# Regional Sales and Marketing Optimization Modeling: A Call for Technical Changes

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## Introduction

The concept of "all marketing is local" in the pharma environment is more valid today than ever before. We see tremendous variations in salient factors that would affect commercial outcomes from sales and marketing promotion-response and optimization modeling at a subnational level. Data has become more available at the physician, patient, and healthcare system levels allowing for more precise subnational optimization modeling. In response, various pharma companies have moved toward instituting regional archetype models within the last 10 years. Yet, are the key underlying *technical* assumptions that support this trend toward more geographically-granular focused models truly creating regional/local product margins necessary for sales and marketing resource allocation optimization? This white paper says likely not, despite the capacity to run such models, and thus the focus of this white paper. While this technical point may seem to be a minor one, its implications on regional sales and marketing resource optimization outcomes could have significant impacts and deviations from those found in current practice.

## Current Regional Sales and Marketing Optimization Practice

The pharma industry recognizes a growing trend toward factors seen as increasingly varying at the region and local levels. Many of these factors do affect regional/local-based product margins as well as outcome metrics that will be increasingly important as companies enter into performance-based contracts (using measures of health outcomes and cost-effectiveness) with payers (non-exhaustive list and not in any order of importance):

- Managed care plan design and contracting, affecting plan control and access. This means drug product margins vary

> ❝
> All marketing is local.
>
> ***John D. Meyer***
> *Author of All Marketing Is Local: A Common Sense Approach to Marketing Your Business (2012)*
> ❞

according to company contracting efforts by region/local area per health plan.

- Provision of healthcare through integrated delivery networks (IDNs), accountable care organizations (ACOs), and large group practices (wide variety in the availability, cost, and quality of healthcare by geography that also impacts outcomes).

- Marketing channel spending varies by region/local area. The cost of DTCA (direct to consumer advertising) for example varies by spot market as does conducting meeting and events as well as other marketing activities.

- Geographic distribution of patient disease incidence and prevalence, and disease severity, thus affecting sales and marketing workload.

- New sales and marketing channels are now available that can be executed at the local level.

- Underlying cost of a fully-loaded sales rep on numerous dimensions varies by region/locality (e.g., the salary for a sales rep and car insurance for instance in New York City is much higher than say in Jackson, Mississippi).

- Type of physician affiliations, demographics, and proportion of specialists to primary care doctors all affect workload.

- Distribution of key academic medical centers (AMCs), major hospitals and regional medical centers, government-based hospitals (e.g., VA institutions).

- Sales rep access restrictions to physicians in office and hospital-based settings affect the feasibility of sales force activities by region/local area.

- State and local laws & regulations governing sales and marketing practices, sunshine reporting requirements, state pharmacy drug product selection laws, etc.

- Socio-economic-health demographics of patients.

What then is current practice? Simply stated, there are three steps. First, the underlying analytics are founded not on regional but rather *nationally-based physician-segment promotion-response curves*. Second, a healthcare professional (HCP) favorability index is constructed using payer controls calculated at the HCP-level and then rolled up to formulate a national score. Payer dynamics at the HCP level in some cases are incorporated into segmentation schemes, but the focus is on a weighted average national score, not a regional one. Third, a gross-to-net (GTN) product margin using payer contracting data at the HCP level is calculated and then rolled up for a national product GTN. No other potential factors are factored in outside of payer contracting efforts that could cause regional variations in a product GTN. Variations in sales force access restrictions are factored in for workload capability assumptions, but again the focus is on a national index. The point here is simply this, the technical assumptions focus on building *nationally-based models* that are then used for regional sales and marketing execution.

## Proposed Future Regional Sales and Marketing Optimization

How should then regional/local sales and marketing optimization modeling be conducted with technical changes that truly incorporates these more geographically-granular assumptions?

1. Regional/local geographic areas would be determined by an index of actual & potential financial and treatment

opportunity, and sales and marketing workload that factors in dynamics associated with managed care access and control, physician and healthcare provider/IDN/group practices, and patient volume.

2. Physician-segmentation and promotion-response analyses would then be conducted within defined regional/local areas.

3. All sales force and marketing work-effort, limitations, cost, and productivity assumptions as well as data inputs needed to calculate product financial margin information would be conducted at the regional/local level.

4. Product GTN calculations would then be conducted based on payer favorability and contracting information at the HCP level rolled up to each regional geography.

5. Sales and marketing optimization would be conducted for each regional geography. The sales and marketing optimization outcomes from all regional/local areas must be linked to achieve national goals and objectives in the aggregate for each brand.

What is the feasibility and benefits of making these technical changes to conduct true regional sales and marketing optimization?

1. All the data exists to conduct this analysis as well as the systems & empirical tools to solve this more complex optimization problem.

2. The main benefit of this approach is an improved optimal allocation of resources over the existing approach. An internal discussion with colleagues suggests a difference in allocation potentially up to 20% per region.

3. This improved resource allocation will result in a much tighter connection between sales force strategy outcomes with sales force operations processes (i.e., territory alignment, call planning, objective setting, incentive compensation, sales reporting and performance management). Current practice provides for a national physician-segmentation calculation, but imposes that assumption on regional/local execution. The proposed approach incorporates regional/local assumptions into the sales force strategy optimization outcomes that will better link to execution. The result will be an improved

sales force design (i.e., size, structure, allocation, targeting quality) with greater sales force efficiency (more appropriate sales force sizing and resource allocation) and effectiveness (greater promotion-response from that resource investment). The same connection can be said regarding marketing strategy and operations.

4. Another benefit is a likely improvement in sales force morale since they would know that their territory work assignments and goals were founded on regional/local dynamics. This means sales reps are more likely to own their territory alignment design and call plan assignment.

5. This proposed approach will also better identify regional/local places that may require a different commercial go-to-market strategy approach than using a direct sales force, i.e., indirect sales team, digital channels, non-personal promotion channels, etc. This means better coordination and understanding on when, where, and how much to employ sales and marketing per region.

What are the risks and costs to regional sales and marketing optimization modeling? A few items come to mind:

1. Is there a limit how many regions should be chosen and defined to form the basis of subnational modeling? A number too large may run into logistic and administrative issues and costs. Enhanced modeling techniques and software technology is not a limiting factor in how many regions are defined.

2. Given the shift toward specialty medicines that often treat small patient populations, the regions selected would need enough specialty physicians and patients to conduct region-based modeling, yet have similar characteristics to warrant being defined as a distinct region from other geographic areas.

3. The inclusion of marketing (non-sales force effort) activities would have to be measured at the same regional/local level of analysis.

4. Given that changes over time are more likely to be seen at the regional/local levels that would affect sales and marketing promotion-response modeling, how does one develop relatively stable physician-segments and promotion-response curves to use for a time-frame of analysis typically out to 4 years for sales and marketing strategy outcomes (to account for current and carryover effects)?

5. The data requirements as well as making linkages at the regional/local levels would exponentially expand. This will have significant effects on internal data infrastructure management.

None of the above risks and costs in our opinion are "deal breakers" to employing a true regional/local sales and marketing resource allocation optimization approach. The data and the means to conduct the analysis exists. It would expand the computational demands to conduct sales and marketing optimization as well as costs for implementation through sales and marketing operations processes. But the analytics, tools, and platforms are in place to handle this more complex optimization problem and mitigate cost increases. The question is then whether the added costs to conduct these expanded computations, implement operations, and conduct management are worth the added benefits developed? We suggest an experiment could be conducted to answer this question.

## Conclusions

This white paper series has highlighted numerous external environmental changes affecting the industry and the conduct of commercial analytics to support key business processes. Over the past 20+ years, the pharmaceutical industry has trended to be more granular in the analysis to support more effective results from local execution. This paper is a call to see if the *technical assumptions* representing regional/local dynamics that lie underneath the modeling necessary for true regional sales and marketing optimization can be implemented and provide a meaningful difference in results from current practice. An educated estimate suggests that a meaningful difference in outcomes would be calculated from current practice. A more definitive estimate will require an experiment to compare resource allocation optimization outcomes from current to proposed practice. Lastly, while the focus here has been on regional sales and marketing *resource allocation* optimization, one should not underestimate the importance how any difference in outcomes affect *brand messaging* by geography. It stands to reason that a regionally-based HCP, patient, and payer segmentation scheme will have effects on variations in brand messaging by geography with resulting impacts on sales and marketing effectiveness. These implications and related discussions are left for another white paper. So stay tuned.

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