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From Rep to Router: A Life-Cycle Channel-Allocation Framework for Pharmaceutical Physician Engagement and Its Implications for Drug Affordability

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Abstract

Background. Pharmaceutical promotion is among the largest discretionary cost categories in the U.S. health-care economy, and the spending is recovered through the price of medicines. Total U.S. medical marketing reached $29.9 billion by 2016, of which physician-directed promotion was $20.3 billion [11]. The in-person sales visit has lost efficiency: access fell from ~77% of prescribers in 2008 to a pandemic low near 20%, recovering only partially, per ZS Associates AccessMonitor and Veeva Pulse data. Methods. Narrative review of open-source evidence (peer-reviewed literature, U.S. government data, named-consultancy analyses), modeled on Hashimoto et al. 2024 [1]. Eighteen sources (seventeen with verified DOIs) across six themes. Results. The evidence converges on several consistent findings: remote detailing can match in-person on outcomes at lower cost [3, 5]; in-person retains an advantage at launch [6, 7]; access is scarce and selective, making segmentation decisive, per Veeva Pulse field data; well-executed hybrid models report 10-20% efficiency gains, by McKinsey and Veeva Crossix analyses. From this the review derives PACE-Rx and applies it to the GLP-1 market. Conclusions. PACE-Rx offers a replicable model consistent with a lower cost per effective contact; because promotional cost is embedded in drug prices, the efficiency is a plausible lever for restraining U.S. drug costs without curtailing innovation or access.

Keywords: pharmaceutical marketing, physician engagement, omnichannel promotion, e-detailing, sales-force effectiveness, drug pricing

Background

Pharmaceutical promotion is among the largest discretionary cost categories in the U.S. health-care economy, and the spending is recovered through the price of medicines. Total U.S. medical marketing reached $29\.9 billion by 2016, of which physician\-directed promotion was $20.3 billion [11]. The in-person sales visit has lost efficiency: access fell from ~77% of prescribers in 2008 to a pandemic low near 20%, recovering only partially, per ZS Associates AccessMonitor and Veeva Pulse data.

Methods

Narrative review of open-source evidence (peer-reviewed literature, U.S. government data, named-consultancy analyses), modeled on Hashimoto et al. 2024 [1]. Eighteen sources (seventeen with verified DOIs) across six themes.

Results

The evidence converges on several consistent findings: remote detailing can match in-person on outcomes at lower cost [3, 5]; in-person retains an advantage at launch [6, 7]; access is scarce and selective, making segmentation decisive, per Veeva Pulse field data; well-executed hybrid models report 10-20% efficiency gains, by McKinsey and Veeva Crossix analyses. From this the review derives PACE-Rx and applies it to the GLP-1 market.

Conclusions

PACE-Rx offers a replicable model consistent with a lower cost per effective contact; because promotional cost is embedded in drug prices, the efficiency is a plausible lever for restraining U.S. drug costs without curtailing innovation or access.

Keywords: *pharmaceutical marketing; physician engagement; omnichannel promotion; e-detailing; sales-force effectiveness; drug pricing; life-cycle management; hybrid detailing; prescribing quality*

1. Introduction

Promotional activity is integral to how pharmaceutical products reach patients in the United States. Marketing and medical communication shape clinical awareness of new therapies, inform prescribers about indications and safety, and drive the commercial performance on which continued investment in research depends. Yet the same activity is, in aggregate, extraordinarily expensive. The definitive longitudinal dataset shows U.S. medical marketing spending rising from \$17\.7 billion in 1997 to \$29.9 billion in 2016, with physician-directed promotion making up \$20\.3 billion of the later figure and direct\-to\-consumer \(DTC\) advertising the smaller, faster\-growing remainder \[11\]\. A foundational earlier estimate placed total U\.S\. promotional spending at \$57.5 billion in 2004, against \$31.5 billion of research and development in the same year [13]. By 2020, seven of the ten largest manufacturers by revenue spent more on selling and marketing than on R&D, by an AHIP analysis of 2020 reporting.

The policy salience of these sums derives from a simple mechanism: because marketing cost is recovered through the medication-pricing process, promotional intensity contributes to the price patients and payers ultimately pay. The consequences of high prices are measurable, in 2021, 8.2% of U.S. adults aged 18-64 reported not taking a medication as prescribed because of cost (CDC National Center for Health Statistics, 2023), and broader measures place cost-related non-adherence among older adults near one-fifth in survey data on that population. Reducing the marketing cost embedded in each prescription is therefore one of the few cost levers that does not require cutting investment in innovation or restricting patient access.

The central tension this review examines is not whether manufacturers should promote, they must, and patients benefit when prescribers are well informed, but whether the dominant model of promotion remains fit for purpose. For most of the industry's history, the answer to nearly every commercial question was to add sales representatives. That logic has reached its limits. Physician access to representatives has fallen sharply and become more selective, as documented by ZS Associates AccessMonitor and Veeva Pulse; prescribers report fatigue and skepticism toward manufacturer communications, evident in a 2023 specialist survey by Graphite Digital; and the brief, interrupted in-person visit transfers limited information. The marginal in-person visit increasingly costs more and accomplishes less.

This review advances a single, evidence-grounded proposition: that a coordinated hybrid model of physician engagement, integrating in-person interaction with digital and remote channels, and allocating each channel

by product life-cycle stage and prescriber segment, offers a route to greater promotional efficiency, and that this efficiency is directly relevant to the United States' national priority of restraining the cost of medicines. The argument is built entirely from open-source material; no proprietary data are used. The review's original contribution is a named, four-step framework, PACE-Rx, analogous in form to the business-model framework proposed by Hashimoto and colleagues for the Japanese market [1], but recast for the U.S. context and oriented toward affordability.

That proposition rests on a well-established theoretical base. The economics of pharmaceutical promotion turn on the long-standing observation that representative interactions shape prescribing: a systematic review of physician-industry interactions found that contact with sales representatives is associated with changes in physicians' attitudes and prescribing habits [6]; a natural experiment exploiting detailing-restriction policies at U.S. academic medical centers found that restricting representative access measurably shifted prescribing toward cheaper generic alternatives [7]; and a meta-analysis of 36 studies found a predominantly positive association between industry financial relationships and prescribing, including of lower-value drugs [8]. That influence is not uniformly benign. The foundational systematic review by Spurling and colleagues found that exposure to pharmaceutical-company information was not associated with improved prescribing and was, in places, associated with higher frequency, higher cost, or lower quality [9], and a 2023 analysis showed that direct-to-consumer advertising concentrates on drugs of comparatively low added therapeutic value [12]. Crucially, this is a critique of low-value, high-volume promotion, the pattern a volume-maximizing field model produces, rather than of physician engagement as such; it motivates a model that substitutes the quality of each interaction for the quantity of contacts.

Three further strands inform the framework developed here. First, sales-force-effectiveness theory has migrated from a share-of-voice paradigm, in which commercial success is presumed proportional to call volume, toward value-based engagement, in which the relevance and coordination of contacts matter more than their number. Second, segmentation theory, long used in consumer marketing, applies naturally to a prescriber universe that now differs sharply in channel preference and accessibility. Third, life-cycle management recognizes that a product's promotional needs change as it moves from launch to maturity to loss of exclusivity, implying that a static channel mix is necessarily inefficient across the life cycle. PACE-Rx integrates these three strands. The remainder of the paper is organized along conventional review lines: the Methods section states the review approach and then develops the framework's four steps, the Results section presents the evidence organized as those steps and closes with an illustrative application to the GLP-1 market, and the Discussion considers the affordability implications, the comparison with the anchor framework, the limitations of the synthesis, and the conclusions.

2. Methods

2.1. Review approach

This is a narrative review of publicly available evidence rather than a systematic review with quantitative pooling; its purpose is to integrate normally-separate literatures into a single decision-relevant synthesis for the U.S. context. Sources were drawn from four open-access categories: peer-reviewed articles indexed in PubMed/PMC and comparable databases; U.S. government and quasi-governmental data; analyses by recognized industry and policy organizations; and published analyses by major management consultancies. Search terms included e-detailing, digital pharmaceutical promotion, sales-force effectiveness, omnichannel pharma, physician engagement cost, and GLP-1 prescribing trends. Preference was given to material from the past five years, with older foundational studies retained where they remain authoritative [9, 13]. A hard cap of twenty sources was applied; eighteen were retained, seventeen with verified DOIs. Each quantitative figure used in the tables and figures was traced to a named source; figures that could not be verified to a primary

source were excluded from factual claims and, where shown for illustration only, are labeled as schematic.

2.2. Developing the PACE-Rx framework

The reviewed literature supports a structured, life-cycle-aware approach to channel allocation, but no published framework links segmentation, life-cycle stage, omnichannel coordination and a prescribing-quality feedback loop in a single decision tool. To fill that gap, the review develops PACE-Rx, Prescriber-Adaptive Channel Engagement for Rx Efficiency, a four-step cycle (Figure 1) that is analogous in form to the InsighTCROSS®/MPOS framework of Hashimoto et al. [1] but oriented toward U.S. marketing efficiency and affordability rather than competitive positioning alone. The four steps are set out below and provide the structure around which the evidence is later organized in the Results.

Figure 1. The PACE-Rx framework

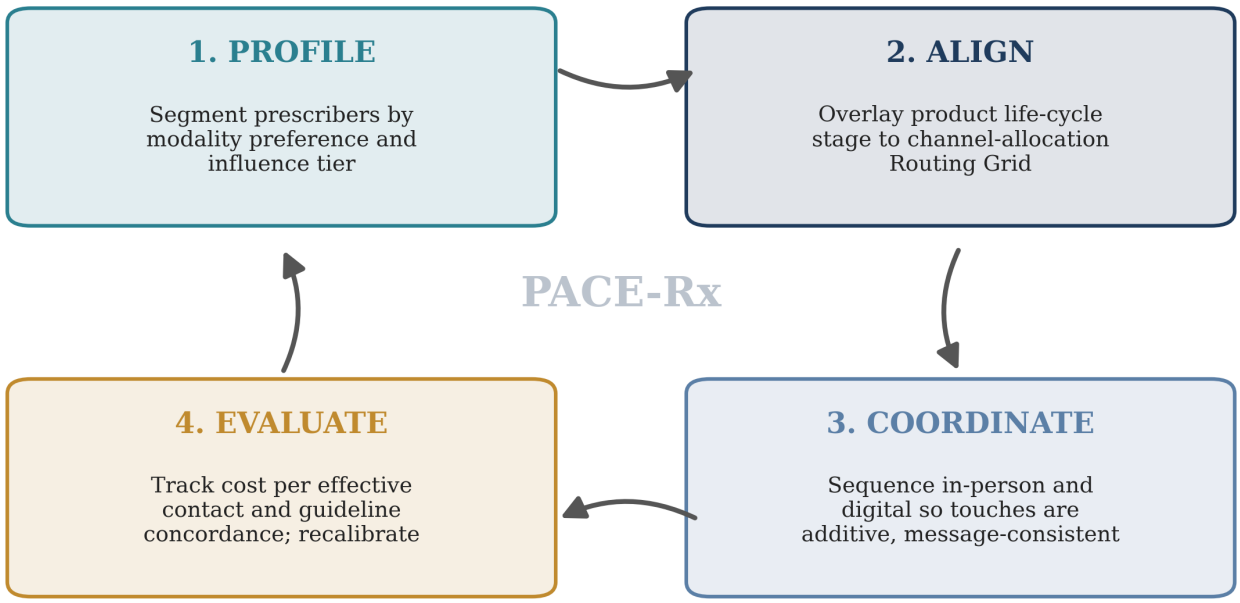


Figure 1. The PACE-Rx framework, a four-step cycle: Profile to Align to Coordinate to Evaluate.

Step 1, PROFILE (prescriber segmentation). The first step classifies the prescriber universe across two orthogonal axes: engagement-modality preference (relationship-dependent, omni-channel or digital-native), derived from behavioral signals such as portal logins, e-detailing opt-in and call-acceptance rates; and prescribing-influence tier (high-volume or KOL, mid-volume, and low-volume or new-to-category). The output is a segmentation matrix that assigns each prescriber to a channel-propensity cell. Because misaligned channel deployment is the primary driver of wasted promotional spend, segmentation is the precondition for every downstream efficiency gain.

Step 2, ALIGN (life-cycle mapping). The second step overlays the product's life-cycle position (pre-launch or early launch, growth, mature, and loss-of-exclusivity) onto the segmentation matrix to generate a channel-allocation rule set, the PACE-Rx Routing Grid (Figure 2). At launch, in-person detailing is prioritized across tiers, because the evidence shows that in-person contact retains an advantage for new prescribers and new products [6, 7]. At maturity, by contrast, digital-first delivery dominates except for the relationship-dependent segment, consistent with evidence that remote channels then match in-person at lower cost [3, 5]. This step is the mechanism by which efficiency is captured at scale.

Figure 2. PACE-Rx Routing Grid (illustrative)

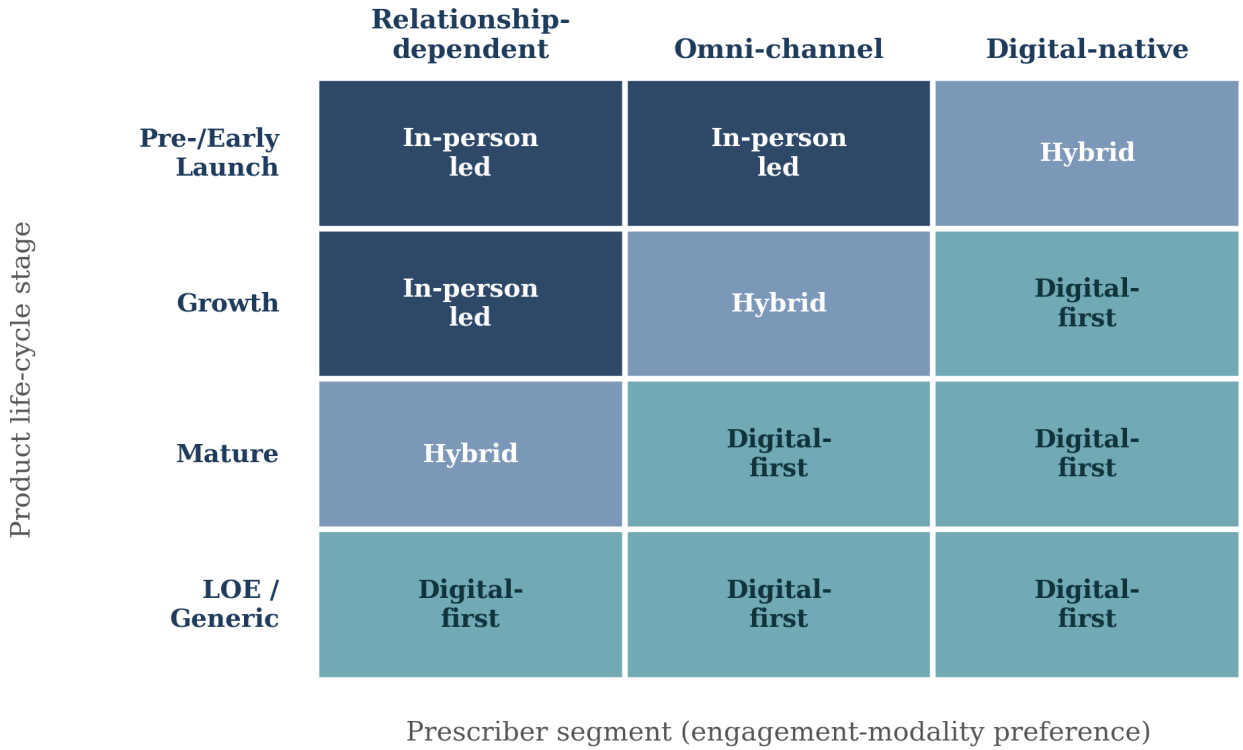


Figure 2. PACE-Rx Routing Grid (illustrative): recommended channel rule by life-cycle stage x prescriber segment.

Step 3, COORDINATE (omnichannel orchestration). The third step defines sequencing, frequency and content rules so that in-person and digital contacts are additive rather than duplicative: the representative call reinforces a prior digital touch or unlocks a deeper digital follow-up. A shared data layer makes call notes and digital signals mutually visible, while content-parity standards keep the clinical claim set identical across channels and so reduce message variability. Coordination, rather than the mere addition of channels, is the active ingredient, and the evidence bears this out: synchronizing field and digital activity raises marketing effectiveness by roughly 23%, per a Veeva Crossix analysis.

Step 4, EVALUATE (efficiency and quality feedback loop). The fourth step tracks a small set of KPIs that close the loop: cost per effective contact (CPEC) by channel and segment; cost per new prescription; selling cost as a share of brand revenue; and, on the quality side, guideline-concordance proxies and the ratio of HCP-initiated to representative-initiated contacts. If digital CPEC rises above in-person CPEC for a given cell, the grid reallocates toward in-person for that cell in the next cycle. This feedback converts PACE-Rx from a one-time design exercise into a continuous-improvement engine.

3. Results

The evidence is organized below as the four PACE-Rx steps. Table 1 summarizes the key propositions and the evidence bearing on each.

Table 1. Key propositions and supporting evidence.

Key proposition	Evidence in this review	Key source(s)
Digital and remote channels match in-person detailing on prescribing outcomes at lower cost per contact for mature products	VHA controlled study: virtual vs in-person academic detailing, no significant difference in naloxone prescribing (p>0.05)	Bounthavong 2022 [3]
In-person detailing retains an advantage for new launches and new-to-brand prescribers	Detailing-restriction natural experiment shifts prescribing; rep interactions shape attitudes and uptake	Larkin 2017 [7]; Fickweiler 2017 [6]
Prescriber segmentation by modality preference governs channel ROI; misalignment wastes spend	Post-pandemic access is selective (50% of HCPs meet <=3 firms); preference splits documented	Veeva Pulse; Accenture [18]
A documented hybrid shift is associated with lower selling cost as a share of revenue	Consultancy ranges: 10-20% marketing-efficiency gain; case proxy via public SG&A trends	McKinsey; company reports
Prescribing quality is maintained or improved under coordinated hybrid models with consistent, auditable messaging	Academic-detailing systematic review: improves evidence-based prescribing in 69% of low-bias trials	Rome 2025 [5]; Spurling 2010 [9]

3.1 Evidence for PROFILE, segmentation and access

The case for segmentation begins with the collapse and fragmentation of physician access. The share of U.S. prescribers broadly accessible to representatives fell from roughly 77% in 2008 to 51% in 2014 and 44% in 2016, according to ZS Associates AccessMonitor tracking. It then reached a pandemic low near 20% in 2020 before recovering to about 60% by 2022 and declining again to roughly 45% by 2024, per Veeva Pulse field-engagement data (Figure 3, Table 5). Access is not only scarcer but also more selective: by 2022, about half of accessible physicians met with three or fewer companies, again per Veeva Pulse. In this environment, undifferentiated outreach is doubly wasteful, because it is at once expensive and unwelcome, and a 2023 specialist survey by Graphite Digital reported substantial mistrust of manufacturer digital content. Taken together, these trends make segmentation of prescribers by modality preference and influence tier the precondition for efficient allocation.

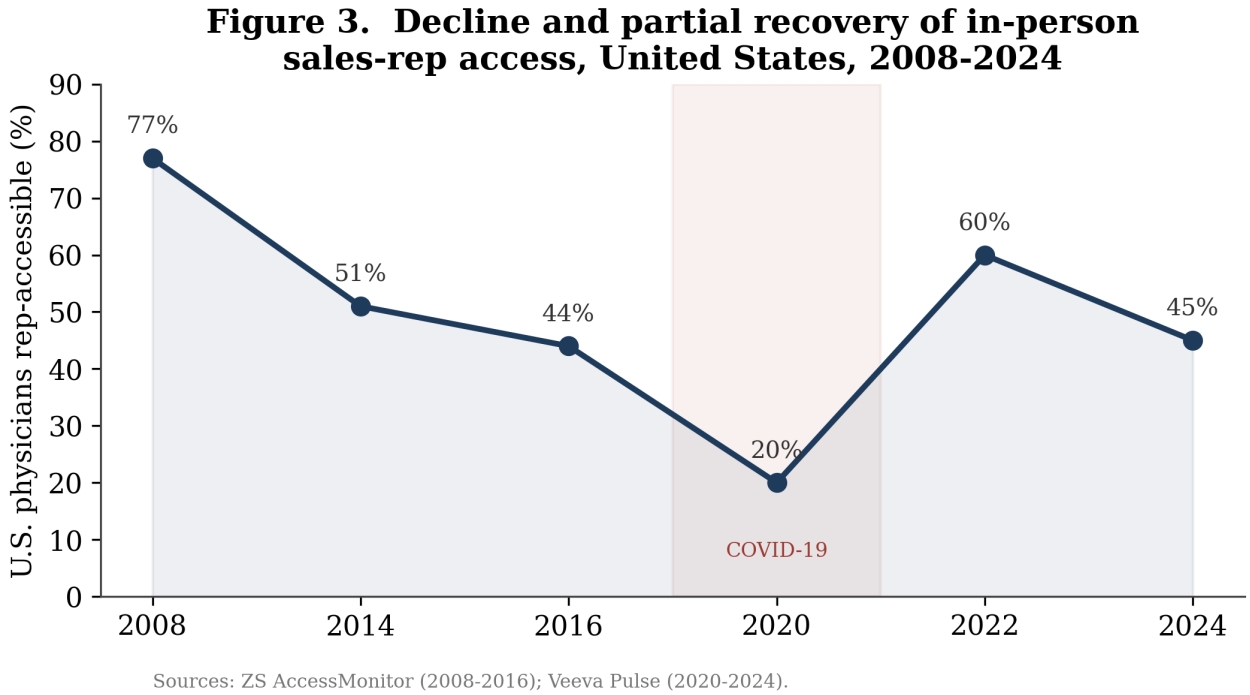


Figure 3. Decline and partial recovery of in-person sales-rep access, U.S., 2008-2024. Sources: ZS AccessMonitor (2008-2016); Veeva Pulse (2020-2024).

Table 5. Physician access & preference trend.

Metric	Value	Year	Source
Physicians rep-accessible	~77%	2008	ZS AccessMonitor
Physicians rep-accessible	51%	2014	ZS AccessMonitor
Physicians rep-accessible	44%	2016	ZS AccessMonitor
Rep access (pandemic low)	~20%	2020	Veeva Pulse
Rep access (recovery)	~60%	2022	Veeva Pulse
Rep access (renewed decline)	~45%	2024	Veeva Pulse
HCPs wanting all-virtual or hybrid	87%	2020	Accenture
HCPs preferring hybrid / all-virtual	46% / 38% (=84%)	2021	Accenture
Accessible HCPs meeting <=3 companies	~50%	2022	Veeva Pulse

3.2 Evidence for ALIGN, life-cycle channel rules

The strongest single piece of evidence for channel substitution at the mature stage is a controlled comparison within the U.S. Veterans Health Administration, which found that virtual and in-person academic detailing produced statistically indistinguishable effects on prescribing, with the difference between modalities not reaching significance ($p > 0.05$) [3]. Building on this, a 2025 systematic review of 118 academic-detailing studies confirmed that detailing improves evidence-based prescribing in 69% of the lowest-bias trials, establishing a benchmark of effectiveness that remote delivery can meet [5]. Real-world implementation studies further show that virtual detailing extends a program's geographic reach and eases scheduling [4]. By contrast, the detailing-restriction natural experiment [7] and the systematic review of representative interactions [6] indicate that in-person contact retains particular force when prescribers are new to a product or category,

which is precisely the early-launch condition. Taken together, these findings justify a rule set that is weighted toward in-person engagement at launch and toward digital delivery at maturity.

Physician preference reinforces this allocation. Accenture life-sciences surveys conducted after the pandemic found that a clear majority of physicians prefer a hybrid mix of virtual and in-person contact, with only a small residual preferring in-person engagement exclusively (Figure 4). The demand side of the market, in other words, already favors the very channel blend that the effectiveness evidence supports.

Figure 4. Physician preference for engagement model post-pandemic (Accenture HCP survey, 2021, n=720)

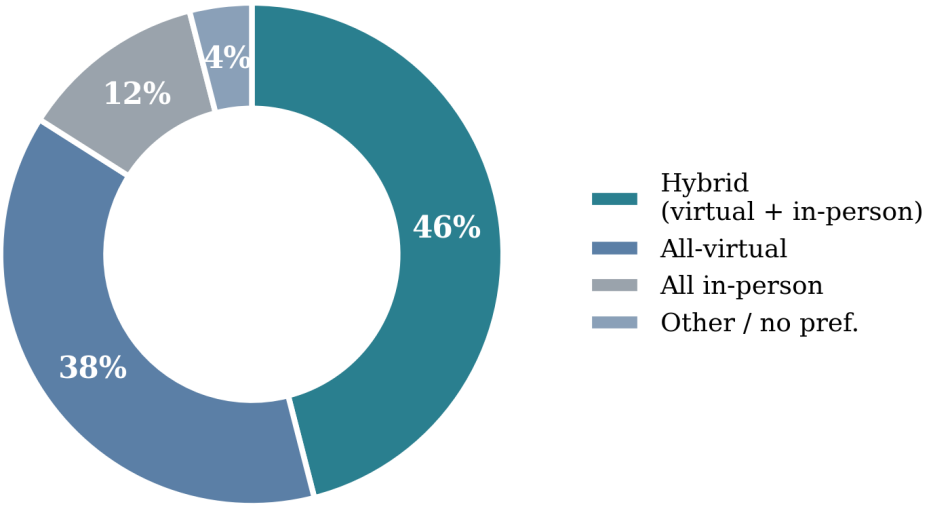


Figure 4. Physician preference for engagement model after the pandemic (Accenture HCP survey, 2021, n=720).

3.3 Evidence for COORDINATE, omnichannel integration Coordination, not channel proliferation, is what the evidence rewards. Adding video to in-person engagement is associated with roughly three times the promotional response, by Veeva's analysis, and synchronizing field and digital activity is associated with a 23% increase in marketing effectiveness, per a Veeva Crossix analysis. Consistent with that finding, adoption research using the Technology Acceptance Model identifies the practical levers, namely perceived ease of use and usefulness, through which representatives come to accept remote e-detailing, which is itself a precondition for coordinated execution [2]. Message consistency across channels also bears on quality, because standardized, auditable digital messaging reduces the variability inherent in individual representative behavior and so addresses the prescribing-quality concerns raised in the foundational literature [9].

Table 4. Effectiveness & efficiency evidence (digital/remote/omnichannel).

Evidence	Finding	Type	Source
Virtual vs in-person academic detailing (VHA)	No significant difference in prescribing outcome	Peer-reviewed study	Bounthavong 2022 [3]
Academic detailing systematic review (118 studies)	Improves evidence-based prescribing in 69% of low-bias trials	Systematic review	Rome 2025 [5]
Remote e-detailing adoption (TAM)	Ease-of-use & usefulness drive rep adoption	Peer-reviewed study	Kim & Chang 2022 [2]
Adding video to in-person meetings	~3x promotional response	Platform analysis	Veeva Pulse
Sales-digital synchronization	+23% marketing effectiveness	Platform analysis	Veeva Crossix
Omnichannel commercial transformation	+10-20% marketing efficiency; +5-10% revenue	Consultancy analysis	McKinsey

3.4 Evidence for EVALUATE, cost and quality metrics

The efficiency case sharpens when the unit of analysis shifts from the contact to the effective contact, an interaction that actually transfers usable information. A fully-loaded in-person visit is costly and only partly information-bearing; a digital contact is inexpensive but not always consumed as intended; a coordinated hybrid sequence is designed to raise the effective share of every contact. The result, illustrated schematically in Figure 6 and Table 3, is a lower blended cost per effective contact than either a purely in-person or a purely digital strategy achieves alone. At the program level, consultancy analyses of well-executed omnichannel transformations report 10-20% improvements in marketing efficiency, mid-single-digit revenue uplift, and measurable gains in physician satisfaction, according to McKinsey analyses of commercial transformations (Figure 5). These ranges describe disciplined execution rather than average outcomes, but they are directionally consistent across independent analyses.

Figure 5. Reported gains from well-executed hybrid / omnichannel models

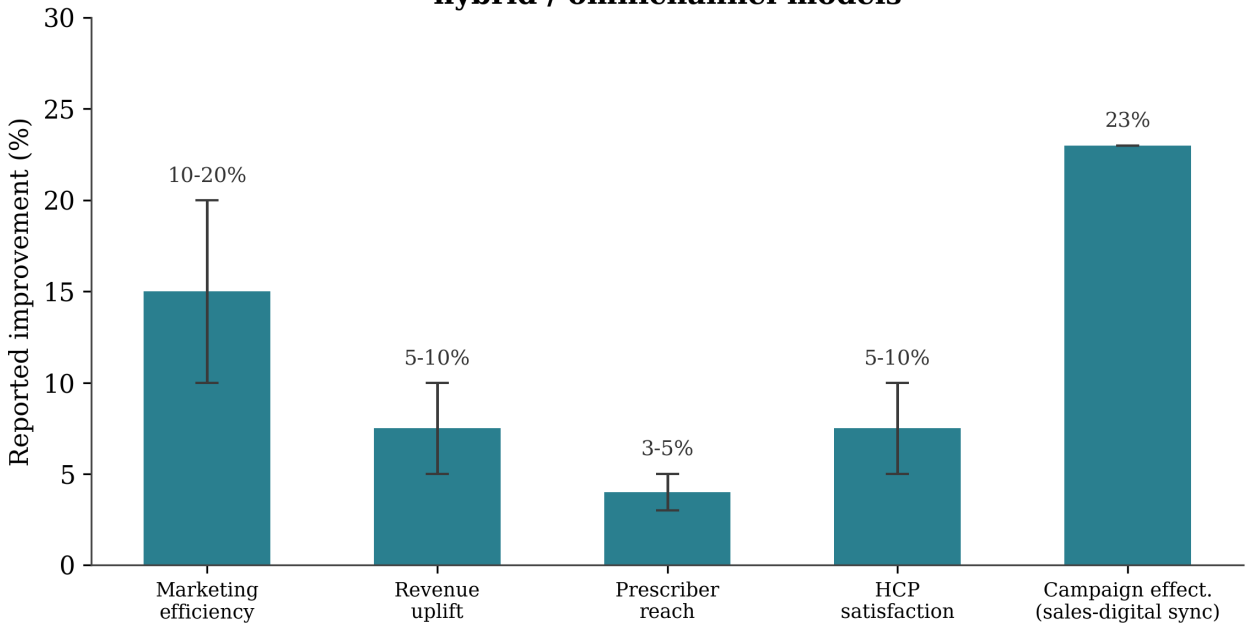


Figure 5. Reported gains from well-executed hybrid / omnichannel models (consultancy & platform analyses). Ranges describe well-executed programs, not guaranteed or average outcomes.

Figure 6. Illustrative cost per effective contact by channel (schematic; lower is better)

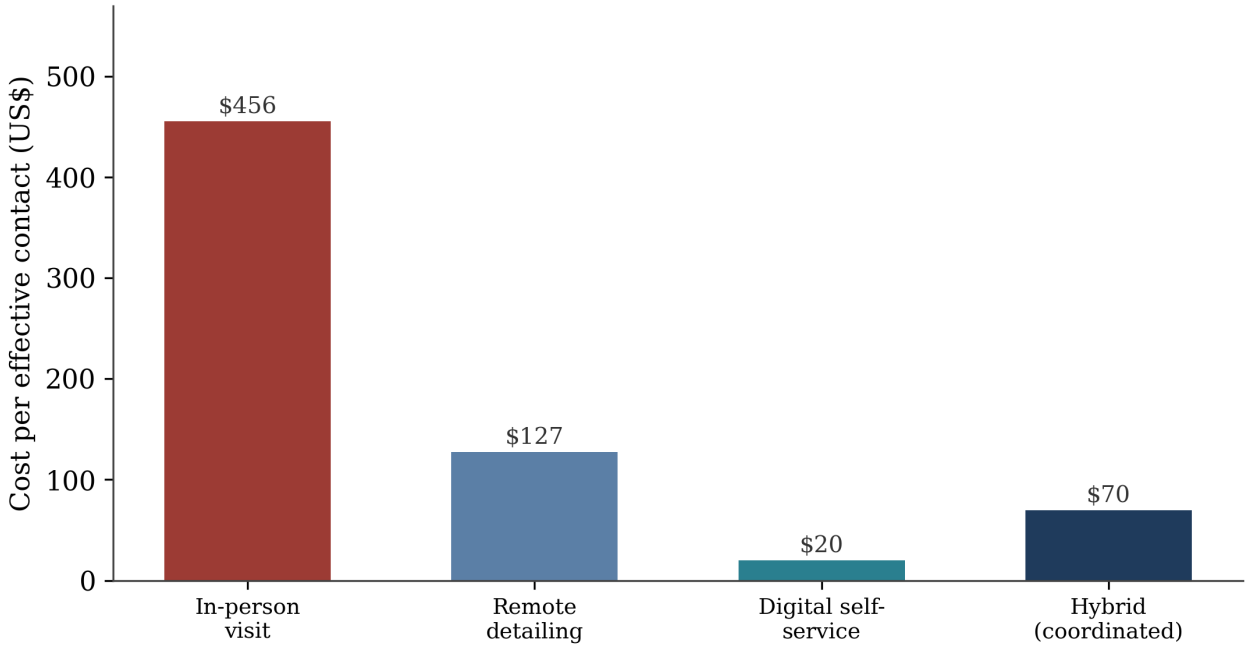


Figure 6. Illustrative cost per effective contact by channel (schematic; lower is better). Derived from the channel economics discussed in the text, not a single dataset.

Table 3. Cost per effective contact benchmarks (illustrative channel economics).

Channel	Approx. cost per contact	Effective share (info-bearing)	Cost per effective contact	Note
In-person rep visit	~$205	~45%	~$456	Fully-loaded; brief, interrupted
Remote / video detailing	~$70	~55%	~$127	Scheduled, scalable
Digital self-service content	~$8	~40%	~$20	On-demand; variable consumption
Coordinated hybrid sequence	~$46 (blended)	~66%	~$70	Digital primes, in-person reserved

This reframing also dissolves an apparent paradox. The finding that promotion does not improve, and may degrade, prescribing quality [9] applies to a world measured in contacts: more low-value contacts produce more low-value prescribing. When the objective is redefined as the effective contact, the cheapest way to raise the effective share is to send fewer, better-targeted, more relevant communications, which is also the configuration most consistent with high-quality prescribing. Efficiency and quality, ordinarily presented as a trade-off, become complementary.

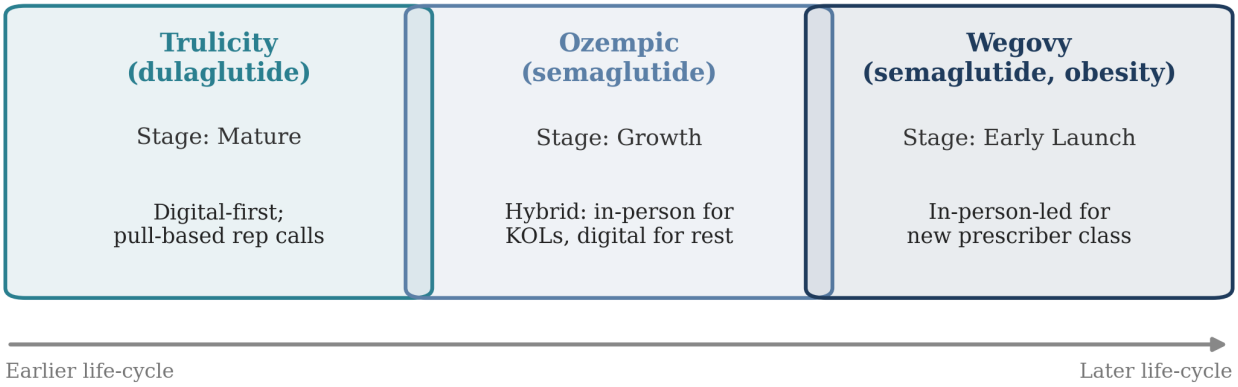
Table 2. Scale & structure of U.S. pharmaceutical promotion and cost.

Indicator	Figure	Year	Source
Total U.S. medical marketing spending	$29.9 billion (up from $17.7B in 1997)	2016	Schwartz & Woloshin, JAMA 2019 [11]
Physician-directed promotion (detailing, samples, journal ads)	$20.3 billion	2016	Schwartz & Woloshin, JAMA 2019 [11]
Direct-to-consumer (DTC) advertising	$9.6 billion (32% of total)	2016	Schwartz & Woloshin, JAMA 2019 [11]
Product-claim DTC advertising	$7.6 billion (record)	2022	AHIP / industry analyses
Estimated U.S. promotion vs R&D	$57.5B promotion vs $31.5B R&D	2004	Gagnon & Lexchin, PLoS Med 2008 [13]
Largest firms spending more on S&M than R&D	7 of 10 largest by revenue	2020	AHIP analysis
Median capitalized R&D cost per new drug	$985 million	2009-2018	Wouters, JAMA 2020 [15]
DTC elasticity: 10% rise in DTC to drug spending	+1% to +2.3%	CBO est.	CBO via HHS/CSRxP

3.5 Illustrative application: GLP-1 receptor agonists

The GLP-1 receptor-agonist market provides a uniquely well-documented setting in which to apply PACE-Rx, because three products co-existed at different life-cycle stages over 2018-2024 and because the category is the most prominent U.S. drug-pricing controversy of the period. The application below uses only public information and is illustrative, not causal: it demonstrates the framework's coherence and is not a claim about any manufacturer's actual channel strategy.

Figure 7. GLP-1 receptor agonists mapped to the PACE-Rx Routing Grid (illustrative)



Illustrative application using public information; not a claim about any company's actual channel strategy.

Figure 7. GLP-1 receptor agonists mapped to the PACE-Rx Routing Grid (illustrative; uses public information only).

Table 6. GLP-1 products mapped to Routing-Grid cells (illustrative).

Product	Molecule	Life-cycle stage (2018-2024)	Routing-Grid channel rule
Trulicity	dulaglutide	Mature	Digital-first; pull-based rep calls
Ozempic	semaglutide (T2D)	Growth to blockbuster	Hybrid: in-person for KOLs, digital for rest
Wegovy	semaglutide (obesity)	Early launch (new indication, 2021)	In-person-led for new prescriber class
(All products)	n/a	All stages	Coordinated, message-consistent sequencing

When the three products are mapped to the Routing Grid, each falls in a distinct region. Trulicity (dulaglutide), as a mature product, falls in cells where digital-first delivery supported by pull-based representative calls is indicated, which is consistent with the evidence that remote channels match in-person engagement at maturity. Ozempic (semaglutide for type 2 diabetes), then in rapid growth, falls in hybrid cells, where in-person engagement is reserved for high-volume and KOL prescribers and digital-first delivery serves the remainder, with segmentation determining the split. Wegovy (semaglutide for obesity), launched into a new indication in 2021, falls instead in early-launch cells that call for in-person-led engagement with a prescriber class new to the category, namely the primary-care and obesity-medicine physicians who were new to injectable therapy. Across all three products, the COORDINATE step implies a single, message-consistent sequence rather than three siloed channel plans. The case therefore shows how one framework can allocate different channel mixes to different cells simultaneously, which is the central practical claim of PACE-Rx.

4. Discussion

The evidence reviewed here coheres around a single logic. Physician access has become scarce and selective, as ZS Associates AccessMonitor and Veeva Pulse document, and physicians now prefer hybrid and virtual engagement, according to Accenture life-sciences HCP surveys. At the same time, remote channels can match

in-person detailing on prescribing outcomes at lower cost [3, 5], while in-person contact retains an advantage at launch [6, 7]. Finally, it is coordinated execution, not channel proliferation, that delivers efficiency, per McKinsey and Veeva Crossix analyses. PACE-Rx organizes this logic into a decision tool that allocates channels by segment and life-cycle stage and closes the loop on cost and quality.

The affordability argument follows from the cost structure. Because promotional spending is recovered through drug pricing [11, 13], a model that lowers the cost per effective contact reduces the marketing component embedded in each prescription. This is one of the few cost levers that does not require cutting R&D, whose median capitalized cost per approved drug is estimated near $985 million [15], or restricting patient access. The chain from marketing efficiency to lower net price is plausible but not yet causally demonstrated, and the review is explicit that the GLP-1 application is illustrative. The mechanism nonetheless aligns the commercial interest of manufacturers with the public interest in affordable, well-informed prescribing, an alignment of particular salience under the post-2022 U.S. drug-pricing-reform environment.

Compared with the anchor framework of Hashimoto et al. [1], which demonstrates a digital business-model transformation in the Japanese market oriented toward competitive positioning, PACE-Rx is recast for the U.S. market and oriented toward affordability and prescribing quality, adding an explicit life-cycle routing logic and an efficiency-and-quality feedback loop.

4.1. Limitations

Several limitations qualify these conclusions. First, this is a narrative synthesis, not a meta-analysis; it cannot compute pooled effect sizes, and positive-result studies on digital detailing may be over-represented in the literature. Second, several efficiency figures originate in consultancy and platform analyses whose full methods are not public; the ranges in Figure 5 and Table 4 should be read as the potential of disciplined execution, not as guaranteed or average outcomes, and some platform metrics are reported by commercially interested vendors. Third, the strongest controlled finding, the VHA detailing comparison [3], comes from a specific clinical and organizational setting and may not generalize uniformly. Fourth, the link from marketing efficiency to lower net drug price is associational and mechanistic, not causally established. Fifth, the GLP-1 case is explicitly illustrative and uses no proprietary data. Finally, the landscape is changing rapidly; AI-driven engagement emerging after 2024 is not fully captured here.

4.2. Conclusions

U.S. pharmaceutical promotion is large, expensive, and built on a delivery model, the in-person sales visit, that is in structural decline. The open-source evidence converges on a consistent picture: access has fallen and become selective; physicians prefer hybrid engagement; remote channels can match in-person detailing on outcomes at lower cost; in-person retains value at launch; and coordinated hybrid execution yields material efficiency gains while standardized messaging supports prescribing quality. From this evidence the review derives PACE-Rx, a four-step, life-cycle-aware channel-allocation framework, and shows, illustratively, on the GLP-1 market, how it allocates distinct channel mixes across products at different life-cycle stages.

The significance extends beyond the commercial. Because marketing cost is recovered through drug pricing, a more efficient promotional model is one of the few available levers for restraining the cost of medicines without curtailing innovation or patient access. Realizing that potential will require transparent, U.S.-focused research to quantify the gains and to test the efficiency-to-affordability chain prospectively, and disciplined execution to capture them. On the present evidence, the case for beginning that work is compelling.

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