



WHITE PAPER

# **Tethering to Reality: Integrating HCP-Level Real-World Data Into Brand Share Estimation**

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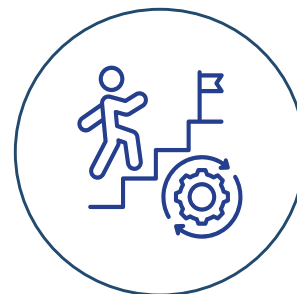
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Share estimates from demand studies in primary market research (PMR) are a critical input for any forecast—their accuracy is paramount for successful brand planning.



Successful prediction is often elusive—from 2020 through 2022, only one in ten products had actual performance that aligned with forecasted expectations.\*



Recognizing this challenge, Trinity experts developed a method that **significantly improves prediction of future prescribing behavior in demand studies.**

## The Challenge

It is often difficult for Healthcare Professionals (HCPs) to offer precise share estimates when responding to surveys in PMR. HCPs typically do not think about their prescribing behavior holistically in their daily practice—they may have recall bias, recency bias towards newer brands, or some combination of factors. Some of these estimation errors may be overcome by using real or simulated patient chart-based methods (e.g., patient simulation, chart abstraction) that capture clinical decision-making rather than methods based on an aggregate recall of their prescribing behavior (i.e., percentage-based share estimates from a share allocation exercise). Still, there are several factors that physicians may not be able to appropriately consider when thinking about a future market being evaluated in the study, such as patients actually filling or refilling the script, insurance coverage, formulary restrictions, sales and marketing efforts by the manufacturer, etc.

\* To explore further research on recent launches and Next-Gen Launch approaches, [click here](#).

## Share Calibration in Demand Studies

Market researchers use the following approaches to calibrate share estimates in PMR to bring them closer to reality:

### 1 Over-/understatement adjustment using rating scales

- » Uses likelihood to prescribe and/or brand ratings to align attitudes with behaviors (share allocation or treatment decision making) captured in the survey
- » **Rationale for the calibration:** Prescribing intent typically precedes prescribing behavior, so this adjustment helps ensure this alignment

### 2 Aggregate level calibration using real-world data (RWD)

- » Involves calculating a factor that quantifies the proportional difference between market share from RWD and current market share estimates in PMR; this factor is applied to the future market
- » **Rationale for the calibration:** Right-sizes the overall market with RWD

**While these approaches are an industry standard, they overlook HCP-level differences in real-world prescribing behaviors.**

Ratings based on adjustments for over-/understatement offer a reasonably systematic approach for capturing HCP-level differences—but they rely on the same self-reported survey dataset that is being calibrated. **Using another metric from the same dataset to calibrate shares may be less effective in reducing over-/understatement biases; similar biases may exist in both metrics as they come from the same dataset.**

With broad availability of prescriber-level RWD, there is an opportunity to utilize these data to alleviate the points raised above. Incorporating HCP-level real-world prescribing behaviors to understand future prescribing behaviors has the potential to improve share calibration in demand studies. This principle of learning from historical behaviors to predict future behaviors is also the foundation of most machine learning- or artificial intelligence-based prediction algorithms used today.

## Real-world Calibration at the HCP Level, or “Tethering,” Improves Share Estimates

In May 2023, \*Trinity experts studied the benefits of using real-world prescribing behaviors at the HCP level to calibrate share estimates from PMR. For simplicity, the new approach is called the “Tethered” approach. Benefits of the Tethered approach were quantified by comparing the following two methods:



### Standard Approach

Using the following two steps:

- » Over-/understatement adjustment using rating scales
- » Aggregate level calibration using RWD



### Tethered Approach

(i.e., real-world calibration at the HCP level)  
Using the following two steps:

- » HCP-level factor calculation to quantify the proportional difference between market share from RWD and market share estimate in PMR; this proportional difference is applied to the future market
- » Aggregate calibration using RWD

Both approaches incorporate aggregate calibration using RWD, HCP-level weighting based on patient volume and patient-level weights for approaches that involve using real or simulated patient charts. The key difference is **the use of ratings based on adjustments for over-/understatements in the standard approach**, versus **HCP-level calibration using RWD in the tethered approach**.

\*Trinity Tethering Assessment, May 2023.

Trinity experts evaluated data from a recent demand study in Neurology where HCPs (n=200) were exposed to incremental clinical data for a brand that is currently available on the market. The market scenario where these incremental data are specified on the brand’s label was considered the future market. The data presented here utilizes data from this study.

The steps outlined above were also repeated across two other studies in different therapeutic areas to assess external validity—and by randomly splitting each study sample into two to assess internal consistency. The results remained consistent, demonstrating evidence of the robustness of this method.

This comparative analysis demonstrated **3 benefits of the Tethered approach**:

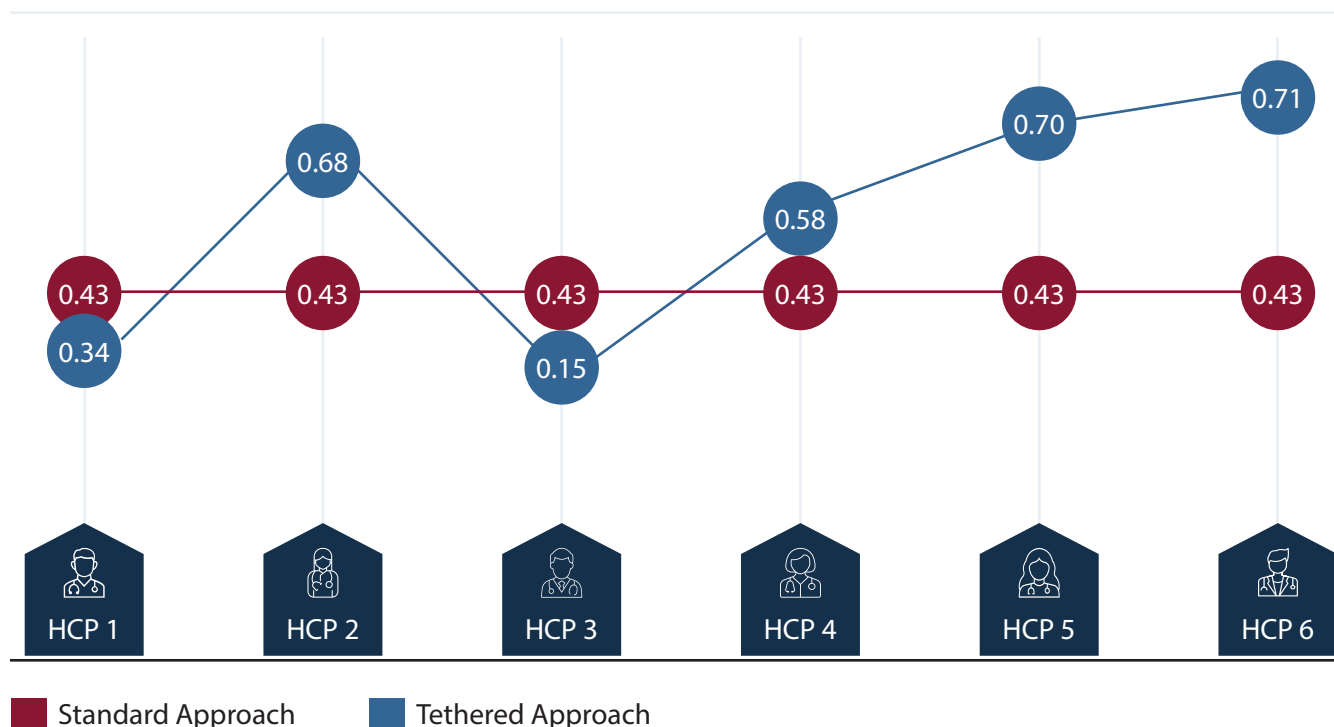


**It captures critical behavioral differences at the HCP level that are often missed or overlooked with aggregate calibration**

With the Standard approach, a single calibration factor is applied to PMR shares for the entire sample, regardless of whether RWD indicates over-/underestimation at the HCP level. This results in overlooking HCP-level differences in real-world behaviors. **The Tethered approach implements bespoke calibration factors for each HCP, helping to account for the unique reality of each individual HCP and effectively reducing random error in share estimation.**

Figure 1 shows calibration factors for a subset of HCPs in the sample from a recently completed demand study using the Standard approach and the Tethered approach.

**Figure 1: Calibration Factors Used for a Subset of HCPs in the Sample**



## 2

## It improves prediction of future prescribing behavior

Trinity experts calculated  $R^2$  values to compare the Standard and Tethered approaches in predicting calibrated future market shares. This value represents the percentage of variation in future market shares explained by current market shares. **Accounting for HCP-level differences in real-world behaviors (i.e., using the Tethered approach) improved prediction of future market share estimates by nearly 20 times (75% vs. 4% with the Standard approach).**



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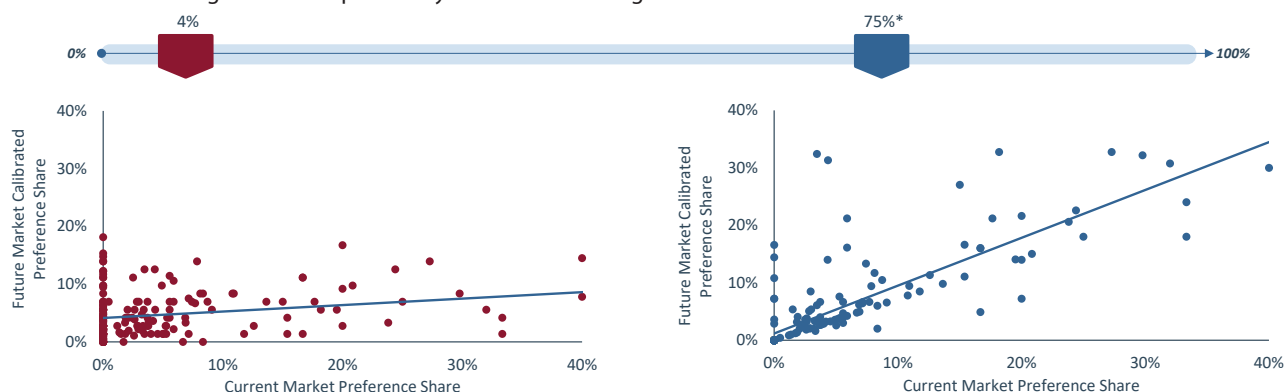
“Significant improvements in the prediction of future market share estimates, nearly 20 times in certain case examples, shows the power of integrating Real-World Data with primary market research. The impact of such an improvement could change the strategy and tactics of a brand’s commercialization plan.”

Figure 2 shows scatterplots of calibrated current market shares by calibrated future market shares – data points in the chart showing the Tethered approach are closer to the best fit line as compared to the Standard approach. This result demonstrates higher correlation between the RWD and future market shares.

In this example, the future market introduced incremental clinical data for a brand that was present in the current market. Based on the smaller  $R^2$  value, the Standard approach tends to over-index future market share estimates on incremental clinical data presented in the PMR without sufficiently accounting for historical real-world prescribing behaviors. This is counterintuitive to what one would expect – historical behaviors and experiences typically influence future actions.

**Figure 2: Current Market Share vs. Future Market Share**

% of Future Prescribing Behavior Explained by Current Prescribing Behavior



■ Standard Approach ■ Tethered Approach



### 3

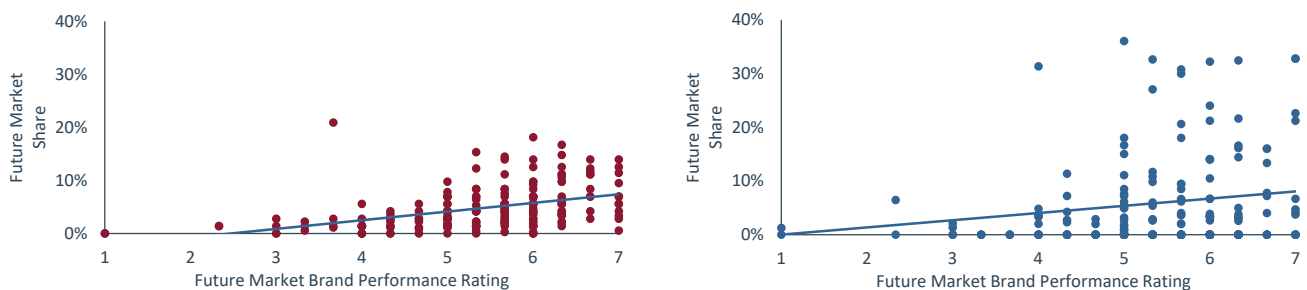
## It offers an objective alternative to rating-based share adjustment

Whenever a separate dataset is used to alter the primary dataset, there is concern about the impact it may have on the internal consistency of the primary dataset; whether it will disturb intuitive correlations that exist in the data, such as attitudes predicting related reported behaviors. In the current scenario, we wanted to understand how the use of RWD to calibrate future market share might impact its association with future market brand performance ratings.

The results shown in Figure 3 suggest that the overall trends between the brand performance ratings and share remained consistent between the Standard and Tethered approaches; the best fit lines in the two graphs have comparable slopes. This assumption was empirically confirmed by calculating  $p$ -values. These values quantify the strength of association between variables; smaller values indicate a stronger relationship, and values below 0.05 are conventionally considered statistically significant. This analysis presented  $p$ -values  $<0.01$  for both analyses, indicating that the relationship remained strong and statistically significant with either approach. Based on these findings, **the Tethered approach offers a robust alternative to the Standard approach for share adjustment, reducing sole reliance on HCP-reported data for improving share estimates.**

**Figure 3: Comparing Future Market Brand Performance Ratings and Future Market Share**

Future Market Brand Performance Rating Association with Future Market Share



Strength of Association ( $p$ -value)

$<0.01$   $<0.01$

0



Smaller the  $p$ -value, stronger the association

1

■ Standard Approach

■ Tethered Approach

## How Does the Tethered Approach Improve Share Calibration?

The evidence presented above suggests that the tethered approach improves share estimation without compromising survey data integrity.

**But *how* does it help improve share calibration? Are there specific HCP types that the Tethered approach does a better job of calibrating versus the Standard approach?**

To delve deeper, Trinity experts compared the responses to various attitudinal and behavioral questions from the survey for two groups: HCPs whose share estimates via the Tethered approach and Standard approach were sufficiently different versus HCPs whose share estimates were comparable. This analysis revealed two HCP types (not mutually exclusive) for whom share estimates varied across the Tethered and Standard approaches.



### HCPs who have bullish personality traits

- » These HCPs were more likely to be high prescribers (i.e., those who prescribe the product of interest in a proportion of patients more than the sample median) and tended to be more optimistic about future market/pipeline brands based on their responses on attitudinal rating questions



### HCPs who have issues considering “pull throughs” in making prescribing decisions in the survey

- » These HCPs were more focused on the clinical merits of the brands based on the ratings they offered in the survey and did not consider whether their prescribing decisions would translate into filled scripts based on their responses on attitudinal rating questions
- » Specifically, these HCPs were somewhat disconnected from market access considerations and did not take patient acceptance into account



## Next Steps for Applying the Tethered Approach

There are three important things to keep in mind when applying this approach to demand research:

### 1 Identifying the *right* RWD

RWD is critical for this approach, so identifying RWD that is reliable and valid for the therapeutic area of interest is also important. For example, some data have better outpatient coverage, while others have better inpatient coverage. Remember that *not all RWD are created equal*. Companies running demand studies may already have relevant HCP-level secondary data that may be licensed for use on these studies via Third Party Access (TPA). If data are not available, consulting companies often have partnerships with secondary data providers that may be leveraged for this purpose.

### 2 Selecting appropriate “tethers” to the current market scenario

As the Tethered approach uses relevant brands in the current market scenario to help calibrate the future market, it is important to pick an appropriate tether. In scenarios where new data are presented for an existing brand in the future market, using current market prescribing for that existing brand may be an acceptable tether. When a novel brand is introduced in the future market, current market prescribing for the product class or a relevant analogue may be acceptable tethers; but even if an exact tether is not available for your novel brand, incorporating historical behaviors from RWD will improve share estimates.

### 3 Improving forecast model outputs

Pressure-testing key forecast drivers is critical. Broad availability of RWD offers an opportunity to incorporate historical customer behaviors into predicting therapy adoption. This “tethering” has the potential to improve forecasts – **the better the input, the better the output**.

**The Tethered approach significantly improves share estimates without compromising survey data integrity. Using such an approach can effectively generate more robust forecast models for brand commercialization.**



## About Trinity

Trinity is a trusted strategic commercialization partner, providing evidence-based solutions for the life sciences. With over 25 years of experience, Trinity is revolutionizing the commercial model by providing exceptional levels of service, powerful tools and data-driven insights. Trinity's range of products and solutions includes industry-leading benchmarking solutions, powered by TGaS Advisors. To learn more about how Trinity is elevating life sciences and driving evidence to action, visit [trinitylifesciences.com](https://trinitylifesciences.com).

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