Call Planning

Case study

Chicago, IL
Bangalore, India
www.mu-sigma.com

May 2013

For a top ten pharmaceutical client, we reviewed and redesigned their sales force call planning process

Situation

- The client engages in a call planning exercise twice a year in order to develop a Plan of Action (POA) for its sales teams
- For each iteration over the last 2.5 years, changes in business rules have been incorporated in an ad-hoc manner
- The client is looking for a cost-effective means to generate the call plan without compromising on quality and accuracy

Complications

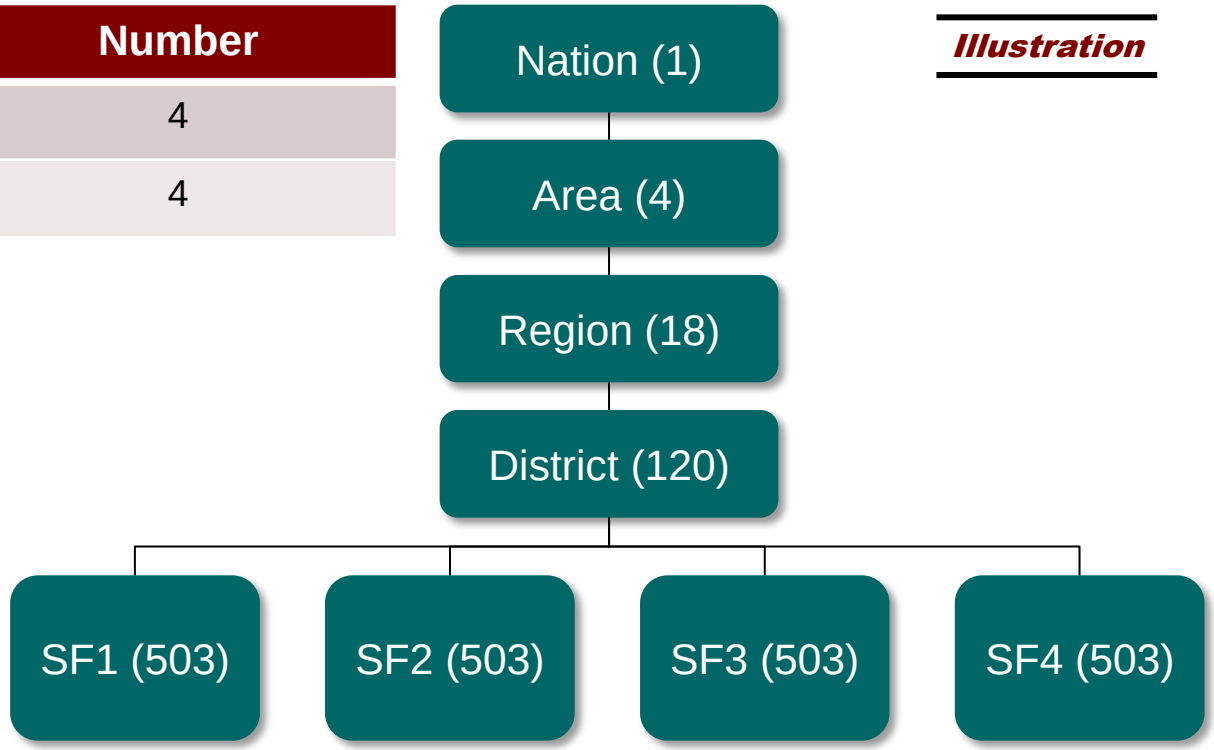
- Costs associated in developing a call plan were high as the process was time consuming and tedious
  - Changes in business rules were harder to implement as they had not been planned for
  - Input data layouts changed from iteration to iteration
- Historically there has been no effective process of measuring the effectiveness of a call plan once it is deployed

Key Questions

- How should we design an optimal call plan that meets organization and brand objectives?
  - How do we design a process that is flexible , reusable and scalable?
- Once implemented, how can we measure the effectiveness of a call plan on an ongoing basis?

The client's PCP sales force consists of 2,012 reps deployed into 4 geographically-mirrored sales teams that promotes 4 products

Dimension	Number
Teams*	4
Products	4



*Universe: All prescribers except few key specialties

There was continuous client participation in the call planning exercise, making it a white-box exercise

Illustration

		Week										
		0	1	2	3	4	5	6	7	8	9	10
Phase I	Business rules generation	M										
Phase II	Call plan development			M		M		M		M		
Phase III	Final production										M	M
Phase IV	CRM Implementation											M
	Mu Sigma deliverable format	Excel /PPT /doc		PPT		PPT		PPT		PPT/ Excel		Excel /txt

Client

Mu Sigma

Mu Sigma/Client

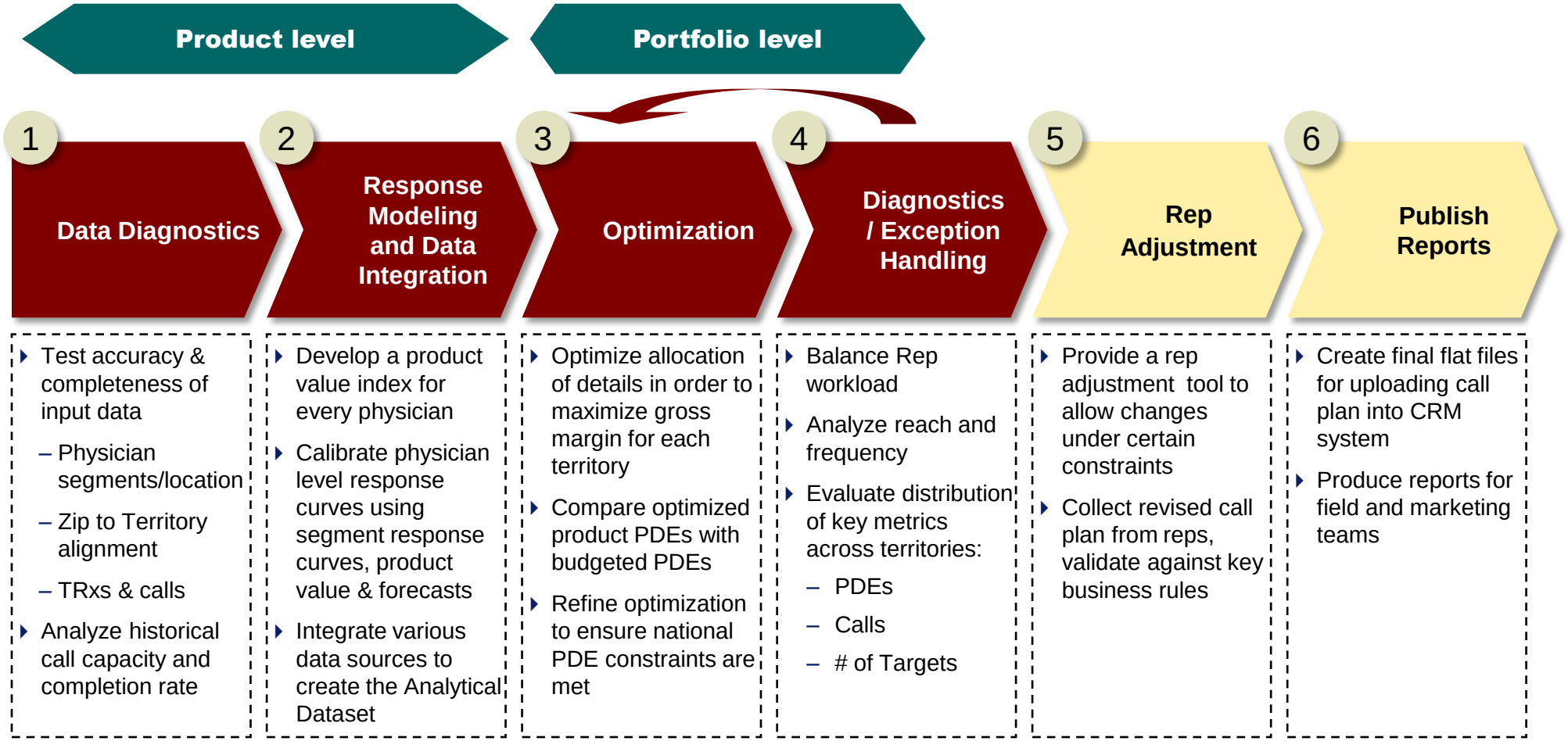
M – Client meeting

The call plan was governed by a few key business rules and constraints

Illustration

Category	Business rule/constraint	Rationale
National level constraints	Product detailing position by segment	To ensure that certain segments or specialists get the due focus
	Product level PDEs	To ensure overall effort distribution is in-line with budgets
Rep level constraints	Geographic Frequency Cap	Targets farther than a certain distance from territory workload center are subject to a specific call frequency cap
	Call capacity for each rep	Practical limitation of the number of calls a rep can make
	Recommended call frequencies per rep must be divisible by 6	Makes the call plan easier to implement and frequencies routable
	Minimum disruption to existing rep to customer relationships	To maintain current customer relationships
	Maximum number of targets for each rep	To ensure that reps efforts are not spread too thin and help build relationships with Physicians through higher frequency
MD level constraints	Maximum calls/doc/year rep = 12	Practical access limitations
	Maximum calls/doc/year from all reps = 48	To ensure that not more than 4 reps call on a doctor

We followed a 6 stage process for efficient call plan design and implementation



Data QC is a crucial step in call planning as the entire exercise depends on the quality of the inputs to the process

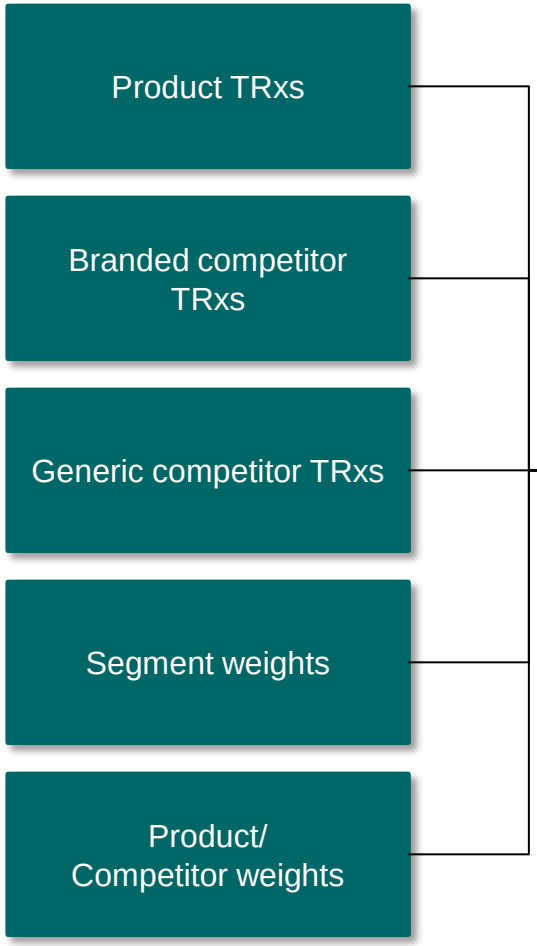
Category	Input
Physician data	Physician profile/universe
	Prescription Data
	Physician "Do not call" list
	Deciling and Segmentation
Sales force related data	Response Curves
	Capacity Assumptions
	Call Activity Data
	Previous call plan
	Alignments
	Rep level Adds and Deletes (Rep adjustments post-call plan development)
	Business Rules/Constraints
Product related data	Product margins, forecasts

The following checks were performed in order to sanitize the input data

- Physician's current status (Retired/Expired/DND)
- Previous year's call plan achievement
- Consistency among different data source of same type
- Physician segmentation and distributions by geography
- Test accuracy & completeness of input data
  - Do all physicians belong to a segment and have a valid zip code?
  - Are all zips assigned to a valid territory?
  - Are prescription and call data complete?
- Analyze historical call capacity and completion rate

A product value index was created for each physician in the universe

Illustration



Assign physician value

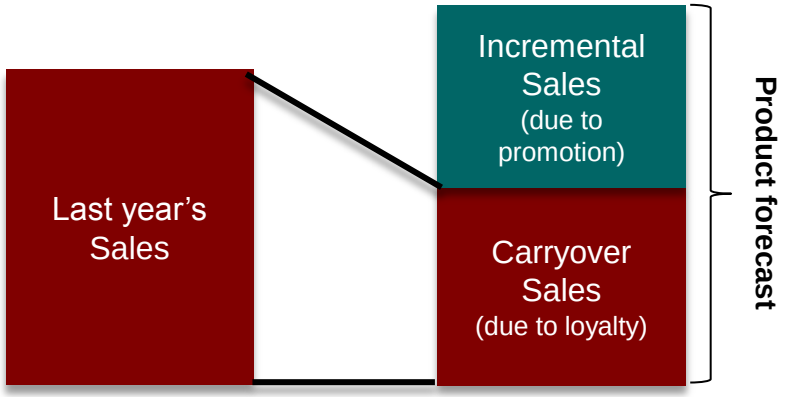
MD Valuation index = f(Prod Defn, Prod Wgt, Mkt Defn, Mkt Wgt, Spec Wgts,,…)

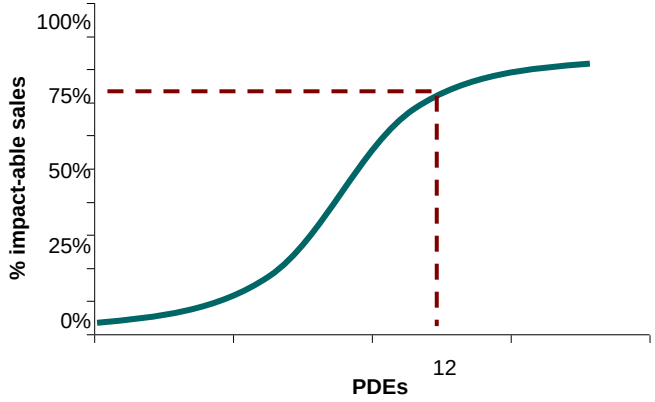
Create Index (0 – 100)

Unique physician ID	Segment	Index
1835461	Pulm	100
0021345	Pulm	98
4538296	FP	95
7455932	Ped	93
1298653	IM	92

Response curves for each segment/cluster were calibrated based on physician value and product forecast to create MD level response curves

Illustration





Unique physician ID	Segment	Current PDEs	% impact ($\%imp_i$)	Value index (V_i)	$ impact
0236421	A	12	75%	70	$4,200
1643808	B	18	80%	78	$5,600
2645906	C	0	0%	56	$0
9863298	A	24	90%	96	
				Total	**$**

Will equal Incremental Sales

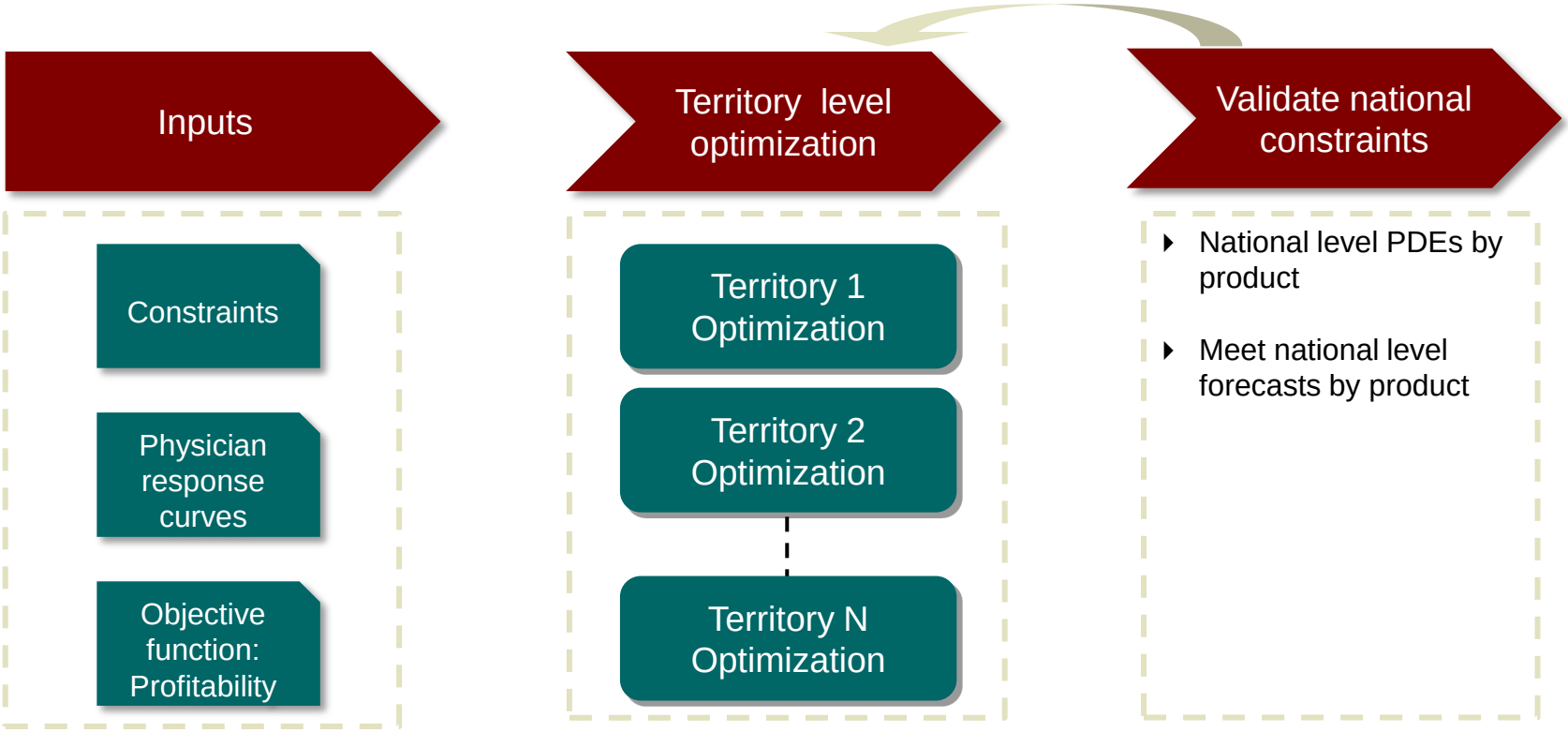
$\sum_i \%imp_i * X * V_i$ = Product forecast ($)

where
i: represents a physician for a given product

Maximum impact-able sales is defined by $V_i * X$ for every physician where X can be solved for using the above equation

We used hierarchical optimization technique to optimally allocate effort within a territory and meet national constraints

Illustration

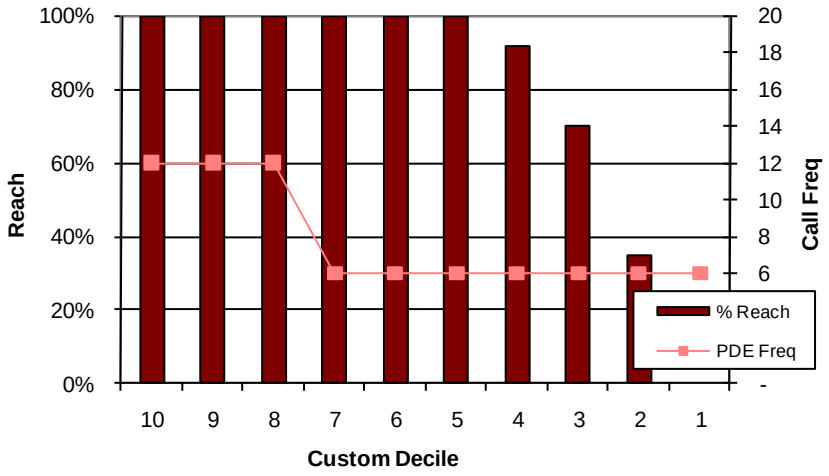


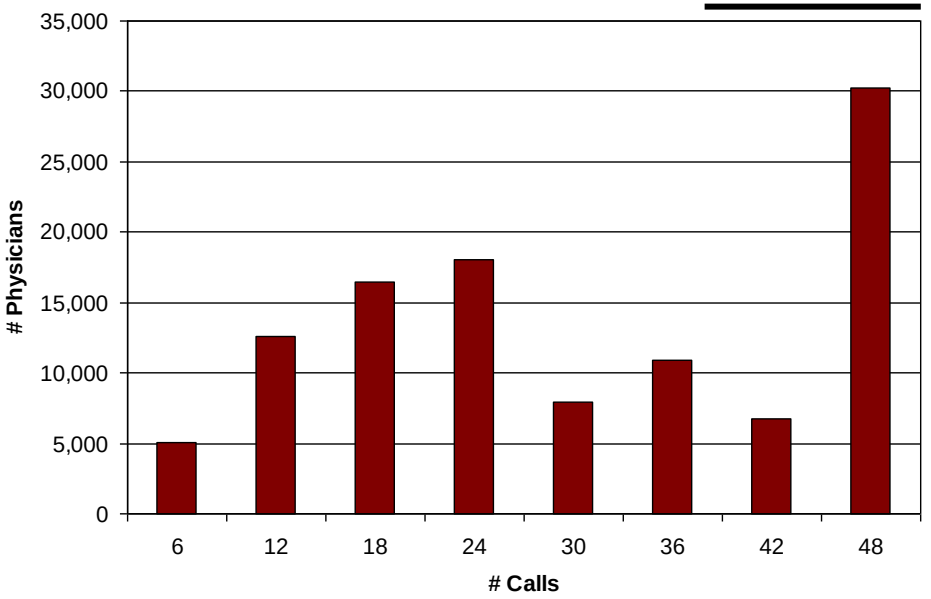
Problem formulation:

Maximize $\sum_{i,j} f_{i,j}(PDEs_{i,j})$ * $PDEs_{i,j}$ * margin where $f_{i,j}(PDEs_{i,j})$ is the response function, subject to constraints like $\sum_{i,j} Calls_{i,j} \leq$ Call capacity, $Calls_{i,j} \leq 12$ etc.

The results of call planning were analyzed to ensure that the call plan made business sense with no violations of business rules

Illustration





Product:	P1	Specialty:	PCP	Team:	T1		Segment	All

						Historical					Call Plan					
Custom Decile	MD Universe	Eligible Target Universe	% Eligible	Cum. MDs	Relative Value	Product TRx/MD	Market TRx/MD	MDs Reached	Reach	Calls	MDs Reached	% Reach	Calls	%P1	%P2	%P3
10	7,232	6,976	96%	6,976	100%	6	324	6,784	97%	10	6,976	100%	12	84%	12%	4%
9	15,232	14,528	95%	21,504	36%	4	223	13,632	94%	10	14,528	100%	12	76%	14%	10%
8	18,880	17,472	93%	38,976	19%	3	115	15,808	90%	9	17,472	100%	12	65%	23%	12%
7	23,552	20,928	89%	59,904	11%	2	78	18,432	88%	8	20,928	100%	6	68%	21%	11%
6	21,824	19,776	91%	79,680	6%	2	34	15,808	80%	6	19,776	100%	6	62%	28%	10%
5	21,760	18,944	87%	98,624	4%	1	23	12,032	64%	5	18,944	100%	6	58%	13%	29%
4	20,352	17,280	85%	115,904	2%	0	18	10,304	60%	4	15,898	92%	6	46%	50%	4%
3	16,448	13,696	83%	129,600	1%	0	12	3,968	29%	3	9,587	70%	6	38%	51%	11%
2	8,448	6,272	74%	135,872	0%	0	7	1,408	22%	3	2,195	35%	6	17%	50%	33%
1	4,352	2,688	62%	138,560	0%	0	3	384	14%	2	511	19%	6	8%	28%	64%
0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	158,080	138,560	88%			2	78	98,560	71%	7	126,815	92%	8	67%	20%	13%

Diagnostic tests helped us in assessing the quality of the call plan

Illustration

Overall effort levels for all brands

Product	Primaries	Secondaries	Remainders	PDEs
Product 1	902,818	455,765	19,437	1,132,644
Product 2	700,745	342,927	26,789	874,887
Product 3	883,908	266,726	55,087	1,022,780
Product 4	678,736	173,927	78,927	773,592
Total	**3,166,207**	**1,239,345**	**180,240**	**3,803,903**

Team's efforts across brands

Team	Product	Primaries	Secondaries	Remainders	PDEs
T1	Product 1	300,939	130,219	9,719	367,020
	Product 2	233,582	114,309	8,930	291,629
	Product 3	294,636	88,909	18,362	340,927
	Total	**829,157**	**333,436**	**37,011**	**999,576**

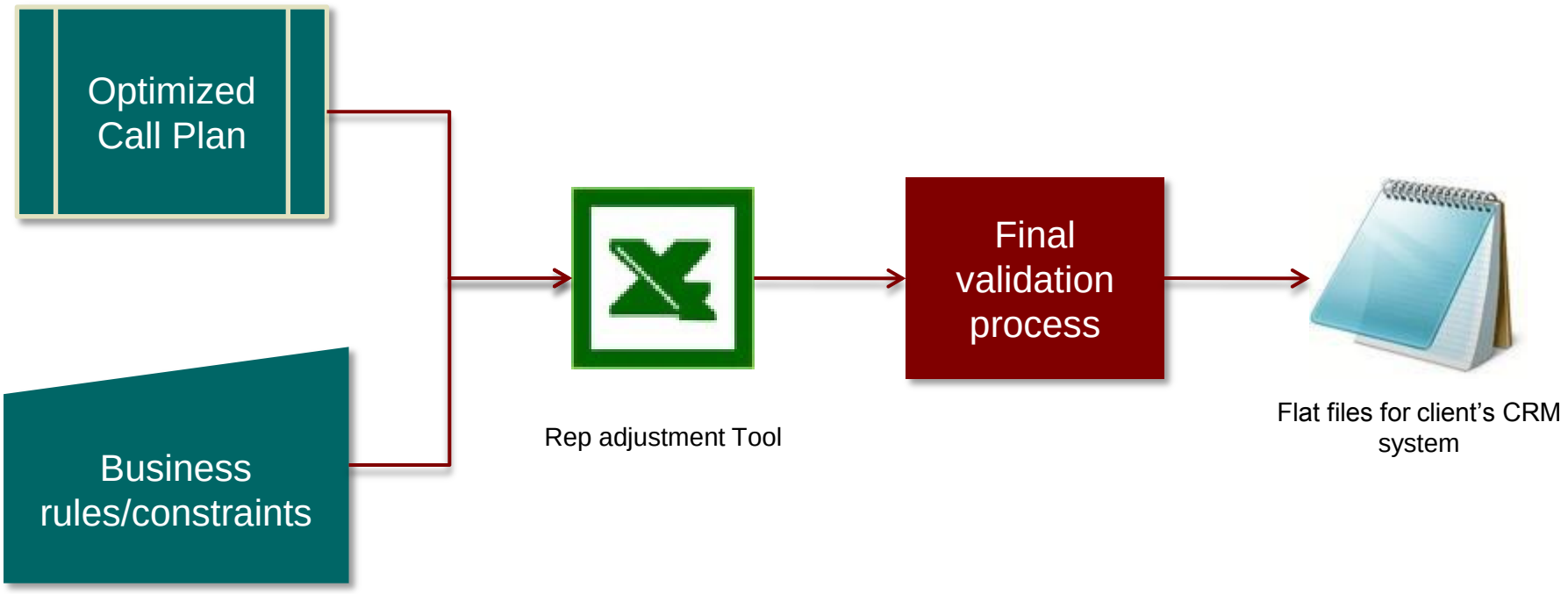
Workload balance across reps

Team	Call capacity	# Territories
T1	1,302	15
	1,404	56
	1,500	113
	1,602	319
Total		**503**
Average calls/rep		***1,550***

Some other diagnostic tests

- Brand's effort break out across teams
- Distribution of targets by geography
- Reach and frequency by brand, team, segment
- Overall frequency distribution at national level
- Distribution of #reps calling on a single physician
- Distribution of #products detailed by a team to physicians
- Disruption of rep-physician relationship

Reps were given the opportunity to tweak their call plan to a certain extent to account for local conditions subject to business rules/constraints

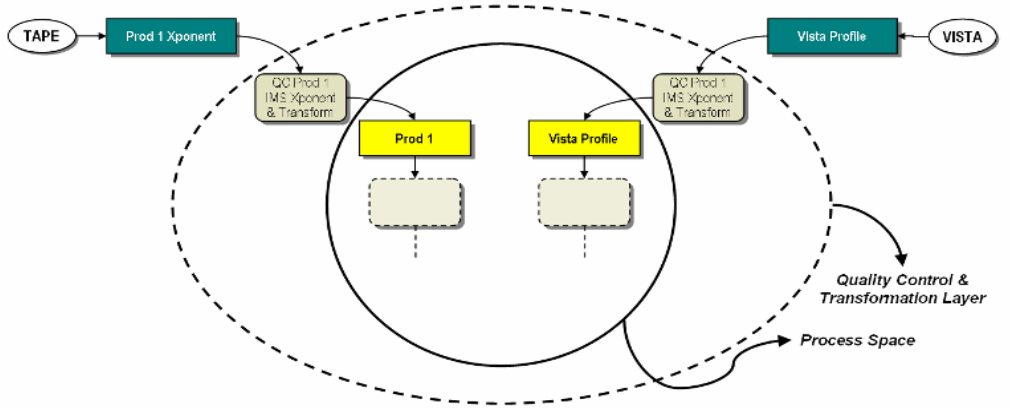


We re-validated that the key constraints were met after the adjustments from the field and published the call plan

The call planning process was designed to be modular, flexible and scalable for future ease of use

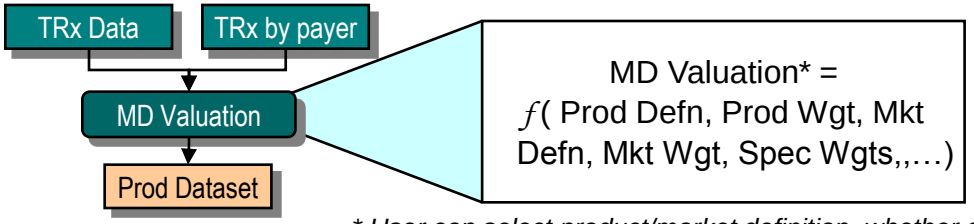
- **Modular**

(short process steps with defined input and output formats, ensure process steps do not need revision even if external inputs change)



- **Flexible**

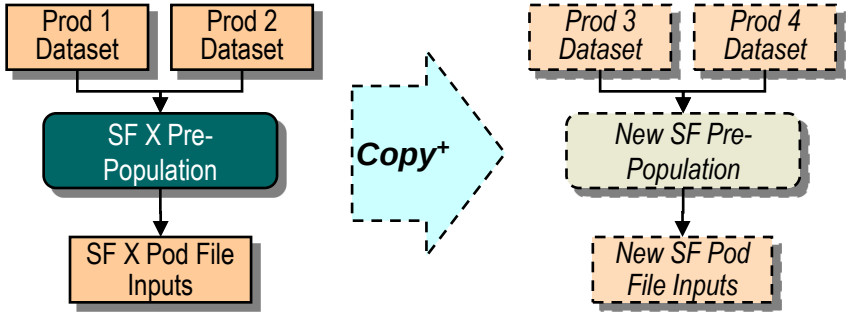
(Process steps offer users choices of inputs and approaches)



** User can select product/market definition, whether or not Product2 is to be used.*

- **Scalable**

(Additional sales forces and products can be added with minimal effort)



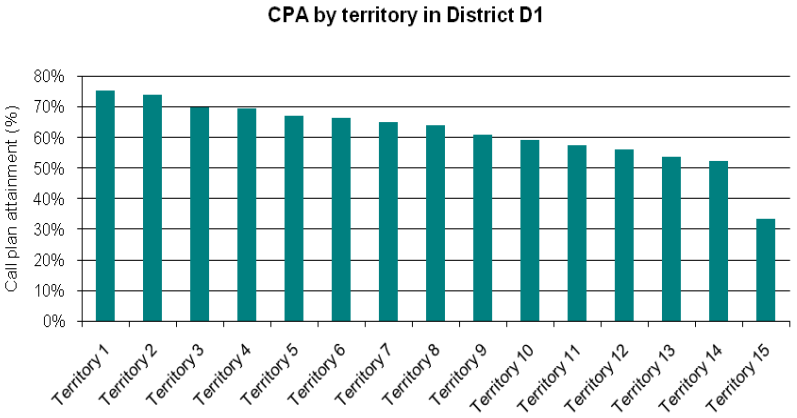
+ A new sales force or product can be accommodated by simply making a copy of an existing process step and changing input parameters

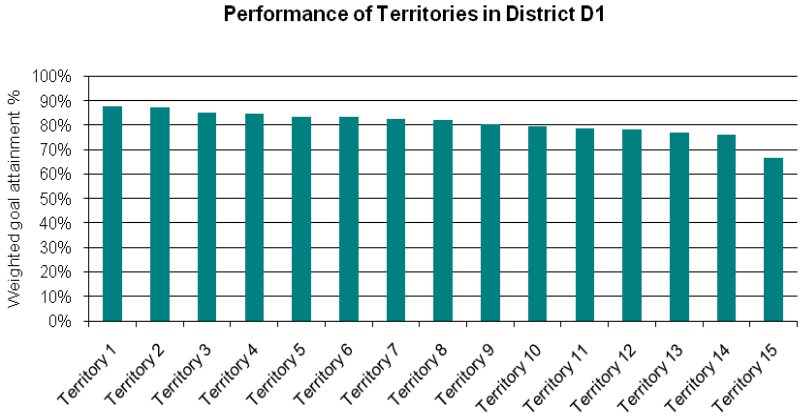
Potential issues that we did not face, but could have faced

- Co-promotion
- New launch product / product going generic
- Rep hierarchy i.e. team lead

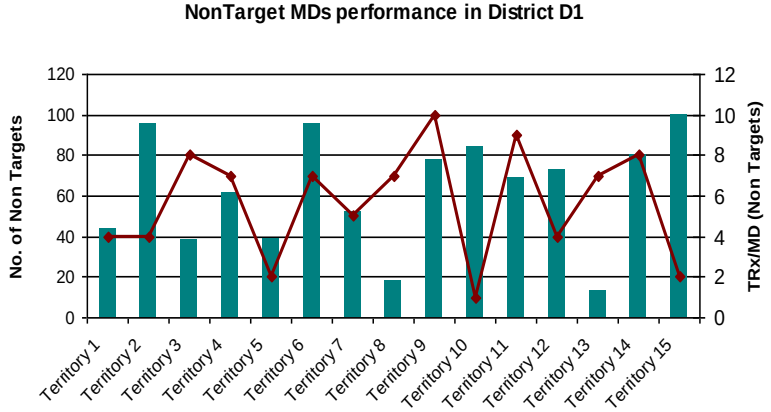
The effectiveness of the call plan is currently being measured to ensure continuous improvement…

Illustration





CPA – Call plan attainment



…for example, non-target physicians are being analyzed to determine their future value

Illustration