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(REVIEW ARTICLE)

FROM SOCIAL MEDIA TO PRIMARY CARE: PREVENTING HARM FROM UNSUPERVISED GLP-1–BASED WEIGHT-LOSS THERAPIES—AN INTERPROFESSIONAL CRITICAL NARRATIVE REVIEW OF CLINICAL SCREENING, MEDICATION SAFETY, AND PATIENT EDUCATION

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ABSTRACT

Background: Incretin-based treatments have expanded the options for evidence-based obesity care. At the same time, prominent social-media discussion and commercial promotion have raised questions about the quality of medication information, the reliability of online supply, and patients' ability to use unfamiliar preparations safely. Ordinary adverse reactions to appropriately prescribed treatment must be distinguished from preventable errors associated with inadequate assessment, dispensing, or follow-up.

Objective: To examine how digital information and medication-use vulnerabilities intersect in obesity care, and to identify practical opportunities for prevention across family medicine, nursing, and clinical pharmacy.

Approach: This critical narrative review draws on selected clinical trials, observational studies, social-media content analyses, online-purchase investigations, medication-safety reports, and regulatory and practice guidance available through 28 October 2026. Sources were interpreted in light of their designs and limitations. The search was targeted rather than exhaustive; neither systematic screening nor a PRISMA selection process was undertaken.

Synthesis: Studies of online content report incomplete disclosure of risks and variable clinical accuracy, although exposure to misleading posts has not been shown to cause patient injury. Test-purchase investigations document unreliable vendors and products with discrepant content. Regulatory agencies have also described dosing errors involving compounded injections, including confusion between milligrams, milliliters, and syringe markings. Gastrointestinal symptoms, volume depletion, and biliary complications are recognized clinical concerns, but the contribution of poor supervision is difficult to quantify. Early pharmacy and education studies offer useful service models, with limited evidence on preventable harm as an endpoint.

Clinical implications: Primary-care encounters offer opportunities to ask about treatment obtained outside usual services, inspect the actual product and device, reconcile dose and concentration, assess symptoms, and confirm patient

understanding through demonstration. The proposed SAFE-GLP-1 pathway assigns these tasks to a coordinated physician–nurse–pharmacist team; its effectiveness has not been tested.

Conclusion: Responsible prevention should support access to indicated obesity treatment while addressing avoidable failures of verification, administration, and monitoring. Prospective studies are needed to establish which interprofessional safeguards improve patient-important safety outcomes.

Keywords: Glucagon-Like Peptide-1 Receptor Agonists; Obesity; social media; Medication Safety; Primary Health Care; Pharmacovigilance; Patient Education; Interprofessional Relations.

1 INTRODUCTION

Obesity is a chronic, relapsing disease whose consequences extend across cardiovascular, metabolic, musculoskeletal, and psychosocial health. Treatment has changed rapidly. GLP-1 receptor agonists and dual glucose-dependent insulinotropic polypeptide/GLP-1 receptor agonists now offer levels of weight reduction that were rarely achieved with earlier pharmacotherapy. Yet the arrival of more effective medicines has not removed the need for sustained clinical care. The World Health Organization's 2025 guidance places incretin therapy within comprehensive obesity management, pairing its conditional recommendation with attention to nutrition, physical activity, and professional support. [1]

Large randomized trials explain much of the interest in these agents. STEP 1 demonstrated substantial weight reduction with semaglutide 2.4 mg alongside lifestyle intervention in adults with overweight or obesity without diabetes. SURMOUNT-1 established similarly important efficacy for tirzepatide within a defined trial population and treatment protocol. Participants in both studies received structured dosing and follow-up. Those results cannot, by themselves, answer what happens when a patient purchases an unverified vial, changes a dose without advice, or has no clinician to contact when adverse effects develop. [2] [3]

Prescribing guidance has continued to evolve with the evidence. The 2026 American College of Physicians living guideline supports semaglutide and tirzepatide as pharmacologic options for appropriately selected nonpregnant adults, alongside lifestyle modification. Individual treatment decisions still depend on indications, comorbidities, adverse effects, patient preferences, affordability, and continuity of supply. Rather than setting medication efficacy against medication safety, the question for primary care is how to preserve the safeguards that make effective therapy more reliable in everyday practice. [4]

1.1 Digital information and expectations

Social media has become part of how patients learn about obesity treatment. It gives people access to first-hand accounts of costs, gastrointestinal symptoms, weight change, and interactions with health services. The same formats, however, favor short, memorable messages over careful explanations of eligibility and monitoring. In an analysis of 218 Spanish-language TikTok videos about semaglutide, 155 (71%) did not discuss treatment risks. This is an observation about a sampled set of videos, not an estimate of the proportion of users who were misinformed or harmed. [5]

The problem extends beyond a single platform. Propfe and Seifert documented inaccurate representations of semaglutide across Instagram, TikTok, X, Facebook, and YouTube. In a separate analysis of 194 TikTok and YouTube Shorts videos, Yoon and colleagues found limited clinical accuracy and higher coded hazard potential on TikTok, largely related to promotion of compounded preparations. Importantly, the difference in directly unsafe clinical advice was not statistically established. Neither study followed viewers to determine whether a post influenced purchasing, dosing, or subsequent illness. [6] [7]

Patients' online conversations should not be reduced to a catalogue of false claims. A mixed-methods analysis of 2,500 US Facebook posts captured discussion of benefits, adverse effects, access, and public attitudes. Another study of prominent TikTok material found that popularity was an unreliable guide to information quality. A useful consultation therefore begins with curiosity—what has the patient read or watched, and which part mattered to their decision?—rather than an assumption that online information has necessarily led them astray. [8] [9]

Patient-level data offer a useful counterpoint to platform studies. In an Al-Ahsa survey conducted in 2026, 62.1% of 718 adults named social media as a source of information about weight-loss injections, while 8.5% reported current or previous use. Participation was online and the sample was not population-representative. The findings are best read as evidence that social media is prominent in this group's information environment; they do not quantify unsupervised treatment or establish a connection with adverse events. [10]

In a different Saudi survey, 60.2% of 651 respondents reported seeking medicine-related information through social networks. Because the survey concerned medication information broadly, its observations must not be presented as GLP-1-specific rates. Together, these studies justify asking how digital information enters treatment decisions in Saudi primary care. They do not provide grounds for asserting the national prevalence of unsafe incretin use. [11]

1.2 Clinical problem and rationale

The hazards considered here arise at different points in a patient's journey. A persuasive testimonial may shape expectations; an unauthorized seller may supply a product of uncertain identity; a multidose vial may require calculations unfamiliar to the patient; and poor access to follow-up may delay care for serious symptoms. Evidence for these steps comes from different disciplines and cannot be collapsed into a single causal estimate. Media studies examine claims; test purchases assess sellers and products; trials describe medicine effects under defined conditions; and safety surveillance identifies events that require attention.

This fragmentation is precisely where primary care has a role. Family physicians can establish the indication, assess comorbidity, and respond to acute illness. Pharmacists can resolve discrepancies in medicine identity, formulation, and dose. Nurses can observe administration technique and reinforce symptom-monitoring and follow-up plans. The clinical value of linking these activities is plausible, but the combined pathway remains an intervention to evaluate, not an established standard.

1.3 Aim of the review

Our aim is to bring together clinically relevant work on online promotion, medication sourcing, recognized adverse reactions, preventable administration errors, and team-based patient education. We distinguish observations from explanations proposed by investigators and from clinical actions inferred from existing guidance. The final section sets out a practical interprofessional model as a research proposition.

2 NARRATIVE REVIEW APPROACH

Design. A critical narrative review was chosen because the question crosses several literatures with markedly different methods: obesity treatment trials, pharmacovigilance, social-media research, online pharmacy investigations, regulatory guidance, and service evaluations. A pooled estimate would obscure rather than resolve that heterogeneity. The presentation was informed by the SANRA criteria for narrative reviews, particularly explicit aims, identifiable sources, balanced reasoning, and appropriate use of data. [12]

Source identification. During preparation of the manuscript, targeted searches of publicly accessible PubMed records and linked article pages were supplemented with official guidance from the WHO, US Food and Drug Administration (FDA), European Medicines Agency (EMA), Saudi Food and Drug Authority (SFDA), and selected professional guidelines. Search terms included semaglutide, tirzepatide, incretin, social media, influencer, TikTok, online pharmacy, compounded medicine, falsified medicine, medication error, dose, pharmacist, nurse, and primary care. Publications relevant to the current clinical environment were prioritized, with foundational trials retained. The information cutoff was 28 October 2026. Search results were not prospectively logged as a systematic database search.

Approach to interpretation. Sources were selected to illuminate treatment benefit, digital communication, product procurement, medication-related events, and possible preventive responses. We report numerical results with their populations and study designs rather than combining incomparable estimates. Regulatory communications are used to describe warnings and reported safety problems; they do not supply the denominators required to calculate incidence. Where the literature evaluates knowledge, satisfaction, or documentation, we avoid substituting those outcomes for clinically confirmed prevention of harm.

Limits of the method. This is not a systematic or scoping review. We did not undertake a comprehensive search across Embase, Scopus, CINAHL, and Web of Science, prespecify eligibility decisions, use independent duplicate screening, or construct a PRISMA flow diagram. Formal risk-of-bias grading was not performed. Consequently, this article cannot establish the completeness of the evidence base or the frequency of a given finding across all studies. No participants were recruited and no identifiable individual-level data were collected for this review.

Definitions. We use 'unsupervised' to describe treatment undertaken without adequate clinical assessment, safe prescribing, or appropriate monitoring, while recognizing that these failures can occur separately. A compounded medicine is not necessarily falsified or unlawfully supplied; its status depends on the formulation and jurisdiction. Evidence-based off-label prescribing is also distinct from self-medication. Similarly, 'digital influence' describes a potential contribution to patients' beliefs and choices, not proof that social-media exposure caused an adverse event.

3 CRITICAL EVIDENCE SYNTHESIS

The evidence is considered according to the clinical question each source can answer. Particular attention is given to the difference between reported behavior, directly measured product defects, pharmacologic adverse reactions, and intervention outcomes. The tables summarize representative sources; they are not the result of exhaustive study selection.

3.1 Social-media content and treatment expectations

Across independent samples, short-form videos about incretin therapy often provide little information about the conditions for safe prescribing. Campos-Rivera and colleagues reported risk omission in 155 of 218 Spanish-language TikTok videos, while Propfe and Seifert described recurring inaccuracies across several platforms. Yoon and colleagues found that the apparent difference in hazard potential between TikTok and YouTube Shorts largely reflected their prespecified classification of compounded-product promotion. That definition matters: an elevated content-hazard score is not the same outcome as a documented medication injury. [5] [6] [7]

The attraction of online narratives is not difficult to understand. Patients may find practical advice and reassurance from people describing experiences similar to their own. Success stories, however, rarely provide the clinical context needed to interpret weight loss, treatment interruption, or side effects. The Facebook analysis illustrates this range of discussion, including affordability and access. Future studies would be more informative if they linked what people actually encountered online with their understanding, treatment decisions, and verified subsequent care. [8]

3.2 Unsupervised access and product authenticity

The question of where a medicine comes from has a firmer evidentiary basis than many claims about online influence. Ashraf and colleagues investigated vendors offering semaglutide without prescriptions and made a small number of test purchases. The investigation documented problematic sellers, nondelivery, and product-quality concerns. It demonstrates that unsafe acquisition channels exist, but the design does not estimate how frequently patients use them. Nor should its findings be extended to legitimate telehealth care, in which identity verification, clinical evaluation, licensed dispensing, and follow-up can all occur remotely. [13]

Product integrity is not merely a concern about suspicious websites. In 2024, the WHO alerted countries to falsified semaglutide detected within regulated supply chains. The FDA has separately described quality, labeling, and safety concerns involving certain unapproved or compounded GLP-1 products, including semaglutide salt forms that differ from the active ingredient used in approved formulations. It is important to retain regulatory distinctions: lawful compounding is not equivalent to counterfeiting, and the safety and approval status of a preparation must be assessed in its specific jurisdiction. [14] [15]

The regulatory context can change quickly. In February 2025 the FDA announced that the US shortage of semaglutide injection products had resolved, with consequences for some shortage-related compounding policies. That decision cannot be assumed to govern dispensing or compounding in Saudi Arabia. When a patient presents with an unfamiliar preparation, the practical priority is to examine its packaging, origin, concentration, and device with a pharmacist who can check current local requirements. [16]

A fuller report of the same Ashraf-led online-market investigation, published in JMIR, described the evaluation of 1,080 search-result links, 59 identified illegal pharmacy sites, and six attempted test purchases. Three delivered vials contained measured semaglutide concentrations 28.56%–38.69% above their labels. These measurements substantiate quality discrepancies in those specific products. The JAMA Network Open and JMIR publications should be recognized as related reports of an overlapping investigation, not counted as two independent studies. [13] [17]

3.3 Medication-related adverse events and preventable administration errors

Adverse reactions also occur when treatment is appropriately prescribed and monitored. Nausea, vomiting, diarrhea, and treatment discontinuation because of gastrointestinal symptoms were observed in the pivotal semaglutide trials. Those findings establish important counseling needs, but they do not measure the additional risk associated with an inaccurate online instruction or an unverified injection. For an individual patient, symptoms should prompt assessment of dose, hydration, concomitant medicines, comorbid disease, and product identity rather than an automatic assumption of misuse. [2]

A meta-analysis of 76 randomized trials found an association between GLP-1 receptor agonist use and gallbladder or biliary disease, with risk varying by indication and treatment characteristics. A claims-based investigation of medicines used for weight loss also reported associations with pancreatitis, gastroparesis, and bowel obstruction compared with an active comparator. Interpretation of the latter study requires care because of residual confounding, case definitions,

and relatively uncommon events. These sources support attention to persistent severe abdominal pain and vomiting; they do not establish that online promotion causes such outcomes. [18] [19]

Some medication-use errors have a more readily identifiable mechanism. The FDA has described five- to twenty-fold overdoses involving compounded injectable semaglutide, including mistakes when converting a prescribed amount in milligrams into syringe markings for a preparation of variable concentration. In a clinical encounter, asking only 'What dose do you take?' may miss the problem. The team needs the concentration, the device, the volume administered, and, where possible, a demonstration using the dispensed product. Regulatory case reports identify the vulnerability, although they cannot estimate its population incidence. [20]

Medication-specific information must remain distinct. Current US semaglutide weight-management labeling identifies contraindications including personal/family history of medullary thyroid carcinoma or multiple endocrine neoplasia type 2 and prior serious hypersensitivity, with warnings about acute pancreatitis, gallbladder disease and dehydration-associated kidney injury. The semaglutide label directs discontinuation at least two months before planned pregnancy; tirzepatide labeling adds a precaution about reduced efficacy of oral hormonal contraceptives after initiation and dose escalation, with a recommended backup or nonoral method for four weeks. Screening must therefore inspect the exact molecule, formulation, indication and current local label rather than rely on an undifferentiated “GLP-1 class checklist.” [21] [22]

Emerging signals should be updated when regulatory consensus changes. In June 2025, the EMA pharmacovigilance committee concluded that non-arteritic anterior ischemic optic neuropathy (NAION) is a very rare semaglutide adverse reaction; a Saudi SFDA-approved healthcare-professional communication in September 2026 addressed corresponding local label updates and urgent assessment of visual symptoms. These are semaglutide-specific communications and should not be generalized without evidence to all incretin therapies. The association also should not be rebranded as a complication uniquely caused by self-medication. [23] [24]

Pediatric exposures present a different set of questions. A US poison-center analysis of GLP-1 receptor agonist exposures from 2017 to 2024 compared reports involving children and adults, including dosing errors and other circumstances of exposure. Poison-center reports are useful for identifying patterns that merit further investigation, but reporting is selective and does not capture every exposed patient. Adolescents receiving appropriately indicated treatment should be considered separately from children experiencing accidental exposure or young people obtaining medicine without supervision. [25]

3.4 Risk identification in family medicine

A useful medication history makes room for information that the routine prescription list may miss. Instead of asking only whether the patient is 'taking Ozempic,' the clinician might ask about any pen, vial, tablet, 'peptide,' or weight-loss injection obtained through a clinic, pharmacy, friend, or website. Ask to see a photograph or the package when available. Record the patient's account of the name, concentration, dose, last administration, and source; distinguish that account from information verified independently. A neutral approach is especially important when the medicine was obtained outside usual care.

Clinical assessment should establish indication, age, BMI and associated complications; weight trajectory and goals; diabetes treatment, particularly insulin and sulfonylureas; current and prior obesity medicines; kidney vulnerability and reduced fluid intake; gastrointestinal and gallbladder history; previous pancreatitis; reproductive plans; and product-specific contraindications. Ask what was actually injected or swallowed, when, and in what quantity. For imported or compounded products, the patient should be invited to show the box, vial label and device. Examination and laboratory testing should answer clinical questions rather than become universal screening without justification. [4] [21] [22]

When symptoms are present, triage should focus on severity rather than on whether the medication was obtained appropriately. Persistent vomiting with inability to retain fluids, symptomatic volume depletion, severe or progressive abdominal pain, jaundice, altered consciousness, severe hypoglycemia and sudden visual loss warrant prompt evaluation according to clinical acuity. Medication discontinuation or escalation decisions require assessment of differential diagnoses, the exact product and local protocols. Many of these red flags derive from existing drug labeling and general clinical safety practice, not from prospective validation of a GLP-1-specific primary-care risk score.

3.5 Clinical pharmacy and medication safety

Medication reconciliation becomes more consequential when the product is unfamiliar. A clinical pharmacist can confirm the intended agent, indication, prescribing and dispensing route, concentration, device, schedule, and concurrent glucose-lowering treatment. For a vial, syringe 'units' cannot be interpreted safely without knowing concentration and calibrated volume. Duplicate incretin treatment, overly rapid dose escalation, and unsuitable

substitutions also warrant attention. FDA reports on dose-calculation errors and unapproved preparations make these checks concrete, although no trial has yet established the clinical effect of this proposed verification bundle. [20] [15]

Emerging outcome studies suggest potential value in pharmacist integration, while stopping short of proving prevention of harm. In a US retrospective primary-care cohort, Johnson and colleagues reported better documented outcomes among patients co-managed by embedded pharmacists than physician-only management, but incomplete outcome documentation was markedly imbalanced between groups and the between-group difference was not significant after undocumented cases were removed. Another 2026 study documented pharmacist contributions to prior-authorization workflows, dose clarification and treatment access; it did not experimentally test an anti-misinformation intervention. The strongest claim is feasibility and possible process value, not established superiority of a SAFE-GLP-1 intervention. [26] [27]

Pharmacovigilance should capture more than a broad label of 'GLP-1 adverse event.' Useful details include product and formulation, source and batch when available, prescribed versus administered dose, timing, concomitant medicines, symptoms, examination findings, and the clinical assessment of causality. Where a medication error or suspected defect is identified, reporting through the relevant local pathway can support wider safety surveillance. The number of spontaneous reports is strongly affected by reporting behavior and should not be interpreted as the rate of an adverse reaction among treated patients.

A 2026 cross-sectional questionnaire among 200 Irish community pharmacists describes relevant real-world educational activity and its gaps. Respondents commonly counseled on storage, injection administration, adverse effects and sharps disposal; counseling on nutrition and contraception was less consistent, and time pressure was frequently reported. These data document pharmacist-reported practice, not independently observed counseling quality or reduction in patient harm. The results help identify components requiring standardized pharmacist–nurse handoff, particularly contraception, safe dose administration and troubleshooting. [28]

A retrospective US outpatient comparison of 128 patients with type 2 diabetes reported improved glycemic outcomes in a pharmacist-managed group (24 patients) compared with usual care (104 patients) after initiation of GLP-1 or GIP/GLP-1 treatment. Nonrandom allocation, small treated-group size, differing care intensity and diabetes rather than weight-loss eligibility prevent causal attribution or extrapolation to prevention of harm from unauthorized products. This study complements, but does not replace, evidence on pharmacist-supported access and medication optimization. [29]

3.6 Nursing education and follow-up

Patient education becomes most useful when patients can demonstrate what they have understood. Nurses are well placed to review the reason for treatment, anticipated effects, injection technique, safe storage, and a response plan for missed doses or concerning symptoms. Teaching should use the actual device and current product instructions, with time for the patient to show how the dose is selected and explain when to seek help. A completed education checklist is less informative than a successful demonstration. The proposed nurse–pharmacist teaching sequence is clinically reasonable but has not been established as an injury-prevention intervention in GLP-1 users.

The first weeks of treatment, dose escalation, and changes between products or devices deserve particular attention. A structured nursing contact can identify persistent vomiting, inadequate fluid intake, difficulty obtaining supplies, or uncertainty about the next dose, and then connect the patient promptly with the prescriber or pharmacist. Nutritional counseling should be individualized; marked restriction, low protein intake, or difficulty maintaining strength may call for a dietetic assessment. The 2026 American Diabetes Association guidance discusses nutrition and physical activity during obesity pharmacotherapy. [30]

The relevant patient-centered outcome is not simply “knowledge gained.” More discriminating outcomes include correctly demonstrated dose, safe storage and handling, identification of urgent symptoms, appropriate access route and continued care following an adverse event. Clinical trials of nursing-led GLP-1 harm-prevention pathways were not established by the preliminary source search and therefore remain a key target for comprehensive review. Evaluations should document language, literacy, disability accommodations and the acceptability of follow-up to avoid an approach that improves documentation without improving patient safety.

Evidence from education research illustrates both the promise and the limits of digital support. In an Irish feasibility randomized trial, 43 patients starting semaglutide received either a clinician-validated digital-avatar tutorial or nurse-delivered teaching. Immediate knowledge scores were higher after the digital tutorial, while participants expressed greater trust and satisfaction with nurse-led care; self-efficacy did not differ significantly. The trial was small, and medication errors or subsequent adverse events were not established as improved outcomes. A hybrid model combining reliable digital material with accessible clinicians deserves evaluation. [31]

3.7 Digital health literacy and misinformation response

When a patient brings up a social-media claim, a short, specific discussion is generally more productive than a lecture about misinformation. The claim may concern how quickly weight will return, whether monitoring is needed, or whether a 'custom' vial is safer than an approved product. Clinicians can ask what appealed to the patient, explain the relevant evidence and uncertainty, and point to a trustworthy source that the patient can revisit. The conversation should leave the patient knowing which decisions require advice from a qualified prescriber.

Metrics for evaluating digital education should extend beyond views and satisfaction. A pragmatic study could compare standard counseling with a short, co-designed verification module and measure confidence in distinguishing licensed pharmacies from questionable sellers, accuracy of dose interpretation, intended consultation before dose changes and observed adverse events. Self-reported behavior is particularly susceptible to desirability bias, while emergency department utilization is influenced by access, underlying morbidity and local care-seeking practices. A mixed-methods approach may reveal unanticipated harms, such as stigma that deters patients from disclosing online purchases.

3.8 Integrated primary-care workflow

Interprofessional care will be judged by its handoffs, not by how many professions are listed on a pathway. Family physicians retain responsibility for indication, clinical assessment, prescribing, and urgent triage. Pharmacists bring formulation and dose verification, interaction review, dispensing expertise, and safety reporting. Nurses connect the written prescription to actual administration, monitor symptoms, and arrange appropriate follow-up. For each discrepancy, the team needs a named recipient, a documented decision, and confirmation that the patient has received an understandable plan.

Consider a hypothetical presentation: a patient requests continuation of a regimen described in a widely shared video and brings a multidose vial without legible concentration information. The nurse documents what the patient says they inject and assesses technique without attempting a dose conversion. The pharmacist checks whether the medicine and source can be verified. The physician addresses symptoms and determines whether supervised treatment can safely continue. A single reconciled record and explicit follow-up instructions are more useful than three disconnected notes. This example illustrates workflow design; it is not a clinical case series.

Continuity also includes a respectful decision not to prescribe when the requested treatment is inappropriate. The team should explain the clinical rationale, discuss alternative evidence-based obesity care and identify what further information would change the decision. Disagreement should not break the therapeutic relationship: a patient who continues an unverified product may still benefit from monitoring, harm-reduction education and a safe route back into supervised care.

The proposed pathway is not the first call for multidisciplinary incretin stewardship. A 2026 consensus exercise involving representatives of 21 US health systems described pharmacy leadership, communication, education, and monitoring as important components. SAFE-GLP-1 is deliberately narrower: it focuses on the primary-care encounter in which a patient reports an online-promoted treatment, an uncertain product, or a possible dosing error. Whether this focus improves outcomes compared with other approaches remains a question for research. [32]

3.9 Interpreting evidence without conflating exposure and harm

A central challenge for future studies is defining the exposure. 'Unsupervised use' could refer to purchasing without a prescription, inadequate clinical evaluation, self-directed escalation, unsafe handling of a legitimate preparation, or an error occurring despite proper supervision. Those circumstances overlap but need not carry the same risks. Social-media exposure is similarly diverse: peer support, an advertisement, clinical education, a celebrity testimonial, and an illegal purchasing link should not be treated as interchangeable.

Outcomes require equal precision. A self-reported episode of nausea, a verified dosing error without symptoms, a diagnosed episode of pancreatitis, and an adverse-event report submitted to a regulator answer different questions. An event occurring after treatment does not, on its own, prove that the medicine caused it. Studies should record time sequence and potential confounders, establish clinically meaningful definitions, and preserve the distinction between medication error, adverse drug reaction, and product defect.

The strongest near-term rationale for interprofessional work is mechanistic: questionable products can be inspected, dose discrepancies can be reconciled, and injection technique can be observed. Demonstrating that these steps prevent hospital attendance will require a different sort of evidence. Any evaluation of SAFE-GLP-1 should predefine clinically important outcomes and include independent assessment of suspected errors wherever feasible.

4 DISCUSSION AND CLINICAL TRANSLATION

What emerges from the literature is not one coherent risk estimate, but several partially connected bodies of work. Efficacy trials show how medicines perform under defined protocols. Content analyses describe the information patients may encounter. Investigations of online vendors document the quality of a few obtainable products. Poison-center and regulatory reports identify safety problems, while service studies show how clinicians may respond. The gap is the link between these observations: who encounters what information, what they subsequently use, and whether an avoidable clinical event follows.

The step most amenable to immediate action may be the point at which interest in a treatment becomes a particular purchase, device, and dosing routine. A pharmacist can check the provenance and concentration; a nurse can watch the patient select a dose; and a physician can assess symptoms that demand investigation. These are defined tasks with observable results. By contrast, attributing an excess risk of pancreatitis or renal injury to social-media exposure would require longitudinal exposure measures, valid comparison groups, and control of confounding. The currently cited studies do not provide that evidence. [20] [19]

Regulatory categories also affect what can reasonably be concluded. An approved medicine used according to its label differs from a legitimate off-label prescription, a legally compounded preparation, an unauthorized copy, or a falsified product. A patient can encounter more than one category over time. Product status should therefore be verified at the point of care rather than inferred from a brand name mentioned online. The regulatory rules that applied to US shortages, for example, cannot simply be transferred to Gulf jurisdictions. [16] [14]

4.1 Triage and clinical decision points

Dose reconciliation is especially vulnerable to assumptions. A patient who reports injecting '20 units' from a vial has not described a pharmacologic dose unless the concentration and syringe calibration are known. The same problem can arise when patients move between pens, vials, or products supplied by different services. Rather than reconstructing a dose from memory, the team should request the label, prescription, device, and administration record whenever available, and explicitly document what remains uncertain.

A three-level response may help organize care, although the categories themselves require local validation. Urgent assessment is indicated for severe persistent vomiting with dehydration, severe abdominal pain, altered mental status, or sudden visual loss. Less acute concerns—such as an unverified source, unclear dose escalation, potential interaction, or pregnancy planning—need timely review. Routine follow-up applies when indication, supply, device use, and monitoring are satisfactorily established. Specific thresholds must follow local emergency and referral arrangements; a proposed color-coded pathway is not a substitute for clinical judgment.

Not all prevention needs new laboratory panels. Baseline and subsequent investigations should be driven by diagnosis, renal and metabolic comorbidity, symptoms, known medication interactions and the specific prescribed agent. Routine laboratory surveillance applied indiscriminately may increase cost without demonstrated benefit, while missing an acute volume-depletion event can cause substantial harm. A decision-support tool would be useful only if it reduces omissions without producing excessive alerts or deterring appropriate treatment.

The distinction between a plausible safeguard and a proven intervention should remain visible throughout implementation. Clinical guidelines establish appropriate treatment choices, product labeling informs contraindication and dosing checks, and small education studies demonstrate selected learning outcomes. These sources justify testing an integrated safety encounter. They do not yet show that a SAFE-GLP-1 checklist reduces emergency visits or other patient-important outcomes. [4] [20] [31]

4.2 Stigma, equity and patient-centered communication

Patients who seek medication online may have faced limited appointments, cost barriers, prior experiences of weight stigma, or discouraging encounters with the healthcare system. These circumstances do not make an unknown formulation safe, but they help explain why a purely admonishing response is unlikely to work. Asking about a product in neutral language keeps the conversation open: What was supplied? How was the dose explained? What was the plan if symptoms developed? Such questions can identify danger without casting judgment on the person seeking care.

Numeracy deserves particular attention. Converting milligrams to milliliters and then to syringe markings is a multistep task; even patients with high general literacy may find it confusing. The safer option is not simply a longer leaflet. It is an explanation matched to the actual presentation, followed by observation of administration technique, in the patient's preferred language where possible. Research should measure these practical skills rather than relying only on a test of factual knowledge.

4.3 Relevance to Saudi Arabia and Gulf primary care

Saudi Arabia provides specific, although still limited, evidence of the regulatory and public-health issues discussed here. In March 2026 the Ministry of Health reported action against unregistered medicines and unauthorized sellers, including products promoted for weight reduction. In September 2026 the SFDA circulated a communication concerning non-arteritic anterior ischemic optic neuropathy (NAION) with semaglutide. Both are relevant to medication verification and safety communication. Neither provides a national estimate of unsafe incretin use or its clinical consequences. [33] [24]

The most useful Gulf-focused contribution may be a multicenter, Arabic/English patient pathway study spanning family medicine, community pharmacies and outpatient nursing services. It could measure medication acquisition channel, concordance between patient-reported and dispensed dose, social-media exposure, clinician documentation and follow-up completion. Cluster implementation or interrupted-time-series designs could test the addition of a shared verification and education bundle without withholding clinically necessary care. Regulatory status and formulary rules would need country-by-country checks at study initiation.

A hospital-based survey from Jeddah adds further Saudi patient experience. Among 365 respondents with previous anti-obesity medication exposure, Tobaiqy and colleagues described concerns relating to treatment information, perceived safety, and continuity. Selection through specific hospital settings and reliance on self-report limit generalizability. Together with the Al-Ahsa findings, this supports a multicenter study that documents the actual product, prescriber contact, patient understanding, and clinical outcomes rather than extrapolating from attitudes alone. [34]

Clinical implementation should be consistent with current obesity treatment guidance, not an alternative to it. Canadian 2025 pharmacotherapy guidance emphasizes individualization, integrated behavioral support and caution concerning unapproved compounded products. Contemporary regulatory labeling and 2026 American Diabetes Association standards further identify pregnancy-related considerations and medication-specific counseling requirements, including potential effects of tirzepatide on oral contraceptive absorption around initiation and dose escalation. These are reasons for product-specific review rather than assumptions that all incretin therapies share identical interactions. [35] [30]

4.4 Evidence limitations and boundaries

Several sources of uncertainty are easy to overlook when these literatures are read together. Popular videos are not the same as the content seen by an individual patient; a test purchase provides only a small sample of a larger market; spontaneous reports are shaped by reporting incentives; and clinical service evaluations may be affected by selection and documentation differences. Much of the literature is cross-sectional. These constraints preclude a pooled estimate of harm specifically attributable to social-media-influenced use.

There are limitations to this review as well. We selected sources for relevance rather than using an exhaustive search and a reproducible screening process. Non-English, subscription-only, unpublished, or less prominent studies may have been missed. We did not formally grade risk of bias, and the balance of studies discussed should not be interpreted as the balance of all studies available. The proposed clinical framework is accordingly presented as a hypothesis-generating synthesis, not a practice standard with demonstrated effectiveness.

4.5 Priorities for clinical research

Priority one is a prospective cohort of patients presenting after social-media-influenced medication seeking, with explicit measurement of online exposure, actual drug identity, acquisition source, dose, monitoring and clinically adjudicated outcomes. This would improve temporal ordering and distinguish online influence from downstream prescribing or administration problems. The design should include people who decide not to initiate treatment, improving ascertainment of alternative care pathways.

Priority two is a pharmacy-focused product- and numeracy-safety study assessing whether patients can translate written prescriptions into correct administration with the actual device. Independent verification of concentration and device is essential, and the study should stratify by commercial pen, legitimate compounded formulation and unverified product rather than pool unlike exposures. The outcome could be demonstrated dosing accuracy at initiation and after a device or dose change.

Priority three is a co-designed nurse-pharmacist-family-physician feasibility trial of a structured medication reconciliation, teach-back and telephone follow-up package. Feasibility outcomes should include reach, completion, fidelity, staff time and patient acceptability; later randomized or stepped-wedge trials could measure preventable medication errors, urgent-care encounters, quality of life and treatment discontinuation. Clinical deterioration should always trigger ordinary care; the trial should not randomize patients to unsafe monitoring.

Priority four is a regionally relevant investigation in Saudi Arabia and other Gulf settings that pairs Arabic-language social-media analyses with patient surveys, pharmacy source verification and observational clinical data. An independent ethics evaluation is necessary if researchers retain identifiable posts or patient-level records. Such triangulation would allow the review's conceptual arrows to be tested individually, rather than using platform content as a surrogate for actual exposure or harm.

4.6 Implementation and evaluation

An apparent service improvement may reflect more complete documentation or different follow-up intensity rather than safer treatment. In the US pharmacist co-management study, the interpretation of group differences depended in part on how missing outcome documentation was handled [26]. Future evaluations should use comparable ascertainment and clinically meaningful outcome definitions, with adjustment for baseline disease severity, medicine source, comorbidity, and access to care.

Feasibility will determine whether a protocol survives contact with routine practice. Medication packaging may be unavailable, patients may receive care from several services, and staff may not have time for lengthy counseling. Useful implementation measures include time per encounter, successful product verification, demonstrated dose accuracy, referral completion, and time from symptom report to assessment. Incident reporting should distinguish near misses from injuries; a fall in the number of reports could reflect under-reporting rather than better safety.

Patient involvement should be part of intervention design. People who have obtained medications from unregulated sources can explain why safety warnings were ignored, why some commercial claims seem credible, or why formal access was difficult. Their participation can improve the feasibility and tone of educational materials. A co-designed pathway should support appropriate medicine access and patient autonomy while being explicit about the hazards of unknown concentrations and unverifiable products.

4.7 Regulatory distinctions and product-quality uncertainty

The starting point for verification is the actual preparation, not the name used in an advertisement. An authorized product dispensed by a licensed pharmacy, a compounded medicine supplied under local rules, a falsified branded injection, and a product sold as a 'research peptide' carry different quality and legal concerns. Telemedicine should likewise be judged by clinical assessment, prescriber credentials, dispensing arrangements, and follow-up—not simply by whether it occurs online. SAFE-GLP-1 separates product provenance from dose verification because a medicine can be authentic yet administered incorrectly, or correctly measured yet of uncertain identity. [13] [15] [20]

Safety advice must be revisited as regulatory evidence develops. FDA warnings about compounded products concern variable concentrations, inappropriate escalation, and preventable administration errors. In a separate medicine-specific development, the EMA concluded in 2025 that NAION is a very rare adverse reaction to semaglutide, and the SFDA issued a related professional communication in September 2026. Patients reporting sudden visual loss require urgent assessment; if NAION is confirmed, current semaglutide-specific advice should guide discontinuation decisions. This signal should not be generalized uncritically to every incretin product. [15] [20] [23] [24]

4.8 End points for framework testing

Evaluation should concentrate on outcomes the pathway can plausibly change. Early measures could include verified medicine identity, detection and correction of dose discrepancies, successful device demonstration, and completed follow-up after treatment changes. More demanding endpoints include independently adjudicated administration errors, urgent assessment of severe symptoms, preventable overdose-related acute care, and patient-reported burden. Trial designs must account for the possibility that better surveillance initially increases recorded incidents without increasing actual harm.

Equity is part of safety, not an optional secondary consideration. A pathway built around smartphones and written instructions may work less well for patients with low digital confidence, language barriers, sensory or motor limitations, or restricted access to licensed products. Patients should help define acceptable questions about online medicine purchases. An Arabic–English pilot in Gulf primary care could test a brief source-and-dose screen, pharmacist verification, nursing demonstration, and a shared escalation plan before undertaking a larger effectiveness study.

The proposed framework differs from a broad pharmacotherapy stewardship program in scale and point of application. It is designed as a brief primary-care safety encounter when a patient discloses an online-promoted medicine, an uncertain formulation, or an unexpected adverse symptom. Its conceptual basis draws on documented dose errors and falsified-product concerns, existing patient-education practices, and recent multidisciplinary stewardship proposals; no direct effectiveness study has evaluated the four SAFE stages together. [20] [17] [28] [32]

4.9 Broader digital evidence and risk communication

Studies of large online discussion datasets widen the picture beyond short-form promotional videos. Javaid and colleagues examined 14,390 Reddit posts from 8,412 authors, identifying recurring discussion of access, administration, adverse effects, and perceived benefit. Somani and colleagues used language-model-assisted analysis of more than 390,000 discussions to describe related themes. Automated topic and sentiment classification can miss sarcasm and clinical context, and the corpora may overlap in their underlying communities. Neither analysis constitutes a verified patient cohort. [36] [37]

More exposure to GLP-1-related discussion does not necessarily translate into more favorable perceptions. In a Polish cross-sectional study of 279 adults, greater perceived credibility of social-media narratives was associated with less favorable treatment evaluation, while reported exposure showed a different pattern. The measurements were contemporaneous, making directionality uncertain. The findings argue against a simple assumption that all online attention drives enthusiasm or uptake. [38]

The wider pharmaceutical-marketing literature reinforces the need for caution. A 2026 scoping review of 12 studies on influencer promotion of prescription medicines identified recurring issues with sponsorship disclosure, misleading claims, and perceived trust. The review was not specific to incretin agents, however, and provides context for examining online communication rather than direct evidence of harm from GLP-1 therapy. [39]

5 SAFE-GLP-1: A PROPOSED INTERPROFESSIONAL PATIENT-SAFETY MODEL

SAFE-GLP-1 is proposed here as a brief clinical organizing tool for the patient whose treatment, source, or dose is uncertain. It combines familiar safety practices into four linked activities. It has not undergone feasibility testing or validation and should not be interpreted as a new risk score, formal guideline, or proven intervention. Some components follow drug labeling and established medication-reconciliation practice; the sequence and handoff rules are author-derived proposals.

- S — Screen for risk. The first clinician asks about medicine exposure, indications, acquisition route, dose changes, comorbidity, pregnancy-related considerations, concurrent treatment, and symptoms. Questions about information found online are used to understand the patient's decisions, not to assign blame. Urgent problems are assessed without delaying care for checklist completion.
- A — Assess medication safety. The pharmacist or appropriately trained prescriber checks the actual product, packaging, formulation, concentration, device, schedule, and potential duplication or interactions. If the preparation cannot be identified reliably, the uncertainty is documented and escalated. Familiar-sounding names are not accepted as evidence of pharmaceutical equivalence.
- F — Foster health literacy. A nurse and pharmacist provide information tailored to the prescribed preparation, ideally using demonstration and teach-back. Discussion covers realistic treatment expectations, dose escalation, storage, common adverse effects, warning symptoms, hydration and nutrition, and credible sources of advice. Understanding is checked by what the patient can explain and do.
- E — Establish interprofessional follow-up. The team agrees who owns the treatment decision, who will resolve a discrepancy, when the patient will be contacted, and how concerning symptoms will be escalated. The record should show that the plan reached the patient and that responsibility for any pending review was accepted. Suggested process outcomes include reconciled medicine records, demonstrated administration, completed follow-up, and time to clinical assessment after symptom reports.

Evidence and responsibilities. Existing labeling and medication-safety alerts support the need for source, concentration, and dosing checks; education research supports assessing understanding, although evidence on injury prevention remains limited. Recent pharmacy-service and stewardship publications are relevant to team communication. None has evaluated the four SAFE-GLP-1 stages together. Implementation should therefore begin with local agreement on prescribing authority, medicine verification, urgent referral, adverse-event reporting, and audit methods. The pathway must never delay emergency care or imply that an unidentified product is safe. [20] [26] [31] [32]

A reasonable evaluation program would begin with patient and staff co-design, then pilot practicality, acceptability, and dose-reconciliation accuracy. A later pragmatic or cluster-randomized study could assess independently adjudicated medication errors, acute-care use, treatment disruption, and unequal access to follow-up. Analyses should distinguish reactions attributable to the pharmacologic treatment from product-quality defects and avoidable administration errors. Without that separation, improved recognition could easily be mistaken for increased harm.

Table 1: Representative published sources and key interpretation limits

Representative source	Setting / design	Sample or evidence	Key directly reported observation	Relevance and limitation
Campos-Rivera et al., 2025 [5]	Spanish-language TikTok; content analysis	218 sampled videos	155/218 (71%) did not mention treatment risks.	Sampled content ≠ causal patient exposure.
Propfe & Seifert, 2026 [6]	Multiplatform content analysis	Instagram, TikTok, X, Facebook, YouTube	Frequent misrepresentation of indications and harms.	Cross-platform sample may change rapidly.
Yoon et al., 2026 [7]	TikTok and YouTube Shorts; cross-sectional	194 available videos	Higher potential-harm ratings on TikTok; compounded-product promotion contributed.	Coder-defined hazard; not actual adverse events.
Dennard et al., 2026 [8]	US Facebook; mixed methods	2,500 posts	Discussion encompassed benefits, harms, access and public narratives.	Posts not representative of individual patients.
Ashraf et al., 2024 [13]	Online pharmacy risk assessment/test purchase	Six selected no-prescription vendors	Risky supply channels, nondelivery and deficient products described.	Related to [17]; same investigation, not independent evidence.
Sodhi et al., 2023 [19]	Claims-based observational comparison	Semaglutide/liraglutide vs bupropion-naltrexone	Associations with selected gastrointestinal events.	Residual confounding; not a misuse study.
Johnson et al., 2025 [26]	US primary care; retrospective cohort	161 treated adults	Pharmacist co-management linked to improved outcome documentation.	Missing outcome data affected comparison.
Huddleston et al., 2026 [27]	US primary care; retrospective cohort	142 patients	Pharmacist roles in authorization, access and dose clarification.	Not evidence of reduced preventable harm.
Günaltay & Kartal, 2026 [9]	TikTok; cross-sectional content analysis	400 popular videos	Evaluated quality, reliability and themes across common GLP-1 hashtags.	Selection by popularity does not establish individual-level use.
Ashraf et al., 2024 [17]	International online pharmacy surveillance; laboratory analysis	1,080 links; 6 test purchases; 3 received vials	Received samples showed 28.56%–38.69% excess measured semaglutide vs label.	Expanded report of [13]; three selected vials, not a population estimate.
Alshamrani et al., 2026 [10]	Al-Ahsa, Saudi Arabia; online cross-sectional survey	718 adults	62.1% reported social media as an information source; 8.5% prior/current use.	Nonrepresentative, self-reported; cannot infer causation.
Tobaiqy et al., 2026 [34]	Jeddah, Saudi Arabia; hospital survey	365 participants	Information and treatment-safety concerns among	Selected sites; no causal exposure–harm analysis.

			people with anti-obesity drug experience.	
Demmel et al., 2026 [28]	Ireland; community pharmacist survey	200 questionnaires	Self-reported injection, storage and adverse-effect counseling; gaps in contraception advice.	Self-reported practices; no clinical harm endpoint.
Park et al., 2026 [29]	USA; retrospective diabetes outpatient comparison	128 total; 24 pharmacist-managed	Greater reported HbA1c improvement with pharmacy management.	Nonrandom; diabetes population; not adverse-event prevention.
Coleman et al., 2025 [31]	Ireland; feasibility randomized education comparison	43 semaglutide initiators	Digital education improved knowledge; nursing education higher trust/satisfaction.	Small trial; no medication error or clinical harm outcomes.
Pace et al., 2026 [32]	US health systems; consensus development	Workgroups from 21 health systems	Identified multidisciplinary incretin stewardship elements by Delphi consensus.	Consensus model; not clinical effectiveness evidence.
Javaid et al., 2024 [36]	USA-focused Reddit; retrospective NLP topic model	14,390 posts by 8,412 authors	Common topics included access, adverse effects and administration.	Online discussions and sentiment model; no exposure-to-harm linkage.
Somani et al., 2024 [37]	Reddit; large-language-model thematic analysis	>390,000 unique discussions	Themes encompassed treatment choice, side effects, access and perceived benefits.	Social-media dataset not clinically adjudicated; possibly overlaps other Reddit data.
Żurawski & Bartosiewicz, 2026 [38]	Poland; cross-sectional online survey	279 exposed adults	Perceived narrative credibility associated with less favorable therapy evaluations.	Convenience survey; directionality and causation cannot be inferred.
Gell et al., 2026 [39]	International; scoping review	12 articles on prescription drug influencer promotion	Mapped misinformation, sponsorship disclosure and parasocial narratives.	Indirect contextual evidence; not GLP-1-specific original clinical research.

Table 2: Digital exposure and clinical risk: observed evidence versus inference

Exposure	Observed concern	Example source	Interpretive limitation	Potential response
Short-form video	Risks absent or poorly explained	[5] [7]	Sampling and scoring differences.	Ask about online advice; correct specific misconceptions.
Personal stories	Benefit, harm and access narratives	[8]	Posts are not verified clinical records.	Elicit expectations and real barriers to care.
Platform promotion	Product indications misrepresented	[6]	Exposure to a post not equal to behavior.	Provide current indication and label information.
No-prescription online sales	Unverified products and nondelivery	[13]	Small nonprobability seller sample.	Verify pharmacy, packaging and product source.
Compounded product promotion	Elevated coded risk potential in selected videos	[7]	Does not measure treatment harms.	Review concentration, device and regulatory status.
Large-scale Reddit discussion and perceived credibility	Perceptions and treatment concerns vary; misinformation does not always increase demand	[36] [37] [38]	No individual-level longitudinal outcome ascertainment.	Ask which online claim was persuasive and assess the patient's actual treatment situation.

Table 3: Medication safety concerns, source type and prevention opportunities

Concern	Source and strength	Scope / uncertainty	Prevention considerations
Nausea, vomiting, dehydration	Trials and current labels [2] [21]	Established adverse effects; not proof of misuse.	Counsel, monitor intake and triage persistent severe symptoms.
Gallbladder/biliary events	RCT meta-analysis [18]	Association reported; varies by indication and dose.	Assess symptoms and arrange evaluation where indicated.
Pancreatitis, motility events	Observational analysis and labels [19] [21]	Causal magnitude differs by endpoint/design.	Recognize severe pain and prolonged vomiting.
Dose mismeasurement	FDA documented reports [20]	Reports do not define incidence.	Independent mg/mL check and device demonstration.
Falsified/unapproved supply	WHO/FDA alerts [14] [15]	Regulatory status varies by country/product.	Licensed source verification and escalation.
Reproductive safety	US product labels [21] [22]	Different molecule-specific instructions.	Discuss conception planning/contraceptive interactions.
NAION	EMA/SFDA semaglutide communications [23] [24]	Very rare, semaglutide-specific labeling action.	Urgent assessment for sudden visual disturbance.

Table 4: Proposed interprofessional responsibilities and handoffs

Stage	Family physician	Nurse	Clinical pharmacist	Closed-loop handoff
Screen	Indication, symptoms, contraindications	Collect exposure history and clinical red flags	Reconcile actual medication sources	Shared verified medication list.
Assess	Diagnostic evaluation and treatment plan	Observe use of actual device	Identify concentration/interaction/source discrepancies	One clarified dose and device plan.
Educate	Benefits/risks and alternatives	Teach-back, storage, technique, symptoms	Dose instructions and medication counseling	Document patient demonstration.
Follow up	Assess outcomes and urgent escalation	Check tolerance and follow-up	Report safety events and review changes	Named owner and escalation confirmation.

Table 5: Priority research questions and feasible study designs

Domain	Relevant selected evidence	Unresolved question	Feasible next design
Exposure → use	Content analyses [5] [7]	Do viewed claims lead to risky procurement?	Prospective survey-linked purchasing cohort.
Dose errors	FDA cases [20]	Does hands-on verification prevent errors?	Cluster trial of medication/device teach-back.
Pharmacist pathways	Retrospective primary care [26]	Do pharmacist checks reduce safety incidents?	Stepped-wedge implementation study.
Nursing follow-up	Guidance-based rationale [30]	What contact schedule detects harm efficiently?	Pragmatic randomized feasibility trial.
Saudi/Gulf systems	MOH/FDA regulatory notices [33] [24]	Prevalence and sources of unsupervised use?	Multicenter cross-sectional and nested cohort.
Saudi incretin exposure and decision-making	Al-Ahsa community survey (n=718), Jeddah user survey (n=365) [10] [34]	Measured online exposure, prescriber follow-up, formulation provenance and adjudicated harm absent.	Prospective primary-care cohort with product verification.
Injection education	Digital vs nurse-led feasibility trial (n=43) [31]	Clinical medication errors and serious adverse outcomes not measured.	Pragmatic nurse-led teach-back RCT or cluster trial.
Interprofessional stewardship	21-health-system Delphi consensus [32]	No comparative effectiveness data for SAFE-GLP-1.	Pilot hybrid effectiveness-implementation trial.
Causal link from online information to harm	Social listening plus cross-sectional surveys [36–38]	Few linked, prospective exposure–procurement–event datasets with verified product use.	Prospective multicenter cohort with exposure time-stamps, adjudicated medication source and clinical endpoints.

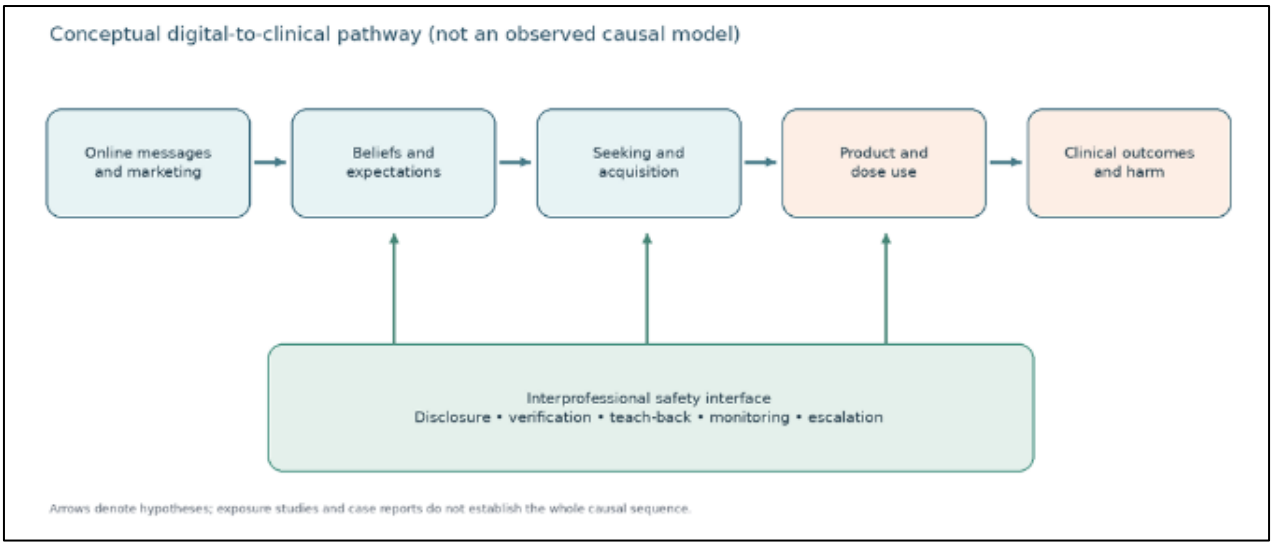

Figure 1: Conceptual digital-influence to clinical-risk pathway (not causal evidence).

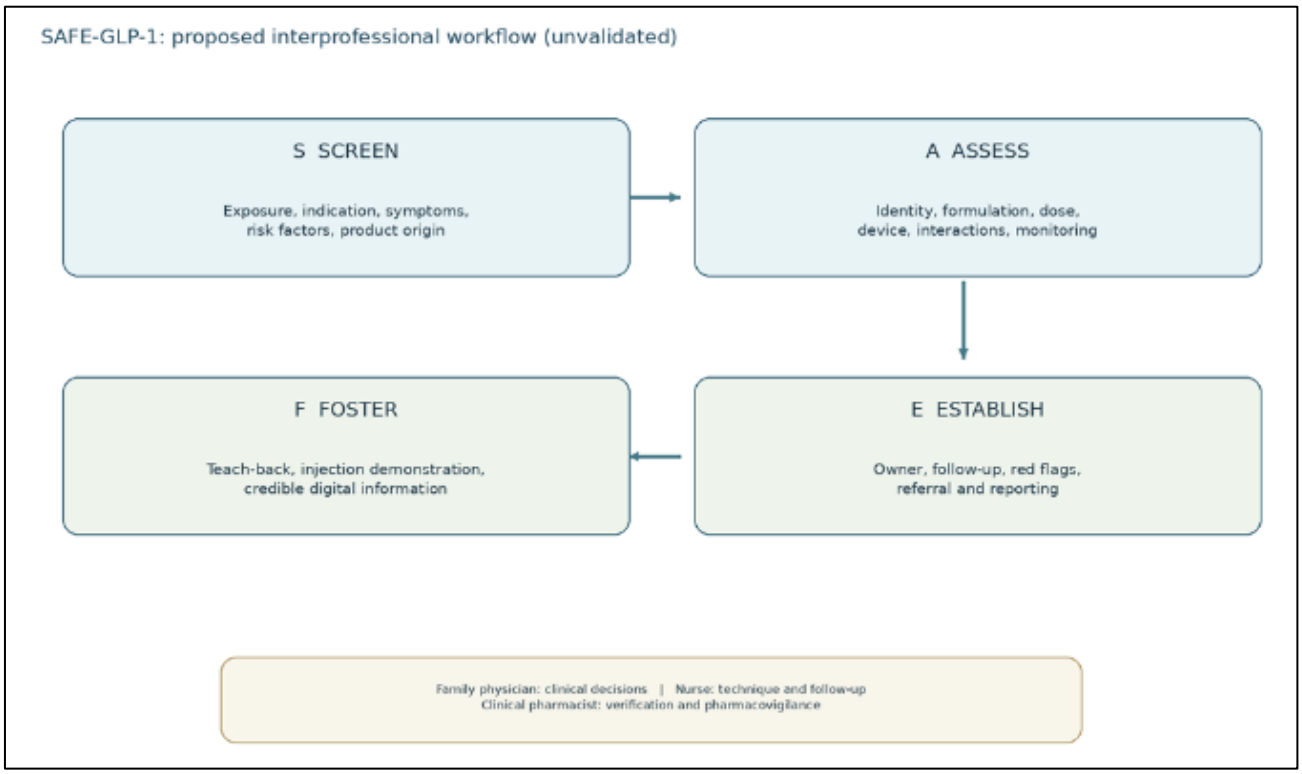

Figure 2: Proposed SAFE-GLP-1 pathway: role integration and prevention opportunities.

Figure note. Both figures are original conceptual illustrations developed for this narrative review. Neither represents a validated intervention or a measured causal effect.

6 CONCLUSIONS

Incretin-based therapies have changed obesity treatment, and appropriate access to them deserves protection. Digital promotion creates opportunities for patient education, but also exposes weaknesses in the information and medicine-supply environments. The clearest documented preventable problems concern uncertain product provenance, concentration and measurement errors, and gaps in follow-up. Patients who disclose these concerns need careful assessment rather than stigma. A coordinated encounter involving family medicine, nursing, and clinical pharmacy could provide a practical response through verification, demonstration, symptom assessment, and clear responsibility

for follow-up. SAFE-GLP-1 formalizes that proposal; whether it reduces clinical harm is the question that future studies should answer.

STATEMENTS ON COMPLIANCE WITH ETHICAL STANDARDS

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Disclosure of conflict of interest

The authors declare no conflicts of interest regarding this manuscript.

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