



2018 Performance Plan for W David Furman

Employee Information

First Name	W	Location	UPPER GWYNEDD PA USA-OFF
Last Name	Furman	Country	USA
Job Title	Sr. Spclst, Quant. Sciences-(56153133)	Manager	Senthil Murugan
Personnel Sub Area	GHH-Z005	Job Code	56153133

Year End Review

Overall Performance Category

Successful

Year-End Review Comments

Managers Comments

Summary

In 2018, Dave worked with various vendors and provided impact measurements for various adherence related promotional programs. He consulted on measurement plans, provided data and performed internal ROIs for various point of care programs, in-store, at-home and non-personal third party managed promotional programs. Brands that Dave supported on these initiatives includes Gardasil, Pneumovax, Nexplanon, Belsomra, Asmanex, Dulera and Januvia franchise with total investment of about \$10MM on these promotions.

Dave developed marketing mix model to measure impact of Pneumovax MCM and MMF programs. This helped the brand team to appropriately allocate funds for these programs (through IPF analysis). Dave used new GPO / IPP data sources to measure impact of GPO speaker programs on Keytruda claims. This was well received by his clients. Dave also designed and measured ad-hoc digital pilots for Sivextro and Gardasil. He developed PRCs for Gardasil, Pneumovax and Nexplanon which served as a key input to develop the call capacity and call plans for these brands by other IADS team members. Dave organized R training for the IADS group and made this training cheap and effective for the group. Dave also managed graduate intern recruitment process for 2018 and 2019 programs. He mentored and coached the intern Jue Wang and helped her to apply cutting edge data mining techniques to determine effective promotional sequences.

Later in the year Dave took a new responsibility and has been quickly learning the nuances involved in designing coupon offers and the patient's abandonment and adherence behaviors. In this capacity Dave helped to determine coupon, Evoucher and denial conversion program budget

allocations for Steglatro (2019 plans) and is studying the optimal coupon design for Januvia franchise.

Dave executed above mentioned projects very successfully. Dave puts in a lot of extra effort to meet his project commitments. Dave is always willing to learn new areas and this has been a key asset in quickly adapting to his new role. Dave takes a special interest and pride in developing young talents, which has been very helpful for IADS team to identify good future talents. Dave's collaborative, consultative approach and his willingness to guide and work with variety of vendors have helped the promotion optimization team to keep the lights on.

Stakeholder Feedback

Dave's stakeholders highly appreciate his responsiveness and his ability to work seamlessly with variety of agency partners. They find him to be professional, reliable, thorough and thoughtful. Dave is always willing to provide his insight into any of the issues his clients have and to interact with the vendors directly. His stakeholders appreciate Dave's deep understanding of the programs, the vendors and the analytic frameworks.

Performance Priorities

Current

Integrated Customer Engagement

Business

- a. Steering: Participate in strategy formulation, planning and execution for overall evolution.
 - b. Pilots:
 - i. MVD - manage vendor and/or in-house analytics for pilot(s)
 - ii. Other pilots - support planning and measurement.
 - c. MVD - Retail Pharmacy Sales Force (PCR and US3C) deployment; support planning and measurement
 - d. MVD - US3C deployment - Accounts and Inbound Calls; support planning and measurement.
 - e. Infrastructure: Continue to champion and pull through 360 Degree View. Support leadership in informing structural changes to support ACE (e.g., formation of new job functions to report operational metrics reporting).
- Exceeds: Major components of objective demonstrably used to inform expense allocation decisions within and/or between product families.

Managers Comments

Dave designed and evaluated pilot programs to quantify the impact of digital promotions (~\$250K investments) for Sivextro and Gardasil. This informed the brand team on expansion plans for such digital promotions.

Priority Details

Due Date 12/31/2018

Priority Updates 1. W David Furman
12/14/2018
• Sales Force Pilots
o Sivextro (2018):
reselected HCPs for test
and control groups using
new target list for proposed
2018 digital pilot. Performed

a comparative and measurement/feasibility analysis of the proposed test and control group.
Investment: \$0.075MM
o Gardasil MN/Wi Digital Pilot (2018): evaluated measurement/feasibility of a randomly selected test/control group for this pilot from reduced target list; unable to select a well-matched control group, recommended using controls from surrounding states; however, this plan had low measurability.
Investment: \$0.15MM

Current

Investment Prioritization Framework

Business

a. Scope (except as noted): JANUVIA product family, ZETIA product family, DULERA, NASONEX, ZOSTAVAX, GARDASIL, PNEUMOVAX23, NEXPLANON, KEYTRUDA, other TBD

b. Promotion:

i. Curves/Optimization: Initiate and deliver promotion response curves by investment type and optimization scenarios across promotion investments within key franchises. Deliver direct selling response curves for pharmaceutical products and vaccines (see PRC Evolution under Core Services objective).

ii. Scoring: For all US Market products, produce guidance for Rick Hartz to array Promotion expense target by franchise based on objective metrics.

iii. In-Year Trade-Offs: Continue partnership with Finance to foster efficient communication of ROI results and improved process for informing in-year trade-off decisions.

c. Holistic View: Manage packaging and socialization of holistic view of managed care discounts/rebates (US Market only), direct selling and promotion expense base for key franchises.

Exceeds: All key deliverables completed and communicated in time to inform Budget discussions, and brand/market leaders demonstrably use output to inform material decisions.

Managers Comments

Dave developed spline based PRCs for vaccines and Women's Health brands such as Gardasil, P23 and Nexplanon. These PRCs were developed for various segments within each brand and was a key input to determining the appropriate optimal call plans for each of these brands. The tight deadlines for this project were quite challenging and Dave met these deadlines by putting in lot more extra efforts.

Priority Details

Due Date 12/31/2018

Priority Updates 1. W David Furman
12/14/2018
• Vaccine/Specialty
Promotion Response
Curves (PRC): developed
customer segment PRCs
(year ending May18) for:

- o Gardasil (High/Low Meningitis, Nation)
- o Pneumovax 23 (Clinics/Hospitals, Nation)
- o Nexplanon (High/Low Market, Nation)

Current
Core Services

Business

Continue to proactively identify and follow through on measurement opportunities across US Market and MVD.

Key Deliverables include:

- a. Field PRCs: For direct selling, produce national and/or segment level promotion response curves based on HCP-level data (for primary care pharmaceutical products) and/or geography-level data (for hospital/specialty and vaccines as agreed).
 - b. HCP Sales Impact/ROI: Estimate results and deliver actionable recommendations for ongoing and new programs as identified and needed [e.g., Field and US3C sales representative delivered/managed promotion (e.g., details, product samples, Representative Facilitated Meetings, Merck Medical Forums, “non-personal” programs/campaigns)].
 - i. Retrospective: Continue to produce/manage core analyses.
 - ii. Prospective: Manage and pull-through use of Multi-Channel Tool (a.k.a, “Channel Choice Simulator”) to leverage Promotion Manager expertise for filling in gaps in measured ROI data.
 - c. HCC Media Sales Impact/ROI: including Marketing Mix Models
 - i. Retrospective: Deliver ROI results for DTC TV campaigns and in-office programs.
 - ii. Prospective:
 - 1. Online Media: Review, approve and leverage Evolution Road assumption-based models for online consumer-directed media.
 - 2. TV/Print: Partner with Customer Engagement Optimization team to inform assumptions needed for their simulated TV and print media pro forma ROI models.
 - d. Adherence: Revise (if needed) and install SOP for design, execution and vetting of adherence studies in partnership with Finance and Adherence teams.
 - i. Protocol: Revise (if needed) and deploy standard protocol for adherence service providers to position each program to deliver unbiased and robust results are delivered (incremental pills and fills).
 - ii. Review: Agree to review and communication process with vendors, Finance and Adherence teams to ensure that results can be fairly interpreted and leveraged by Merck.
 - e. co-pay/voucher support, leading and conducting analysis of historical performances, formulating more optimal deployment scenarios, predicting likely future performance of these scenarios, designing/analyzing in-market pilots for candidate scenarios and providing recommendations for optimization of this important resource. Work w/the Consumer Marketing Center of Excellence, brand teams, finance, and legal to support realization of optimal deployment
- Exceeds: Major components of objective demonstrably used to inform expense allocation decisions within and/or between product families.

Managers Comments

Dave spent much of his 2018 efforts on delivering various core services of our promotion optimization team. Dave quickly adapted to his new role as patient access program lead towards the end of the year and supported coupon / voucher design and impact analysis for Steglatro. He worked closely with IQVIA and Digitas Health to understand the patient abandonment and adherence to the Januvia business.

Dave is a primary point for understanding the impact of various promotion programs aimed at improving product adherences (\$500K investment). He consulted with and evaluated ROI methodologies and results for various brands and vendors such as Connective Rx, Rx Edge, Practice Fusion, Walgreens and Optimize Rx.

Dave also consulted on measurement plans, provided data and performed internal ROI for various point of care (POC) programs, in-store, at-home and non-personal third party managed promotional programs. The brands here include P23, Gardasil, Nexplanon, Belsomra, and Zostavax. Various vendors that Dave consulted with on these programs are Coverwrap, Medicx, RxEdge, Outcome Health, Phressia and WebMD. The total investments informed here is about \$9MM.

Dave analyzed the promotional impact of MCM/MMF programs for P23 through Marketing Mix Models. These modeling methods are complex and needs exploration of wide array of statistical techniques and most importantly - perseverance. Some art is also involved in determining these impacts and Dave patiently went through multiple combinations of techniques and chose appropriate final model and estimates. This helped to inform IPF process for P23 and helped to determine the optimal allocation of about \$6.5MM investment in non-personal MCM promotions for the brand.

Dave is always willing to enter into new areas and was instrumental in collecting and understanding GPO / IPP data for various GPOs for Keytruda. He used this data to analyze the impact of GPO / IPP speaker programs and showed that GPO attendees within a given institute had lot more impact on business than the doctors who did not attend such programs from the same GPO organization. Further explorations of these programs are being done in 2019. Dave's initial research has provided a wealth of knowledge on appropriate use of GPO data for our future analysis. The analysis was well received by the Keytruda team responsible for executing these programs.

Priority Details

Due Date	12/31/2018	Priority Updates	1. W David Furman 12/14/2018 • Coupon/Voucher Design Optimization – consulted on the following projects: o Steglatro 2019 Coupon/Voucher Optimization Study w/Senthil Murugan – coupon design analysis w/goal of optimizing design by adjusting max payout o Publicis/Saatchi/Digitas Health Januvia Copay Design Analysis: Proof-of-Concept study looking for ways to optimize 2019 coupon design. Provided McKesson coupon/redemption data and IQVIA LAAD data to Digitas Health for use in study. o IQVIA Abandonment/Adherence
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Study for 5 Markets –
needed for optimal design of
2019 coupons

2. W David Furman
12/14/2018

- Adherence: provided measurement methodology consultation for 3rd party POC, in-store, and at-home adherence programs. (Helped Finance perform ROIs.)

- o Connective Rx

(ScriptGuide, PhysicianCare, CarePoints):

Asmanex, Januvia, Janumet, Janumet XR, Dulera, Belsomra, Isentress;

total investment: \$MMs

- o RxEdge (In-store):

Belsomra (\$0.2MM)

- o Practice Fusion: evaluated methodology for proposed programs

- o Walgreens Adherence

Letters: evaluate methodology for proposed programs

- o Adheris Health: Asmanex (\$0.012MM), Belsomra (\$.057MM), Dulera (\$.026MM),

Janumet/Janumet XR

(\$0.066MM), Januvia

(\$0.13MM)

- o Optimize Rx: evaluated methodology for proposed programs

3. W David Furman
12/14/2018

- Consultation: provided data, consulted on measurement plan, and performed internal ROIs for various 2017-2018 POC (in-office), in-store, at-home, and non-personal 3rd party managed promotional programs.

- o Patient Point (POC):

Pnemovax 23 (3 programs – \$0.99MM), Gardasil (2

programs - \$1.17MM)

- o Coverwrap

Communications (POC):

Nexplanon (\$0.5MM),

Belsomra (\$2.00MM)

- o Targeted Media Health

- (POC): Belsomra (\$0.30MM)
- o Medicx (email): Gardasil (\$0.50MM)
- o RxEdge (in-store): P23 (\$0.53MM)
- o Outcome Health (POC): Zostavax (\$1.5MM), P23 (\$0.50MM), Nexplanon (\$0.32MM)
- o Phreesia (POC): Zostavax (\$0.43MM)
- o WebMD Poster (POC):

Gardasil, P23 – consulted on measurement plan for proposed programs

4. W David Furman
12/14/2018

- GPO/IPP ROI Analysis
- o Measurement/Feasibility: Reviewed GPO data (oncology claims from ION, McKesson, and Cardinal GPOs: Jan16-Aug18) to determine if this data could be used to measure the Keytruda sales impact of IPP attendance (IPPs are HQ MMFs that are held at GPOs – the GPOs are paid for sponsoring programs and they recruit attendees: Jan17-Jul18).
- o Measurement Plan: developed analysis plan (test/control)
- o ROI Measurement: implementing ROI measurement w/expected completion in Q418.
- o Investment: \$MMs

5. W David Furman
12/14/2018

- Pneumovax 23 (P23) MCM/MMF ROI Analysis: evaluated the sales impact of P23 MCM and MMF programs (Nov16-Oct17) using marketing mix models for:
- o Doximity: \$0.45MM
- o Medscape: \$1.74MM
- o DMD: \$0.30MM
- o PDR/NexGen \$0.48MM
- o Overall MCM: \$2.97MM
- o Overall MMF: \$0.59MM

Operational Transformations:

- i. PRC Evolution: Evolve PRC and other processes to more broadly account for factors such as managed care (e.g., working with Contract Optimization team) and accounts/institutions (e.g., working with Customer Engagement Optimization team for hospital/specialty products and vaccines).
- ii. Data Sources: Identify and pull through opportunities to improve:
 - 1. NPV per New Patient: Adherence input assumptions based on current sources may be unstable. Explore and, if appropriate, institute more robust assumptions (e.g., Adheris, outcomes research based across therapeutic categories).
 - 2. Other: Provide advisement to team(s) looking to source additional data for consumer targeting.
- iii. MSD Promotional Effectiveness: Provide consultation and advisement to ex-US teams seeking support from US Market point of view (e.g., to inform global contact center expansion, to champion use of ROI modeling tool developed in 2013).

Exceeds: Operational transformations are accomplished efficiently and effectively pulled through to become business as usual.

Managers Comments

Dave explored whether how data at national vs zip vs HCP level aggregation impacts the estimated bias in carryover for Januvia NRx/TRx (using US data). This analysis guided our France analytics team to appropriately adjust the carryover estimates and allocate appropriate impactable revenues to promotional channels.

Priority Details

			<ol style="list-style-type: none"> 1. W David Furman 12/14/2018 Evaluated Januvia NRx/TRx carryover at national level to compare to estimates found at HCP and zip level to see how aggregation impacted carryover estimates. 2. W David Furman 12/14/2018 • Vaccine/Specialty Promotion Response Curves (PRC): developed customer segment PRCs (year ending May18) for: <ul style="list-style-type: none"> o Gardasil (High/Low Meningitis, Nation) o Pneumovax 23 (Clinics/Hospitals, Nation) o Nexplanon (High/Low Market, Nation)
Due Date	12/31/2018	Priority Updates	

Current

Personal Development

Development

- a. Employee Development: Develop procedures to measure the impact of online and digital promotion to HCPs and HCCs. Work with patient-level data. Implement key actions from Development Plan
- b. Training: Attend analytical conferences
- c. Consulting: Reach out to customers to determine measurement opportunities; provide consultation, training,

and leadership to customers and peers
d. Intern: recruit, train, and manage summer intern for work on IA&DS research projects.

Managers Comments

Another main area that Dave focused on during 2018 is the 2018 / 2019 graduate intern recruitment and management. This process consumes lot of time and Dave is always enthusiastic about bringing in and developing new talents. He educated and guided 2018 graduate intern Jue Wang and helped her to apply cutting edge data mining techniques to determine optimal HCP promotional sequences for Januvia. This project is also very helpful for internal capability development. Dave organized an R training class for whole IADS group. He recruited instructors from MRL and helped them to develop relevant materials and structure for R training class. This efficient and effective initiative saved considerable training budget for IADS group.

Priority Details

Due Date	12/31/2018	Priority Updates	1. W David Furman 12/14/2018
			• Training/Recruiting: o R-Training Class: Recruited instructors from MRL and helped them develop materials/structure for R-Training class. Held training class in Q218. o 2018 Graduate Intern: recruited, hired, trained and supervised graduate intern in summer of 2018. Intern worked on promotion sequence optimization research. o 2019 Graduate Intern: recruited and interviewed candidates for 2019 summer internship. o IA&DS Graduate Intern Program: supervised IA&DS graduate intern program. Worked with Mike DeFazio to implement and manage IA&DS intern recruitment.

Current Compliance

Business

Understand and support US Market compliance plans including:
-On time completion of all relevant compliance training
-Review updated policies to ensure firm working knowledge of them
-Conduct activities in accordance with any applicable compliance policies or procedures, i.e. ensure targeting exercises exclude "CIA excluded" HCPs.
-Raise any compliance issues or concerns immediately

Priority Details

Due Date 12/31/2018

Priority Updates

1. W David Furman
12/14/2018
Followed all compliance programs.
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Signature

Manager: Senthil Murugan

03/08/2019

Employee: W David Furman

03/09/2019