaction records	AI-approved requests ÷ total eligible requests	Monthly to OAIP

Provider concordance rate	Ratio of cases where the reviewing licensed healthcare provider agrees with the AI's recommendation	licensed healthcare provider review records	Concordant reviews ÷ total licensed healthcare provider reviews	Monthly to OAIP
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Technical completion rate	Ratio of refill requests that successfully complete the workflow from initiation through prescription transmission to pharmacy systems, without system errors	System logs; pharmacy transmission records	Successfully transmitted prescriptions ÷ total initiated requests	Monthly to OAIP
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D.1.2 Phase 2 Additional Metrics

Metric	Definition	Data Source	Calculation	Reporting Frequency
Pharmacist-initiated escalation rate	Ratio of refill requests where the pharmacist requests licensed healthcare provider review	Pharmacist escalation records	Pharmacist-initiated escalations ÷ total refill requests	Monthly to OAIP

Licensed healthcare provider-AI concordance on retrospective review	Same as Phase 1 concordance rate, measured on post-issuance (retrospective) reviews	Licensee health care provider review records	(Concordant retrospective reviews ÷ total retrospective reviews) × 100, by medication	Monthly to OAIP
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D.1.3 Phase 3 Additional Metrics

Metric	Definition	Data Source	Calculation	Reporting Frequency
Patient satisfaction score	Composite score derived from post-interaction ratings and quarterly surveys	Post-interaction ratings (after each refill); quarterly in-depth surveys	Adapted Patient Satisfaction Score	Monthly (aggregate) to OAIP; qualitative themes summarized quarterly
Time-to-renewal	Elapsed time from refill request initiation to successful prescription transmission to pharmacy	System timestamps	Median and percentile distribution (e.g., P50, P90, P95) of time from request start to pharmacy transmission	Monthly to OAIP

D.2 Safety and Escalation Metrics

Metric	Definition	Data Source	Calculation	Reporting Frequency	Threshold / Trigger
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Escalation rate (AI-initiated)	Ratio of refill requests escalated to licensed healthcare provider by the AI due to hard-stop or safety signal	Refill-interaction records; hard-stop logs	AI-initiated escalations ÷ total refill requests, broken down by escalation reason	Monthly to OAIP	Statistically significant deviation from baseline triggers automated escalation of all pending AI refills for affected medication class
False-positive escalation rate	Ratio of escalated cases where licensed healthcare provider review determines no clinical issue warranted escalation	Licensed healthcare providers review records of escalated cases	Unnecessary escalations ÷ total escalated cases	Monthly to OAIP	
Adverse events reported	Count and categorization of adverse events reported through the platform	Post-refill check-ins; patient self-reports; licensed healthcare provider review findings	Count by severity, medication class, and time period; rate per 1,000 refills	Monthly to OAIP	Any adverse event potentially attributable to an AI-authorized refill triggers incident investigation (see Section 13 of main document)
Missed interaction rate	Ratio of clinically significant drug interactions that the system failed to detect	Licensed healthcare provider review records; retrospective audit; incident investigations	Missed interactions ÷ total cases with interactions present	Monthly to OAIP	Statistical significance as established per medication-population-condition triad

Identity verification failure rate	Ratio of refill requests where identity verification fails or cannot be completed	Identity verification logs (Clear / ID.me)	Failed verification attempts ÷ total verification attempts	Monthly to OAIP	.
Prescription verification discrepancy rate	Ratio of cases where discrepancies are detected between patient-submitted evidence and Surescripts data	Surescripts reconciliation logs	Cases with discrepancies ÷ total Surescripts queries	Monthly to OAIP	All discrepancies are hard stops; metric tracked for trend monitoring

D.3 Longitudinal Outcome Metrics

Metric	Definition	Data Source	Calculation	Reporting Frequency
Patient satisfaction (brief)	Post-interaction satisfaction rating	In-app rating prompt after refill interaction (approved, escalated, or declined)	Binary/Quantitative	Quarterly
Patient satisfaction (comprehensive)	Quarterly survey covering overall experience, trust, clarity, perceived safety, ease of use, and open-ended feedback	Quarterly survey administered to active users	As deemed to be appropriate taking into account various patient, and condition-specific factors	Monthly aggregate to OAIP; qualitative themes quarterly

Medication adherence (pharmacy-side)	Refill timeliness and pickup rates as objective adherence indicators	Surescripts pharmacy dispense and pickup records (where available)	Medication Possession Ratio	At the end of pilot
Medication adherence (patient self-report)	Patient-reported missed doses, intentional non-adherence, and adherence barriers	Post-refill check-in responses	MARS-5 or equivalent	At the end of pilot

D.4 Operational and Access Metrics

Metric	Definition	Data Source	Calculation	Reporting Frequency
Refill volumes	Total refill requests processed, broken down by medication and outcome (approved, escalated, declined)	Refill-interaction records	Count by medication × outcome; Ratio of escalated cases to total cases by category	Monthly to OAIP
Cost data	average cost per refill, total platform costs, comparison to conventional refill costs	Finance logs; refill-interaction records	.	End of Pilot

Equity data	Refill outcomes, escalation rates, satisfaction scores, and access patterns broken down by racial, ethnic, linguistic, geographic, and socioeconomic groups	Patient demographic data; refill-interaction records; satisfaction surveys	Stratified analysis across all primary metrics by demographic group	At the end of pilot
Return-use frequency	Frequency and patterns of patients returning to the service over time	Refill-interaction records	Distribution of return visits per patient; time between visits	At the end of pilot
Age distribution	Aggregate distribution of user ages at first and return uses	Identity verification records	Histogram / percentile distribution	At the end of pilot
Request timing distribution	Aggregate distribution of time-of-day and day-of-week of refill requests	System timestamps	Histogram by hour and day	At the end of pilot
Geographic distribution	De-identified and aggregated geographical location of patients or filling pharmacies	Identity verification data; pharmacy transmission records	ZIP code	At the end of pilot
Complaint volume and resolution	Complaint volume, categories, and resolution outcomes	Complaint tracking system	Count by category; resolution time; resolution outcome	At the end of pilot

Random case sampling	De-identified samples of approved and escalated refill cases	Refill-interaction records	Random sample as deemed statistically significant	Quarterly
Reviewing provider qualitative insights	Narrative feedback from reviewing healthcare providers on AI performance, edge cases, and system behavior	Healthcare provider review interface; structured feedback forms	Qualitative summary	Quarterly

D.5 Incident-Specific Metrics

Metric	Definition	Data Source	Reporting Frequency
Incidents of harm	Any adverse patient outcome that may be attributable to or associated with an AI-authorized refill	Incident investigation records	Reported in end-of-pilot report; critical incidents reported per investigation timeline below
Legal actions filed	Any legal action filed in connection with the pilot	Legal records	Reported in end-of-pilot report

D.5.1 Incident Investigation Timelines

Severity	Timeline for Initiation of Preliminary Root Cause Analysis
Critical (serious patient harm)	Within 24 hours
Non-critical	Within 7 days

D.6 End-of-Pilot Report

Not later than 30 days after the end date of the Agreement, August AI submits a written report to OAIP describing:

- Overview of deployment and use
- Any incidents of harm
- Legal actions filed
- Complaints received

Appendix E - Technical Architecture and Security Summary

E.1 System Architecture Overview

E.1.1 Platform Access

- **Modalities:** Web application and mobile application (iOS and Android)
- **Availability:** Around the clock, without scheduling constraints
- **Language support:** English at launch; Spanish as first non-English language (introduced in controlled, language-by-language manner; may be rolled back if quality thresholds are not met)

E.1.2 High-Level Component Description

August's clinical engine is a multi-agent system in which specialized AI modules handle discrete clinical functions: structured medical interviewing, differential diagnosis, medication review, and treatment plan generation. Each module is powered by one or more foundation models (closed-source and open-source) arranged in a consensus architecture, where outputs are cross-validated across agents before surfacing to the patient.

These clinical modules operate within a layer of distilled guardrail systems that enforce hard constraints: drug interaction checks, contraindication flags, formulary compliance, and scope-of-practice boundaries. Separate integration subsystems connect this core engine to external data sources (EHR records, patient-uploaded lab results) and to human healthcare providers.

The system is co-developed with a continuous validation framework consisting of three tiers: (1) established medical AI benchmarks (USMLE, MedQA, etc), (2) a library of clinically validated edge cases developed with licensed healthcare provider collaborators, and (3) synthetic patient simulations that stress-test the system's behavior across demographic, acuity, and comorbidity axes before any patient-facing deployment.

E.2 External Integrations

Integration Partner	Purpose	Data Exchanged	Direction
Clear or ID.me	NIST IAL2-compliant identity verification; age verification	Patient identity data; verification result	Bidirectional
Surescripts	Primary external prescription verification; prescription reconciliation; pharmacy dispense/pickup records (for adherence measurement where available)	Patient identity (for query); prescription records (medication, strength, dosing schedule, prescriber, status, refill history)	Bidirectional (query and response)
Pharmacy systems	Prescription transmission for authorized refills; pharmacist escalation pathway	Authorized prescription data; AI-assisted origin flag; pharmacist escalation communications	Bidirectional
Patient-authorized EHR sources	Optional lab and monitoring data import	Lab results, vitals, and other monitoring data as authorized by patient	Inbound to August AI
988 Suicide and Crisis Lifeline	Crisis referral (informational link, not system integration)	None (patient directed to external resource)	Outbound referral only

E.3 Data Storage and Records

E.3.1 Refill-Interaction Record

For each refill request, the platform creates a **limited refill-interaction record** (not a full longitudinal EHR). Indicative contents may include:

- Patient identity-verification status
- Prescription-verification information
- Medication requested (dose, frequency, route)
- Patient-reported information: indication, efficacy, side effects, allergies, current medications/supplements, symptom changes
- Results of safety checks (interaction/contraindication screening)

- AI recommendation
- Escalation details (if any)
- Licensed healthcare provider review or override details (if any)
- Status of prescription transmission to pharmacy

Every decision point is logged for traceability and reviewability.

E.3.2 Data Retention

- **During the pilot:** Data retained for clinical safety, licensed healthcare provider oversight, quality assurance, and regulatory reporting
- **After the pilot:** Data retained, deleted, or de-identified in accordance with applicable legal, clinical, compliance, and reporting obligations
- **Patient deletion requests:** Honored to the extent permitted by applicable law and consistent with patient safety, licensed healthcare provider oversight, auditability, complaint handling, and regulatory reporting; records that must be retained are kept for the required period and then deleted or de-identified

E.4 Privacy and Compliance

Requirement	Status / Commitment
HIPAA compliance	August AI commits to operating the pilot in a HIPAA-compliant manner
Data sale prohibition	Patient data will not be sold
Advertising prohibition	Patient data will not be used for advertising or shared with third parties for advertising purposes
Internal data use	Data may be used internally to operate, monitor, safety-test, and improve the product, consistent with HIPAA
External health data use	Limited to the minimum necessary for refill evaluation; use disclosed to the patient
Patient data access	Patients may request a copy of refill history and refill-interaction records (subject to identity verification and applicable law)
Patient data deletion	Patients may submit deletion requests, honored to the extent permitted by law

Regulatory disclosures	Before clinical engagement, August AI discloses: company name and contact; that the user is interacting with generative AI per Utah Code §13-77-103; data use and sharing practices; right to contact OAIP and file a complaint
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E.5 Identity Verification Architecture

Component	Detail
Provider	Clear or ID.me
Standard	NIST IAL2 compliant
Scope	Identity verification, age verification, duplicate-account prevention
Timing	Completed before any clinical processing begins
Cost	No additional fee to the user or to the State of Utah
Residency verification	Combination of identity verification data, network location, and explicit patient attestation

E.6 Audit Logging

- Every hard stop, escalation, licensed healthcare provider override, and final disposition is logged
- Refill-interaction records are available to reviewing licensed healthcare provider
- Aggregate data is reported to OAIP monthly
- De-identified random samples of approved and escalated cases are shared with OAIP monthly
- Incident investigations include full audit of the AI's decision trail, data inputs, screening outputs, licensed healthcare provider review, and patient clinical timeline

