



Medical Affairs Metrics Workbook



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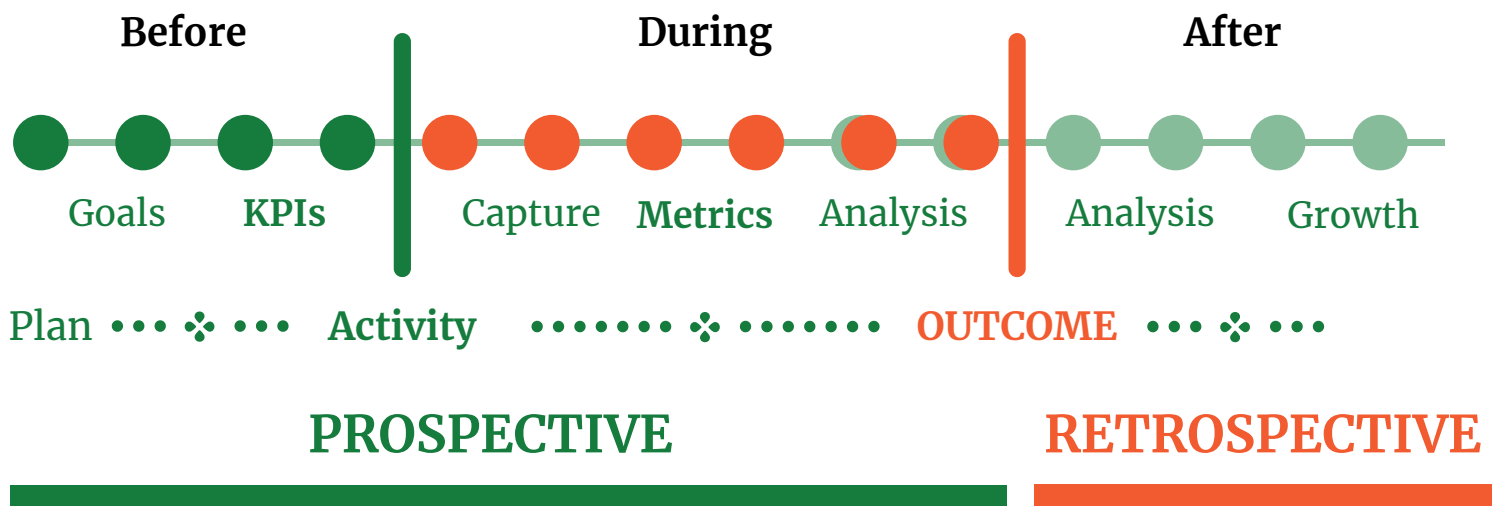


Three Common Myths of Metrics

1. Metrics mean more Competition.
2. Metrics = Outcomes
3. Metrics are meaningless, only Outcomes count.

Three Next Generation Principles of Metrics

- **Explicit Metrics** mean **More Accountability + Collaboration**. Unclear, Implicit, or no Metrics = more Competition or Internal Rivalry.
- Metrics are **measures of performance that can predict outcomes** if designed well. Metrics are **not** outcomes. Metrics are **prospective, continuous**, and measured **longitudinally**. When measured continuously, they describe a series of performances that can **predict success**. Metrics must be separated from but correlated to **outcomes** which are **episodes of success** and are **retrospective**.
- Root cause analysis of metrics may **predict future outcomes** and can **grow** and **scale performance**. Outcomes are important because they describe accountability for the past but they have no bearing on future success and therefore are not self-sufficient without metrics.



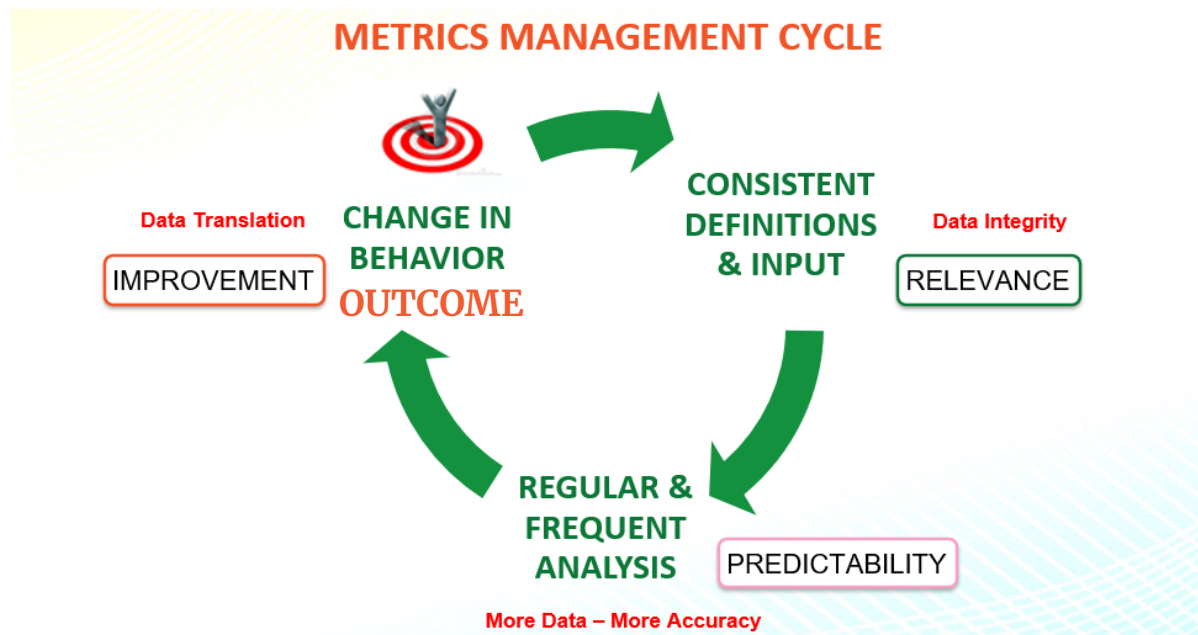
Three Key Initial Questions in Metric Design

What outcome aligned with Medical Affairs strategy are you looking to influence? **GOAL**

How does the metric relate to the outcome desired? **CONTEXT**

How close to actual activities and outcomes do you collect data? **TIMING**

Metrics (KPIs) Management is a Cycle, not an Episode



If you report bottom line outcomes alone retrospectively without a root cause analysis, you will not be effective in shaping them in the future and will only be guessing in how to predict their improvement without metrics that are relevant, consistent, predictable, and reported continuously.

1. Determine a *consistent definition* that is *relevant* to the outcome intended to modify. This definition is clear and is being recorded in the same manner by everyone. Relevance and consistent input ensures data integrity.
2. Capture metrics *continuously, regularly, and frequently* to describe trends over time. As more relevant data is captured consistently, the metric becomes more accurate and *predictive*.
3. All metrics should describe some *change of behavior* by internal or external stakeholders to demonstrate *data translation* into clinical practice or medical strategy, and *inspire improvement*, which must be their ultimate goal.

BASIC METRICS PRINCIPLES

3 KEY INITIAL QUESTIONS

GOAL -- CONTEXT --TIMING

What is the *Medical Strategy* you want to influence by implementing this metric?

To what extent does the Metric directly describe the *relationship* between the *activities* measured and the *Outcome desired*?

How *close to the actual occurrence* of the *Activities* and *Outcomes desired* do you measure them?





6 BUILDING BLOCKS OF METRICS



1. RULES

- How do you define KPIs, low vs. high performance and behaviors, or rules of engagement?
- What sources and formats do you use to measure the KPI?
- How accurately does the KPI describe the activity measured?
- How does the metric relate to outcomes?
- How do you stimulate and reward accurate reporting of data and insights?



3. PLAYERS

- How do you test exactly the variables you intend to measure?
- Which criteria do you use to select individuals whose activities and behaviors most directly impact the outcomes you seek to change?
- How do you match the right individual or variable to the right metric?
- What performance, behavior, or results do your metrics intend to inspire?



5. AUDIENCE

- With whom do you share the metrics related data and insights internally? Externally?
- What part(s) of metrics do you share with which stakeholders?
- What behaviors are the metrics intended to inspire among its final users/audience across departments internally? Externally?

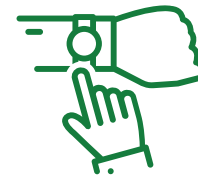
2. TIE-BREAKERS

- How do you prioritize and rank your metric or its components?
- How do you individualize KPI per stakeholder or ecosystem?
- What criteria distinguish between equal/similar performers?



4. JUDGES

- Who are the individuals that are most directly influenced by the activities you measure?
- From whom do you collect metrics and/or feedback on activities?
- How do you distribute accountability evenly based on the evaluator(s)' personal incentive, hierarchical, or non-hierarchical relationship with the person or variable being measured?
- Whom do you select to collect metrics data from the judges/reviewers to minimize bias?



6. TIMING

- When do you collect metrics in relation to the index activity being measured (data integrity)?
- When do you communicate the metrics after they are captured (improvement)?
- How frequently do you analyze metrics (predictability)?
- When do you communicate the outcomes?
- When and how frequently do you update metrics (metrics management cycle)?

6 BUILDING BLOCKS OF METRICS



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How do you define KPIs, low vs. high performance and behaviors, or rules of engagement?

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6 BUILDING BLOCKS OF METRICS



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6 BUILDING BLOCKS OF METRICS



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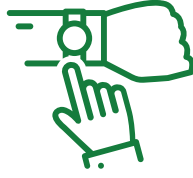
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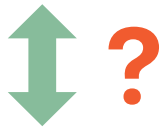


Metrics Require Translation vs. Collection alone

Metrics are Relative, not Absolute

EXTERNAL METRICS

- Attendees
- Publications
- Patients enrolled
- Number of KOL interactions
- KOL Meeting duration

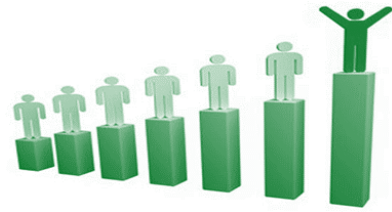


INTERNAL METRICS

- Learning and Development Courses
- Medical Insights
- Hands-on training / shadowing



Translation



RELATIVE RANKINGS

- Awards
- Bonuses
- Course Tuition
- Career Progression
- Retention



- Meaningful metrics should lead to meaningful outcomes, and we are expanding our menu of the types of data and metrics we collect such as insights, or real-time engagement with information we present and sentiment analysis for example.
- However the metrics we often discuss in Medical Affairs or find across various publications are most often oriented towards our external stakeholders, such as the absolute number of interactions, publications, or attendees. Also, we do not describe the role of absolute performance in relative rankings over time, which is a critical driver that can predict effort and engagement needed to meet critical metrics in the first place.
- We rarely emphasize internal metrics such as learning and development, insights or internal training or shadowing, even though such metrics that measure deep subject matter understanding or collaboration can impact the customer experience, product or company awareness, and other external metrics.
- So internal and external metrics are interconnected but not emphasized to the same extent. Yet the one area we usually avoid discussing openly altogether is the how metrics specifically translate into final rankings of Medical Affairs professionals relative to one another.
- We are in one of the most competitive industries where time efficiency is of the utmost importance, and competition is a reality we face on a daily basis. Metrics including relative rankings provide direction as without them, we are left with entropy and disorder, and possibly interdepartmental rivalries.
 - For example, if the Field Medical Affairs performance is merely measured by the number of interactions with KOLs and relationships they develop without acknowledging its role in the final patient or KOL outcome, while the performance of their Field partners in Commercial who may share many of the same KOLs is measured by prescription sales, a deficit develops that can give rise to inappropriate reporting of metrics or activities, lack of collaboration, and unneeded rivalries between internal stakeholders which are detrimental to organizational outcomes.
- So it is when we step outside of our industry for a classic business management case study of W. L. Gore and Associates, a company of high-performance fabrics, cables for electronic signal transmission founded by Bill Gore in 1958 that we may begin to understand that more metrics may not mean more competition but instead quite the opposite.
 - W.L. Gore has a CEO, no titles, and absolutely no hierarchy, yet it requires all employees to force-rank 20-30 of their peers based on the extent to which they contribute to the success of the organization to determine their ultimate performance and bonus. And this management approach has led to over 6 decades of profit without a single year of reporting a loss, 1000 products, 9000 employees worldwide and business units limited to a maximum of 250-300 employees, and has thus become a widely emulated model.



METRIC SCORE

IDEAL METRIC CHECKLIST

Prospective

Longitudinal

Explicit

Autonomous

Simple

Real-time

Accurate

Bi-directional

Inspiring

Traceable

	YES	NO	
1. Is the Metric collected Prospectively?	2 (points in orange)	0 (points in orange)	
	ABSOLUTELY	MODERATELY	MINIMALLY
2. Is the Metric analyzed Longitudinally over time?	3 Analyzed and compared at least quarterly	2 Analyzed and compared every 6 months	1 Analyzed and compared every 12 months or at longer time intervals
3. Is the Metric data communicated Explicitly to all stakeholders it impacts immediately upon analysis?	3 Entire metric and all of its components communicated within 1 – 7 days after analysis, and individual rankings publicly to the MA team, to internal stakeholders, and individually)	2 Metric and all of its components communicated with the MA team within 1 month after analysis, rankings communicated only 1:1 individually, collated team metric with select components only with internal stakeholders within 1 month after analysis (not individual rankings)	1 Collated team metric totals communicated with MA only within 3 months or longer following analysis, and individual absolute metrics communicated without any relative rankings on 1:1 basis
4. Is the metric designed Autonomously by the person whose activity is being measured?	3 Metric goal fully determined by the responsible party for the activity measured in ecosystem/function	2 Metric goal designed upon agreement between responsible party and supervisor/management	1 Standard metric goal for the team directed fully by the supervisor to the individual responsible party)
5. Is the metric collection Simple?	3 Takes 1-10 minutes to collect	2 Takes 10 minutes to 1 hour to complete	1 Takes 1 hour or longer to collect
6. Is the metric collected in Real-time to ensure data integrity?	3 Within 1 hour of index activity measured	2 Within 24 hours of index activity measured	1 Within 1 week or longer of index activity measured
7. Is the metric collected Accurately to increase data predictability?	10 Same definition applied consistently for 100% of activities and analyzed at least quarterly	5 Same definition applied consistently for more than 50% of activities and analyzed at least quarterly	3 Definition applied consistently for less than 50% of activities and analyzed annually
8. Is the metric Bi-directional to ensure even distribution of accountability and multiple perspectives?	3 Activity + feedback captured proactively by the responsible party (e.g. MSL), also reported by the relevant receiving party of the activity (e.g. KOL) reactively to an unaffiliated third party (not to a company employee) and by at least 1 internal third-party peer colleague observer + 1 direct supervisor if applicable	2 Activity + feedback captured by the responsible party (e.g. MSL) + one internal third-party observer only - either peer OR supervisor only	1 Activity + feedback insights captured by EITHER the responsible party (e.g. MSL) OR the receiving party of the activity (e.g. KOL) OR an internal observer (peer and/or supervisor)
9. Does the metric Inspire a specific future behavior?	10 Metric rewards positive experience associated with activity measured, awareness, direct impact on outcomes desired, likelihood to recommend product or person by converting qualitative sentiment into quantitative values over time, etc.	5 Metric rewards effort and time spent on activities, not ranked by level of importance or by impact on outcomes and experiences created	3 Metric is centered on absolute attributes and quantitative values of activities alone without relative ranking or data translation into behaviors
10. Is the metric Traceable from activity through strategy and outcome to ensure its relevance?	10 Entire metric including all of its components exclusively OR directly explain the outcome aligned with strategy	5 Some of the metric components may directly contribute to the outcome desired aligned with strategy in addition to other potential factors, activities, metrics	3 Metric or some of its components may indirectly represent the relationship between the activity, strategy, and outcome desired
TOTAL POINTS	e.g. 40 (sum of all points from responses above)		
FINAL METRIC SCORE (Points/50) x 100 = Percentage (maximum = 100)	e.g. (40/50) x 100 = 80%		

Sample Case Study: Field Medical Affairs Medical Productivity Index (MPI)



DEFINITIONS

e.g. MPI (Medical Productivity Index) for Field Medical Affairs consists of two components that are equally weighted – 1) Technical Performance (50%) which includes a composite score of all MSL Activities ranked and converted into Performance Points captured daily; 1 x 5 question survey per external stakeholder/KOL selected quarterly and at least 2 x 10 question internal surveys of MSL manager and internal colleagues; and 2) Behavior (50%), which includes a composite score of 1 x 5 question survey per external stakeholder/KOL selected quarterly and at least 2 x 10 question internal surveys of MSL manager and internal colleagues quarterly



RANKING

e.g. Primary Metrics – number of scientific discussions (1 point)/interaction; number of insights that led to MA projects or changed strategy (4 points); number of MA insights captured (2 points) Secondary Metrics – number of interactions (1 point); number of formal presentations <10 people (3 points); number of formal presentations to >10 people (4 points); MSL proposal of a KOL Investigator Initiated Study (IIS) (5 points); MSL authorship of a publication (10 points)



PARTICIPANTS

e.g. MSLs



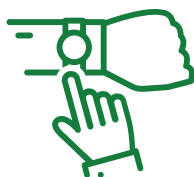
REVIEWERS

e.g. KOL/external stakeholders, direct line MSL managers, MSL cross-functional internal peers



AUDIENCE

e.g. MSLs, Medical Affairs Management



TIMELINE

e.g. design or update metrics in Q1, collect metrics prospectively on a daily basis and analyze them quarterly, collect outcomes mapped to MSL activities/metrics in a tracker/database on a monthly basis retrospectively and analyze relationship to MPI or its components. Communicate specific insights or activity categories from MPI aligned with MA strategy with MA and internal partners monthly. Communicate MPI results and individual MPI rankings quarterly to the entire MSL team and during 1:1 meetings + Qualitative Outcome results, and final end of year MPI individual rankings and team totals communicated to the entire MSL team.



See **Appendix A (pg 20)** for more details on the MPI

Sample Case Study: Medical Education Program Metrics



DEFINITIONS

e.g. Medical Education Program's Impact on Patient Outcomes – Distribute two serial surveys to HCPs following their attendance of the index MA sponsored Medical Education program - **prior to the practicing HCP's routine clinical point of care** and **after the point of care** at the end of the day or week to validate the relationship of the program and HCP's clinical practice and its net impact on patient outcomes (*see APPENDIX B for 3 specific questions prior to care and 4 questions after care is administered)



RANKINGS

Primary Metric – Clinical Outcome Success Contribution (*Question 7 in the appendix)
Secondary Metric – Percentage relevance of educational program to clinical decision (*Question 6 in the appendix); Percent recall of educational program (*Question 3 in the appendix)



PARTICIPANTS

e.g. HCP attendees of MA sponsored educational programs



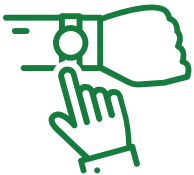
REVIEWERS

e.g. HCP attendees, MA management, Medical Education department



AUDIENCE

e.g. Medical Education function, MA management, internal key stakeholders



TIMELINE

Surveys distributed 1 week – 1 month after index medical education program; the prior to point of care survey distributed by third party (not organizer or sponsor of the Medical Education program) the morning of routine clinical practice day x 1 week; and the after point of care surveys distributed by same third party above at the end of the routine clinical practice day x 1 week; results communicated to the HCPs participating in the survey, Medical Education function, MA management, internal key stakeholders immediately upon final data analysis.



See **Appendix B (pg 27)** for more details

METRICS BUILDING BLOCKS WORKSHEET

Function / Case Study: _____



DEFINITIONS



RANKINGS



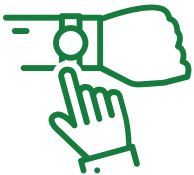
PARTICIPANTS



REVIEWERS



AUDIENCE



TIMELINE



METRICS BUILDING BLOCKS WORKSHEET

Function / Case Study: _____



DEFINITIONS

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RANKINGS

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PARTICIPANTS

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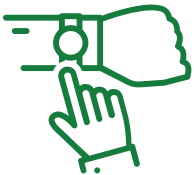
REVIEWERS

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AUDIENCE

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TIMELINE

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METRICS BUILDING BLOCKS WORKSHEET

Function / Case Study: _____



DEFINITIONS



RANKINGS



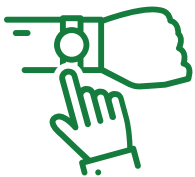
PARTICIPANTS



REVIEWERS



AUDIENCE



TIMELINE



APPENDIX A: MEDICAL PRODUCTIVITY INDEX (MPI)

MSL ACTIVITY	POINTS
Scientific Exchange with 1 key stakeholder	1
1-on-1 Formal Data Presentation	2
Group Scientific Exchange with >1 external stakeholder	2
MI Fulfillment	2
FAQ Lead	2
Formal Data Presentation to a group <10 KOLs	3
Formal Data Presentation to a group >10 KOLs	4
Payer Formulary Presentation	4
Insights generated	2
Insight based Collaboration/Strategy	4
Speaker Training	2
Regional Scientific Conference Lead	2
National Scientific Conference Lead	4
Scientific Conference Executive Report Lead	2
Launch Lead	2
HEOR Lead	2
CRM Lead	2
MSL Product Lead (Product 1, 2, 3, 4, etc)	2
MSL Slide/Resource Development Lead	2
MSL Business Development Lead	2
MSL Patient Advocacy Lead	2
MSL Outcomes Lead	2
MSL Market Research Lead	2
MSL Company Culture Lead	2
Internal Product Administration Training	4
External Product Administration Training	4
Regional MSL Roundtable Advisory Board Facilitation	4
Medical Affairs Advisory Board participation	2
Company Sponsored Trial (CST) Site Discussion	2
Company Sponsored Trial (CST) Site Approval/Collaboration	4
Investigator Initiated Research (IIR) Recommendation	2
Investigator Initiated Research (IIR) Approval	5
Investigator Initiated Research (IIR) Publication	8
MSL KOL Company Data Presentation/Authorship	4
MSL KOL Led Internal Training	4
MSL Comments on an Abstract/Publication	2
MSL Authorship of a Poster/Abstract	5
MSL Authorship of a Publication	10
Internal Mentorship/Shadowing	2
MSL Unique Contribution/Collaboration	2
TOTALS	

MPI

Performance (50%) + Behavior (50%)

PERFORMANCE (50%)

1. MSL POINTS (50% of performance score)

MSL ACTIVITIES converted into weighted point values (captured prospectively and continuously- see sample table on the left)

MSL OUTCOMES (preferred, optional) tracked retrospectively on a monthly basis and status validated/updated continuously for reporting and activity-outcome correlation purposes (not quantified) - see table on next page 21

2. EXTERNAL KOL 5-question SURVEYS (25% of performance score) (1 minute to complete, distributed by third-party 4 x / yr)

3. INTERNAL 10-question SURVEYS (25% of performance score) (1 minute to complete)

1 direct supervisor + 1 or more peers

(cross-functional colleague and/or intradepartmental teammate) 4 x / yr

BEHAVIOR (50%)

1. EXTERNAL KOL 5-question SURVEYS

(1 minute to complete, distributed by third-party 4 x / yr)

2. INTERNAL 10-question SURVEYS

(1 minute to complete) of:

1 direct supervisor + 1 or more peers (cross-functional colleague and/or intradepartmental teammate)

GENERAL GUIDANCE

- Only the external KOLs and internal peers most directly impacted by interactions, activities, and collaborations with the MSL evaluated should be surveyed
- Number of KOLs surveyed or internal colleagues should be selected in advance for both performance and behavior parameters. Same KOLs may be surveyed in a serial manner to describe change in behaviors and perceptions over time

APPENDIX A: MEDICAL PRODUCTIVITY INDEX (MPI)

MPI Performance (50%) + Behavior (50%)

CAPTURING ACTIVITIES

- Track all activities prospectively
- Encourage real-time, immediate capture of all activities within 24 hours to ensure data integrity
- Maintain a spreadsheet with simple SUM formulas or integrate it into your CRM (customer relationship management) database of choice

SCORING ACTIVITIES

- Reference activity may be a KOL interaction = 1 point.
- Point Values assigned (range: 1-10) to activities may be modified as needed annually aligned with Medical strategy or ecosystem
- Least frequent activities w/ highest impact (e.g. manuscript publication = 10 points) assigned more points
- MSL Points may be normalized in relation to a quarterly or annual benchmark total score such that the maximum is 50 points
 - Option 1: based on highest MSL points score on the team
 - If the highest total on the team is 1000 points, it is normalized to a score of 50
 - Option 2: create a pre-determined maximum benchmark sum helpful if there is only 1 MSL or MA employee on the team being measured
 - Agree upon on a prospective goal of activities and convert them into a maximum number of points attainable as a stretch goal that quarter or that year, e.g. 1000 points, and normalize it to 50 points, then compare the final totals against that goal; e.g. 1000 total points = 50 points, thus 900 total points would be normalized to 900/1000 x 100 (%) = 45 points.

MSL ACTIVITY	POINTS	ACTIVITIES BY TYPE / MONTH	Q1 ACTIVITIES Q1 POINTS	ACTIVITIES BY TYPE / MONTH	Q2 ACTIVITIES Q2 POINTS	Q3 ACTIVITIES Q3 POINTS	Q4 ACTIVITIES Q4 POINTS	2H 2020 ACTIVITIES	2H 2020 POINTS	2020 ACTIVITIES	2020 TOTAL POINTS
Scientific Exchange with 1 key stakeholder	1	22 24 16 35	75	75	40 29 15	86	86	160	160	183	183
1-on-1 Formal Data Presentation	2	2 5 1 1	10	20	6 8 3	17	24	27	24	32	64
Group Scientific Exchange with 2+ external stakeholder	2	2 5 1 1	10	20	6 8 3	17	24	27	24	32	64
MSL Fulfillment	2	3 9 4 14	27	54	8 5 3	16	32	40	80	48	92
Field Lead	2	0 0 0 0	0	0	0 0 0	0	0	0	0	0	0
Formal Data Presentation to a group <10 KOLs	3	1 2 0 2	4	12	1 1 0	2	6	6	18	7	21
Formal Data Presentation to a group >10 KOLs	4	0 1 0 1	4	16	1 0 0	1	4	5	20	5	20
Payer Formulary Presentation	4	0 0 0 1	1	4	2 2 0	4	16	5	20	5	20
Insights generated	2	10 18 10 15	40	80	20 18 6	44	88	87	174	102	204
Insights based Conference/Strategy	4	1 1 1 5	7	28	3 2 1	6	24	13	52	14	56
Speaker Training	2	3 1 0 0	5	10	2 1 0	4	8	4	16	17	34
Regional Scientific Conference Lead	2	1 1 0 0	1	2	1 0 0	1	4	4	8	5	10
National Scientific Conference Lead	4	0 0 0 1	1	4	1 0 0	1	4	2	8	2	4
Scientific Conference Executive Report Lead	2	0 0 0 0	0	0	0 0 0	0	0	0	0	0	0
Launch Lead	2	0 0 0 0	0	0	0 0 0	0	0	0	0	0	0
HQIR Lead	2	1 1 1 1	3	6	0 0 0	0	4	5	10	6	12
CRM Lead	2	1 1 1 1	3	6	0 0 0	0	0	3	6	4	8
MSL Product Lead (Product 1, 2, 3, 4, etc)	2	1 1 1 1	3	6	0 0 0	0	0	3	6	4	8
MSL Slide/Resource Development Lead	2	1 1 1 1	3	6	0 0 0	0	0	2	4	3	6
MSL Business Development Lead	2	0 0 0 0	0	0	0 0 0	0	0	1	2	1	2
MSL Patient Advocacy Lead	2	0 0 0 0	0	0	0 0 0	0	0	0	0	0	0
MSL Outcomes Lead	2	0 0 0 0	0	0	0 0 0	0	0	0	0	0	0
MSL Market Research Lead	2	0 0 0 0	0	0	0 0 0	0	0	0	0	0	0
MSL Company Culture Lead	2	0 0 0 0	0	0	0 0 0	0	0	0	0	0	0
External Product Administration Training	4	0 0 0 1	1	4	0 0 0	0	0	1	4	1	4
Regional Product Administration Training	4	0 0 0 2	2	8	0 0 0	0	0	2	8	2	8
Regional MSL Roundtable Advisory Board Facilitation	4	0 0 0 0	0	0	0 0 0	0	0	0	0	0	0
Medical Affairs Advisory Board participation	2	1 0 0 0	0	0	0 0 0	0	0	0	0	1	2
Company Sponsored Trial (CST) Site Discussion	2	1 0 0 0	0	0	0 0 0	0	0	0	0	0	0
Company Sponsored Trial (CST) Site Approval/Collaboration	4	0 0 0 0	0	0	0 0 0	0	0	0	0	0	0
Investigator Initiated Research (IIR) Recommendation	2	1 0 0 0	0	0	0 0 0	0	0	0	0	0	0
Investigator Initiated Research (IIR) Approval	4	0 0 0 0	0	0	0 0 0	0	0	0	0	0	0
Investigator Initiated Research (IIR) Publication	8	0 0 0 0	0	0	0 0 0	0	0	0	0	0	0
MSL KOL Company Data Presentation/Authority	4	0 0 0 0	0	0	0 0 0	0	0	0	0	0	0
MSL KOL Lead Internal Training	4	1 1 2 0	3	12	1 0 0	1	4	4	16	5	20
MSL Commenting on an Abstract/Publication	2	0 0 0 0	0	0	0 0 0	0	0	1	2	1	2
MSL Authorship of a Poster/Abstract	5	0 0 0 0	0	0	0 0 0	0	1	5	1	5	5
MSL Authorship of a Publication	10	1 0 0 0	0	0	0 0 0	0	0	1	10	1	10
Internal Mentorship/Shadowing	2	1 1 1 1	3	6	1 1 1	3	6	6	12	7	14
MSL Unique Contribution/Collaboration	2	1 1 1 1	3	6	1 1 1	3	6	6	12	7	14
TOTALS		65 80 48 93	221	417	102 77 36	215	377	436	794	501	907

- Maintain a separate MSL Outcomes Tracker worksheet in the same or separate spreadsheet and track all MSL Outcomes not captured in your CRM and their corresponding status (initiated, ongoing, completed) on a monthly basis retrospectively:
 - 1) To save time on the performance review process and
 - 2) To draw potential correlations between MSL Activity points captured prospectively and MSL Outcomes collected retrospectively
- Analysis of both MSL Activities and Outcomes will help grow/scale desired outcomes or eliminate irrelevant activities and modify prospective metrics used in the future

PARAMETER	DEFINITION
MSL OUTCOME	Any routine, recurrent, or on-demand activity that involves TEACHING or LEARNING information or techniques with another INTERNAL or EXTERNAL stakeholder that leads to a CHANGE in BEHAVIOR or STRATEGY
MSL LEAD ACTIVITY	A significant internal or external analysis, contribution or presentation in draft or final form occurring on a RECURRING basis
MSL SPECIAL PROJECT	A significant internal or external analysis, contribution or presentation in draft or final form occurring on an AD-HOC, ONE-TIME basis
MSL COLLABORATION	A unique contribution of working across Medical Affairs and other teams, functions, and various sets of external stakeholders as a part of the ROUTINE responsibilities
ENTRY GUIDANCE #1	1. ONLY enter activities with SIGNIFICANT PARTICIPATION, PRESENTATION of information or EXCHANGE that leads to teaching or learning information relevant to the company NOT already captured in VEEVA. 2. Limit LEAD, SPECIAL PROJECT, AND COLLABORATION entries to 1 per each UNIQUE TYPE of Activity PER MONTH. Examples.
ENTRY GUIDANCE #2	Multiple different clinical trial site involvement would warrant corresponding, multiple entries per month. Each TYPE of LEAD Activity would only require a single entry per month with ample space for input in the open-ended text in the "Details" column
DEFINITIONS	2020 2021 Sheet1 Sheet2 Sheet3

APPENDIX A:

MEDICAL PRODUCTIVITY INDEX (MPI)

COMMUNICATING METRICS RESULTS

WHAT TYPE OF RESULTS?

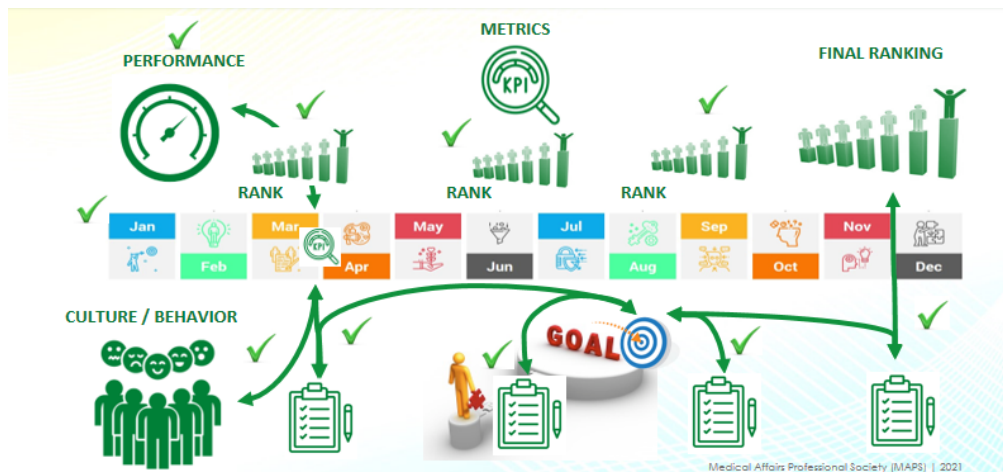
- Team Activities (absolute totals, broken down by types/categories)
- Team Activity Change over time (relative metrics)
- Team Outcomes (qualitative data, lists, classifications)
- Individual Activities (absolute totals)
- Individual Outcomes (qualitative data, lists, classifications)
- Individual Relative Rankings

WHEN?

- All Retrospective Outcomes and their status communicated on a monthly basis
- All Prospective Activities / MSL points communicated at least 4 x / yr (quarterly)
- All Internal and External Performance and Behavior Survey results communicated at least 4 x / yr (quarterly)

WITH WHOM?

- MSL Team Activity MSL Points 4 x / yr (quarterly) with the MA team and most relevant internal stakeholders
- All Team MSL Outcomes (qualitative) communicated within MA and most relevant internal stakeholders
- All Individual Activity points communicated transparently in a dashboard within MA team and individuals evaluated
- All Internal and External Survey points communicated 1:1 with individuals evaluated
- Final Individual MPI Score totals and Rankings communicated transparently on a quarterly basis (4 x / yr) within the MA team only to stimulate improvement over time



	Q1			
TOTAL SCORE	MSL#1	MSL#2	MSL#3	MSL#4
PERFORMANCE SCORE (Average)	48	42	39	40
A. PERFORMANCE MSL RANK POINTS - If MSL Ranks #1 in team of 4 = 4 points; if MSL ranks #2 = 3 points, etc.	4	3	1	2
BEHAVIOR SCORE (Average)	40	49	45	44
B. BEHAVIOR MSL RANK POINTS - If MSL Ranks #1 in team of 4 = 4 points; If MSL ranks #2 = 3 points, etc.	1	4	3	2
AVERAGE MSL RANK POINTS (A + B) / 2	2.5	3.5	2	2
FINAL MSL RANK	2	1	3 (tie)	3 (tie)

Note: Optional - normalize all items (e.g. to a maximum of 50 points and average), or rank them



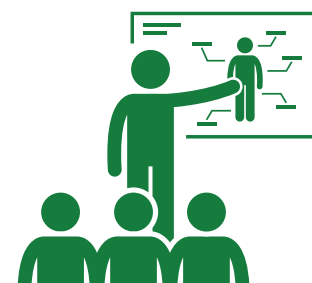
APPENDIX A: MEDICAL PRODUCTIVITY INDEX (MPI)

Internal Survey – Performance Score

	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree
1. The MSL makes <i>unique contributions</i> to <i>generate new evidence</i> that benefits the team	1	2	3	4	5
2. The MSL critically <i>identifies gaps</i> in current <i>MA strategy</i>	1	2	3	4	5
3. The MSL demonstrates scientific curiosity to propose <i>innovative solutions</i> that benefit the team and the organization	1	2	3	4	5
4. The MSL demonstrates a <i>deep understanding</i> through a strong ability to analyze and <i>translate complex scientific literature</i>	1	2	3	4	5
5. The MSL <i>clearly communicates scientific information</i> to <i>diverse</i> set of <i>stakeholders</i>	1	2	3	4	5
6. The MSL demonstrates <i>strong expertise</i> of the <i>company product</i> and the <i>competitive landscape</i>	1	2	3	4	5
7. The MSL demonstrates <i>strong disease state knowledge</i> relevant to the company	1	2	3	4	5
8. The MSL demonstrates <i>in-depth knowledge</i> of his/her <i>territory</i> and <i>ecosystem</i>	1	2	3	4	5
9. The MSL has a strong <i>sense of responsibility</i> and <i>work ethic</i> internally and externally	1	2	3	4	5
10. The MSL maximizes the use of all relevant <i>resources</i> to integrate <i>business acumen</i> with scientific expertise	1	2	3	4	5

Add up the **point values in orange** above that correspond to the responses – maximum = **50 total points**.

Average the total points among all the respondents surveyed. The result is the **Internal Survey** point total for the **Performance Score** component of the **MPI**. (e.g. 2 respondents, 50 + 40 points/2 = **45.0 avg**)



APPENDIX A: MEDICAL PRODUCTIVITY INDEX (MPI)

External Survey – Performance Score

	Strongly Disagree										Strongly Agree									
1. I would recommend this MSL to my HCP peers as I consider him/her an <i>expert</i> in the product and disease state areas of focus	1	2	3	4	5	6	7	8	9	10										
2. I am absolutely confident the medical information MSL shares with me <i>in writing</i> or <i>verbally</i> is <i>accurate</i>	1	2	3	4	5	6	7	8	9	10										
3. I can count on this MSL to communicate the most <i>unique</i> or <i>relevant information</i> in a <i>timely manner</i>	1	2	3	4	5	6	7	8	9	10										
4. The MSL helps me <i>improve</i> the <i>quality of healthcare</i> I deliver to my <i>patients</i>	1	2	3	4	5	6	7	8	9	10										
5. I recall the scientific information the MSL shares because he/she <i>communicates</i> it <i>clearly</i> in the <i>format</i> that I prefer	1	2	3	4	5	6	7	8	9	10										

- Add up the **point values in orange** above that correspond to the responses – maximum = **50 total points**.
- Average the total points among all the respondents surveyed. The result is the **External Survey point total** for the **Performance Score** component of the **MPI**.
(e.g. 2 respondents, 50 + 40 points/2 = **45.0 avg**)



APPENDIX A: MEDICAL PRODUCTIVITY INDEX (MPI)

Internal Survey – Behavior Score

1. How likely is this MSL to spend time *after work privately* with a *teammate one on one* to share knowledge on a topic or resource?
2. How likely is this MSL to choose a *project* for its *optics* or *convenience* rather than for authentic interest and relevant experience?
3. How likely is this MSL to *learn a new skill* or *initiate a project* that is *not assigned* on his/her own?
4. How likely is this MSL to *support a new initiative only if it benefits his/her performance*?
5. How likely is this MSL to *acknowledge* or *defend a colleague* in a debate *despite consensus*?
6. How likely is this MSL to *admit a mistake* or *apologize publicly* if appropriate?
7. How likely is this MSL to operate under *an assumption* or *cognitive bias* to *make decisions*?
8. How likely is this MSL to *change his/her position* due to objectively updated / validated *new data*?
9. How likely is this MSL to *criticize a colleague as a person rather than their actions* to *gain an edge*?
10. How likely is this MSL to *clearly communicate personal intentions* and arguments?

Unlikely	Somewhat Unlikely	Neutral	Somewhat Likely	Likely
1	2	3	4	5
5	4	3	2	1
1	2	3	4	5
5	4	3	2	1
1	2	3	4	5
1	2	3	4	5
5	4	3	2	1
1	2	3	4	5
5	4	3	2	1
1	2	3	4	5

- Add up the **point values in orange** above that correspond to the responses – maximum = **50 total points**.
- Average the total points among all the respondents surveyed. The result is the **Internal Survey** point total for the **Behavior Score** component of the **MPI**. (e.g. 2 respondents, 50 + 40 points/2 = **45.0 avg**)



APPENDIX A: MEDICAL PRODUCTIVITY INDEX (MPI)

External Survey – Behavior Score

	Strongly Disagree										Strongly agree									
1. The MSL <i>respects</i> the KOL as <i>both an individual</i> and a <i>peer HCP</i>	1	2	3	4	5	6	7	8	9	10										
2. The MSL clearly <i>enjoys the scientific exchange</i> with the KOL	1	2	3	4	5	6	7	8	9	10										
3. The MSL takes ownership to <i>create new solutions</i> for the <i>KOL & patients regardless of resources or restrictions</i>	1	2	3	4	5	6	7	8	9	10										
4. The MSL is <i>genuinely concerned</i> about the KOL's <i>patients</i> or <i>institution</i>	1	2	3	4	5	6	7	8	9	10										
5. MSL's <i>presence limits</i> the KOL's <i>comfort level</i> in <i>sharing true un-biased beliefs</i> or <i>emotions</i> in regards to <i>data</i> or <i>knowledge</i>	10	9	8	7	6	5	4	3	2	1										

- Add up the **point values in orange** above that correspond to the responses – maximum = **50 total points**.
- Average the total points among all the respondents surveyed. The result is the **External Survey point total** for the **Behavior Score** component of the **MPI**. (e.g. 2 respondents, 50 + 40 points/2 = **45.0 avg**)



APPENDIX B: MEDICAL EDUCATION PROGRAM METRICS CASE STUDY

HYPOTHETICAL SCENARIO - APPLICATION

Imagine if you followed up deliberately prior to and after clinical patient cases via a short survey and a link to the key lessons from your reference event/program with attendees (e.g. GI endoscopists, surgeons or interventional cardiologists, etc) who had recently attended or interacted with your live surgical or hands-on procedural educational training delivered virtually. The short survey could ask the following questions relevant to the educational program's specific topic, patient or disease state.

BEFORE THE POINT OF CARE

- 1) What is the *patient condition* and *procedure* planned?
- 2) What are the *relevant resources* or *references* you will use in your intervention?
- 3) *Do you recall* this particular (live or educational) educational program or event and its *key lessons* with the link provided?

AFTER THE POINT OF CARE

(following the case at the end of the day or week)

- 4) What were the *key variables* you considered in your *treatment decision*?
- 5) What were the *references* or *resources* you used?
- 6) Did this particular educational program you attended *impact your decisions*?
- 7) *If yes, how did it impact the outcome* of your intervention?

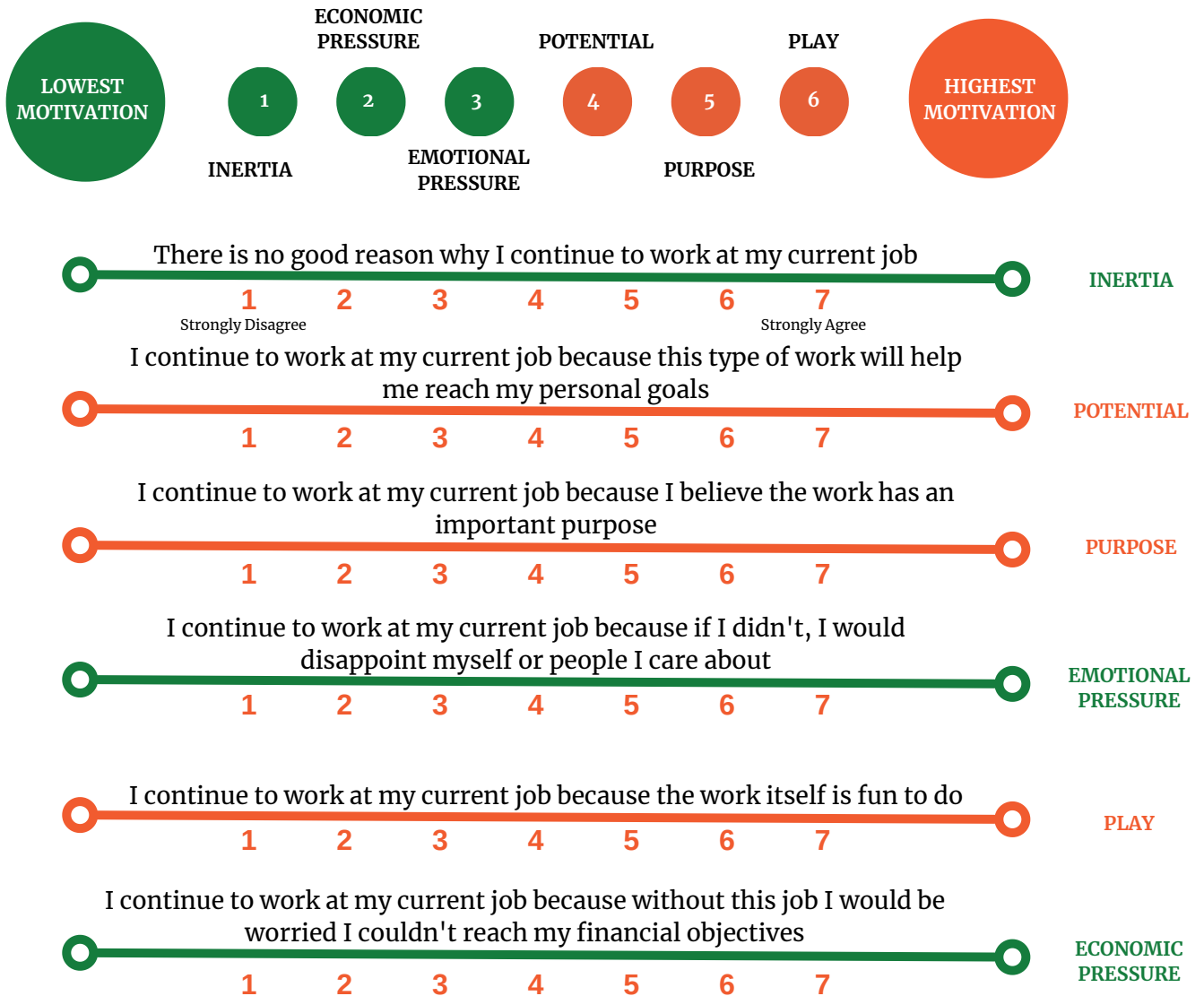
The important benefit of the “before/after” serial “before/after” surveys with a **reminder link close to the clinical point of care** is the opportunity to not only evaluate the impact of education retrospectively but to possibly prevent a critical medical error and to positively influence *patient outcomes*.



APPENDIX C: ToMo Validated Total Motivation Score

ToMo Total Motivation Score

A Validated Prospective
Measure of Job Fulfillment / Engagement in
>20,000 Employees at Fortune 500 Companies



Sum of the points from the responses to + motivational factors in orange minus the sum of the points from the responses to -motivational factors = final score (either + or -) that may be normalized to -100 to +100 (see references below for more details)

1. Vega Factor. Total Motivation Score Team Results. <https://app.vegafactor.com/reports/ba035684-f415-4041-b388-a89b05f3c9b9> Accessed August 2, 2021

2. Harvard Business Review. How Company Culture shapes Employee Motivation <https://hbr.org/2015/11/how-company-culture-shapes-employee-motivation> Accessed July 31, 2021

APPENDIX D:
Simple Weekly Qualitative Outcome Survey



1. Whom did you **HELP** last week?
2. What did you **LEARN** last week?
3. What did you **FAIL** at last week?
4. Whom **WILL you HELP** this week?

