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Cross-Functional Metrics, Research Management, and One Division's Quest to find Meaningful Ways to Measure—and Message—its Institutional Impact

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A Brief Introduction

- Memorial Sloan Kettering Cancer Center — **the world's oldest and largest private cancer center** — has devoted more than 130 years to exceptional patient care, innovative research, and outstanding educational programs. **Today, we are one of 50 National Cancer Institute–designated Comprehensive Cancer Centers, with state-of-the-art science flourishing side by side with clinical studies and treatment.**

- **The close collaboration between our physicians and scientists is one of our unique strengths**, enabling us to provide patients with the best care available as **we work to discover more-effective strategies to prevent, control, and ultimately cure cancer in the future**. Our education programs train future physicians and scientists, and the knowledge and experience they gain at Memorial Sloan Kettering has an impact on cancer treatment and biomedical research around the world.

Research Management at MSK

- Research & Technology Management—RTM—**300+ men and women who work together to provide support for MSK's clinical and laboratory research activities at all stages of the research cycle.**

- The division's impact is significant and institution-wide—however, we are not the only division, department, office or service providing administrative support for MSK's clinical and laboratory researchers.

- Just to put all this in its larger context when we talk about institutional impact, according to our 2017 annual report, **MSK employed 17K+ people.**

  - In 2017, our **total research expenditures** were $640M.
  - About $175M of that came from **U.S. federal government sources**.
  - Just over $60M of those research expenditures came from **industrial sources**.

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RTM's role at MSK

- RTM consists of **5 Offices** which report to the Senior Vice President, Research & Technology Management.
  - ➢ Clinical Research Administration (includes Clinical Trials Nursing)
    - ➢ joint reporting structure to Deputy Physician-in-Chief for Clinical Research
  - ➢ Office of Research and Project Administration
  - ➢ Office of Technology Development
  - ➢ Research Outreach & Compliance
  - ➢ RTM Information Technology

- RTM's Leadership team consists of **7 leaders** who report to the **SVP** of Research & Technology Management.

- I am based in the SVP's office which means I am based outside those five offices, but often work on strategic initiatives in support of the division or individual offices.

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Backstory behind RTM's Metrics Project

- During the past few years RTM has implemented a major restructuring which includes having assumed responsibilities for Clinical Research Administration.
- This has involved many changes, including
  - ➤ the creation of new units;
  - ➤ some leadership change, primarily at the unit leader level;
  - ➤ many changes in org charts, reporting structures, and job descriptions;
  - ➤ new policies and procedures, new or upgraded IT systems, implementation of a wide range of best practices
- Changes are still rolling out.
- Many people, departments, services throughout the institution have been impacted.

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Initial Concept for RTM's Metrics Project

Evaluate: RTM's individual units and offices already track many metrics for internal and external reporting purposes. **The goal here was to use metrics to track key results at a divisional level.**

Communicate: After a restructuring that has impacted departments and professionals throughout MSK, division-wide metrics could help RTM **demonstrate the result (and hopefully positive value) of these changes**.

Educate: RTM's metrics project will help **inform the MSK community about the division's overall impact**, its activities, and its accomplishments—including the benefits that have resulted from recent changes to Clinical Research Administration.

Original Strategy: Present key RTM metrics on <u>a single page</u> that would <u>clearly and concisely</u> convey a message about our division's impact and effectiveness.

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Making this Vision a Reality
(the first of many wrong turns)

- RTM's two IT units support ~ # significant IT systems, including ~ # for CR
- Completed CTMS rollout
- RTM's IT customer service included serving # MSK business units, handling # "tickets" in 2017 (up from #in 2016)
- # Tableau reports published detailing results, up from #in 2016

- Currently, # FDA approved drugs
- # in 2017 operating revenue from licenses

- # competitive research proposals submitted in 2017
- # new research grant awards received
- # in new grants

- RCR training for # MSK staffers
- # MSK'ers attended workshops on NIH
- # attendees at # CRA training sessions
- # RTM weekly newsletters published

- Managing/reporting on # funds with # in MSK 2017 research expenditures

- RTM managed # active licenses
- # MSK startups operational

- # eConsents completed
- # eMonitors set up for remote industry monitoring
- ~ #in DTU chargeback recovery
- #CR budgets/amendments completed
- # new CT Master agreements executed; RTM attorneys negotiating # new/amended CTMAs

- ESCRO: # new protocols, # annual reports
- # Export Control author alerts
- IACUC P&C # forms created and approved IBC# clinical protocols, # annual renewals

- # new invention disclosures in 2017
- # disclosures under active management

- # new U.S. patent applications in 2017
- # issued U.S. patents; # foreign patents issued
- # executed agreements (up from # in 2016), including # MTAs, # CDAs, and # data transfers

Cycle diagram

- Obtain funding for MSK research
- Support new research with license revenue
- Administer research funding
- Commercialize inventions
- IT support
- Ensure regulatory compliance
- **Education**
- Administer clinical research
- Protect MSK's intellectual property
- Manage disclosed inventions

- Time to IRB Approval down by #% from 2016 to 2017; Time to Activation down by #%
- # therapeutic trials and # non-therapeutic trials in activation at MSK Alliance sites
- Total 2017 accrual of # in open therapeutic and non-therapeutic trials at MSK Alliance sites
- Time from INDC submission to FDA approval down from # days (2016) to # (2017); time from INDC approval to FDA approval down from # to #

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The Real Start of our Metrics Journey
(and what we learned along the way)

Lessons learned from that initial attempt:

➢ In order for metrics to clearly and concisely tell our story, we need to **start** by clearly and concisely articulating our story **with words**.

➢ If you try it the other way—as we did–it's too easy to get lost in the weeds (especially if you already have a lot of metrics). Your message will be confused—in fact, the metrics may take you in totally different directions entirely.

➢ Another risk: You can get wedded to existing metrics, rather than opening up the **opportunity** of researching and analyzing different metrics that are more relevant to your strategic needs.
  ➢ This is especially a risk if your metrics are interesting and valuable in other contexts (for example, when reporting to outside entities or the Board, or when being used as a management tool for day-to-day operations).

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Other Significant Lessons

➢ **The communication aspect of this project was essential.**

  Poor communication strategy + Great metrics = failure

➢ **The success of this project demanded that we push our metrics reporting to a whole new level.**

  Great communication strategy + Me-too metrics + Repurposed metrics reports = failure

➢ **We were attempting something big, important, and new and it was going to take time to get it right.**

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1st Step on the Right Path : Gaining Buy-in and Achieving Alignment from Senior Leaders

General agreement on **Strategic Messaging** (our Story):

➢ RTM's offices and units deliver institution-wide impact through support for MSK's clinical and laboratory research activities at all stages of the research cycle.

General agreement about **Communication Strategy**:

- ➢ Publish on the MSK intranet (OneMSK)
- ➢ Design must be visually engaging and uncluttered
- ➢ Despite the focus on metrics, we would include brief, targeted editorial content as needed.
- ➢ Concept of single-page divisional metrics report abandoned. New concept was **a multi-page metrics report** to be housed on OneMSK:

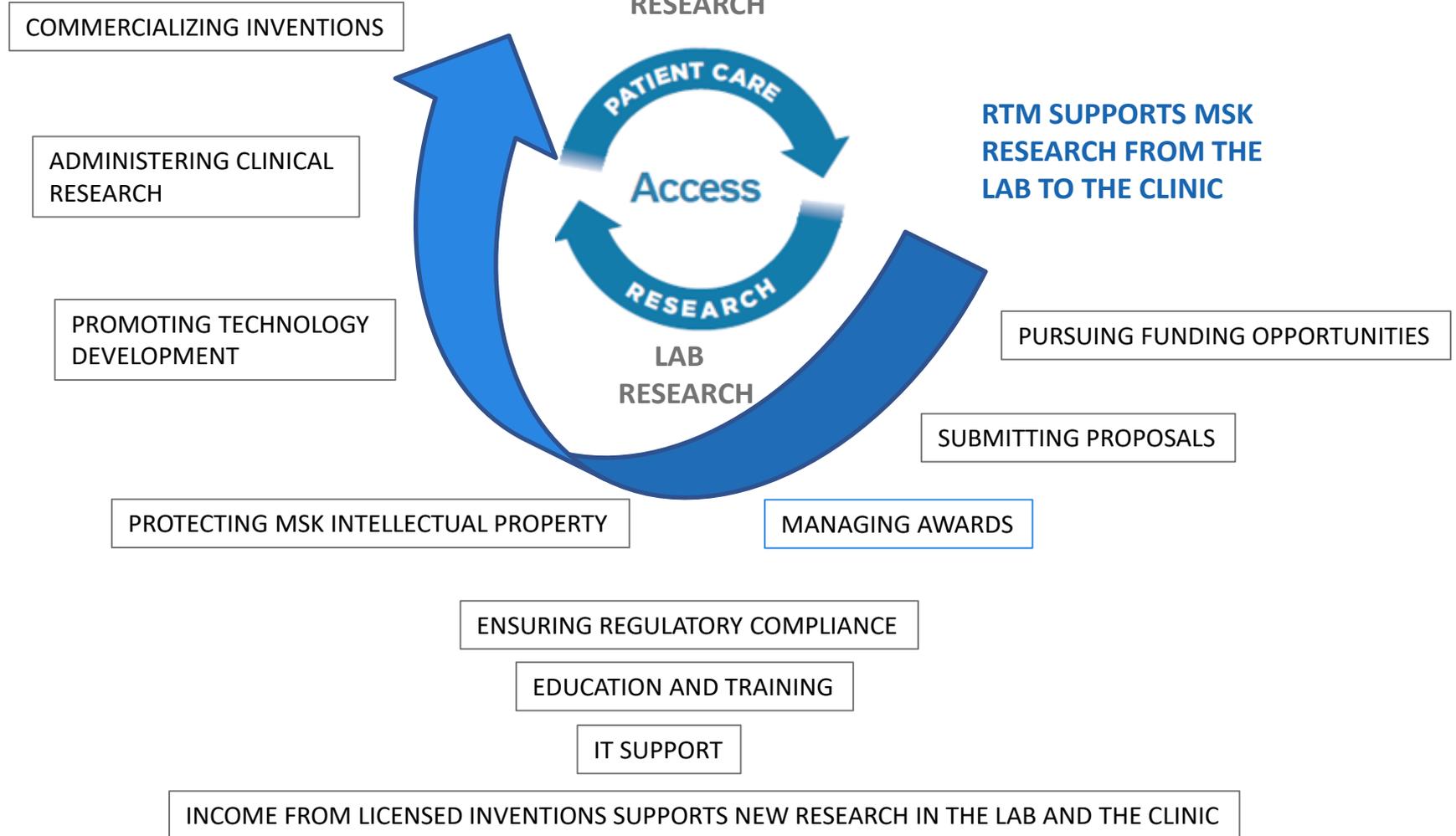**RTM Performance Metrics Landing page ➡ 1-page metrics reports**

Many questions remained: What should the final report look like (and include)? How many metrics pages were needed? How many metrics per page? What if we had "too many" good metrics? What about important accomplishments that didn't fit the metrics mold?

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Developing a Landing Page Design that would 1) Tell our Story and 2) Structure the Metrics Approach *(yes, more wrong turns)*

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CLINICAL RESEARCH

PATIENT CARE

Access

RESEARCH

LAB RESEARCH

COMMERCIALIZING INVENTIONS

ADMINISTERING CLINICAL RESEARCH

PROMOTING TECHNOLOGY DEVELOPMENT

RTM SUPPORTS MSK RESEARCH FROM THE LAB TO THE CLINIC

PURSUING FUNDING OPPORTUNITIES

SUBMITTING PROPOSALS

PROTECTING MSK INTELLECTUAL PROPERTY

MANAGING AWARDS

ENSURING REGULATORY COMPLIANCE

EDUCATION AND TRAINING

IT SUPPORT

INCOME FROM LICENSED INVENTIONS SUPPORTS NEW RESEARCH IN THE LAB AND THE CLINIC

Learning from Failure

- That second design was less cluttered. But it didn't accomplish our objectives.
- General agreement that RTM provides support throughout the entire research cycle (both in the lab and in the clinic). So the visual needed to convey that.
- Also agreement about an underlying message that was essential to "our story":
  - RTM is closely aligned to MSK's institutional mission and core strategies—which is one reason why we are effective in supporting them. The visual needed to convey that alignment too.

➢ **The biggest question: Should we organize the landing page (and therefore, the individual metrics pages) according to RTM Office (or Key Units) OR according to key RTM functions?**

Why We Adopted a Functional Approach

- Leadership consensus around idea that RTM's effectiveness in fulfilling its mission depends upon **inter-divisional collaboration** between units with various types of expertise and experience. Functional metrics would illustrate that.

- Many of our offices and units already report and publicize metrics relating to performance by their groups. There was no need to duplicate that—especially when **our goal was to report on impact and results relating to our division as a whole**.

- Our challenge—and our opportunity—was to stay focused on institutional impact. **Since functional activities are what deliver results, function-centric metrics seemed most relevant.**

- For the purposes of this particular metrics report what mattered was the results, rather than which specific teams delivered them. That last concept took a while for some people to feel fully comfortable with.
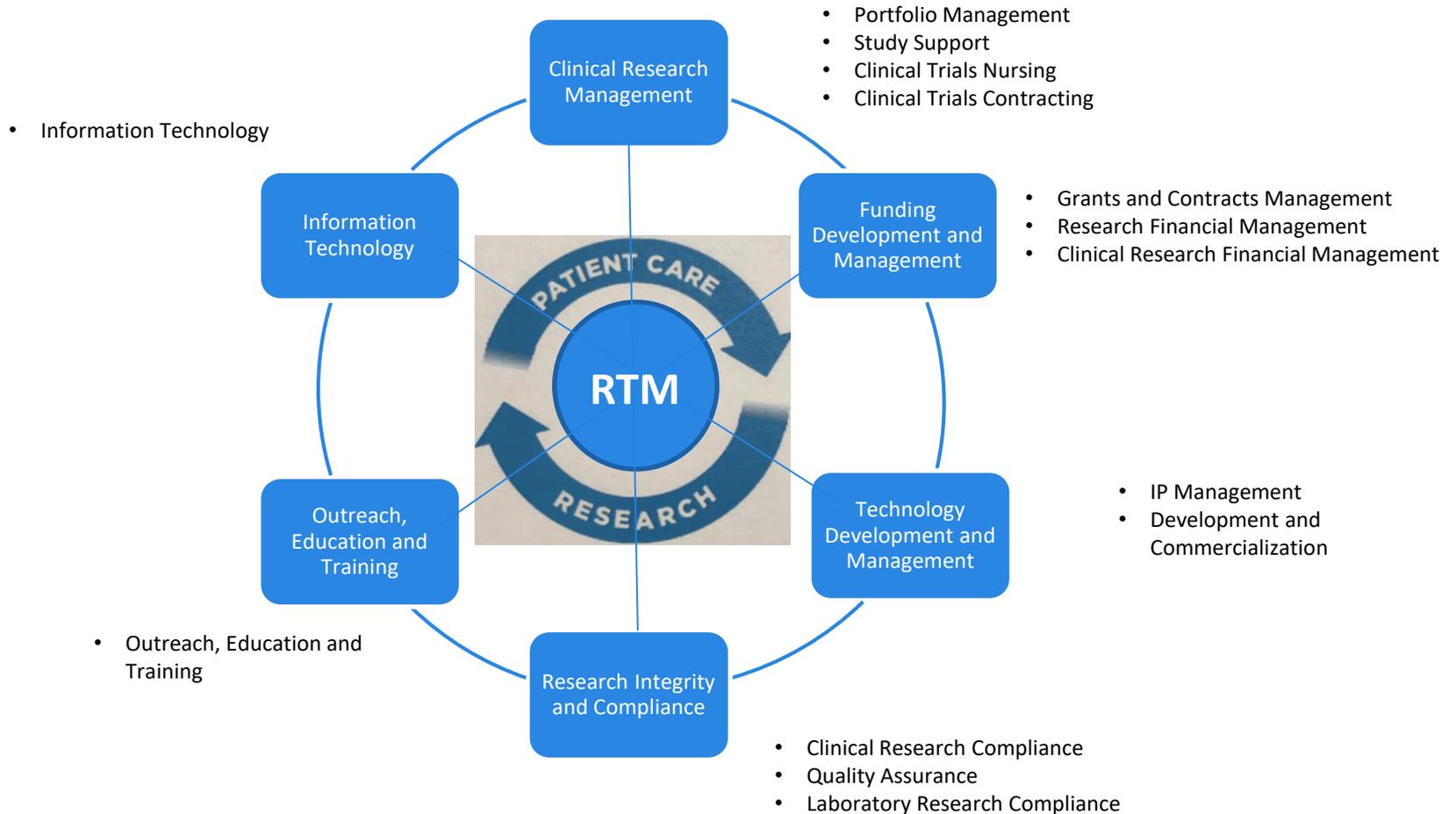
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Mapping out RTM's Key Functions

- We concluded that our division performs six essential functions:

  - ➢ Clinical Research Management
  - ➢ Funding Development and Management
  - ➢ Technology Development and Management
  - ➢ Research Integrity and Compliance
  - ➢ Outreach, Education, and Training
  - ➢ Information Technology

- Housed within these six broad functional categories, we identified a dozen-plus key functions that our division performs. This list provided the roadmap for our divisional metrics project.

- In some cases, a key function is performed just by one RTM office or even by a single unit within an office. In other cases (for example, Outreach, Education, and Training) teams within a number of RTM offices contribute.

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Getting Closer: Designing the Right Landing Page
(which did indeed evolve along the way)

- Portfolio Management
- Study Support
- Clinical Trials Nursing
- Clinical Trials Contracting

- Information Technology

- Grants and Contracts Management
- Research Financial Management
- Clinical Research Financial Management

- IP Management
- Development and Commercialization

- Outreach, Education and Training

- Clinical Research Compliance
- Quality Assurance
- Laboratory Research Compliance

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Getting from the Landing page to the 1-page Metrics Reports: Developing the right process came first

- **Some general observations**: We all have metrics, and we all have processes in place to develop them. But when you're pulling together different types of metrics from many different people, units, and sources of information for a type of report that has never been done before:
    - It's hard
    - It takes a lot of time and sustained effort
    - You need to build trust
    - All of that depends upon setting up the right process to get you to the finish line.
- We agreed on ground rules about who "owns" each of the function-oriented metrics pages; with ownership comes various responsibilities (relating to planning at the individual metrics level, approval of editorial content)
- We withheld judgment about specific metric-related matters such as:
    - What period of time would metrics cover?
    - Could metrics be updated in real-time and was this even desirable?

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More on the Process: Producing the Metrics Pages

- Our mandate from RTM's SVP: Focus on clarity. Provide metrics within meaningful contexts. Ensure that final report is user-friendly and accessible.

- We developed a multi-faceted process with plenty of room for flexibility:
  - ✓ Overview planning for each page's metrics and editorial content involved the relevant RTM Leader.
  - ✓ Metrics researched and provided by Unit Leaders and their teams.
  - ✓ Pages produced by JF or individual units.
  - ✓ All content routed back for approval first to Unit Leaders, then to RTM Leaders
    - Each page approved by RTM Leader with ownership responsibility
  - ✓ RTM SVP edited and approved total package
  - ✓ Whenever pages were edited or updated, they were routed back to relevant RTM Leader – no surprises at any step along the way.

- Landing page continued to evolve with pages added or renamed.

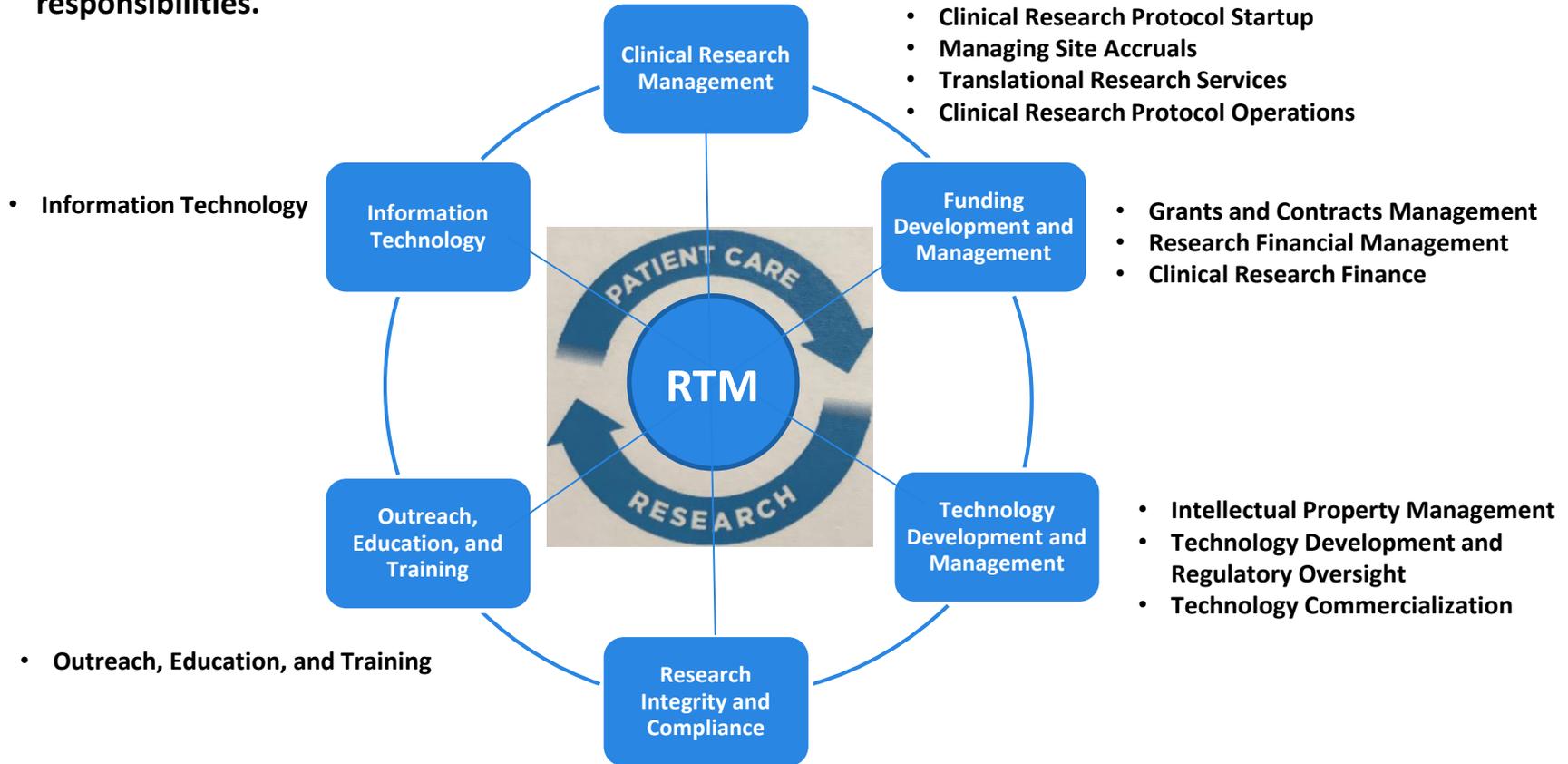Memorial Sloan Kettering
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Keeping the Project User-Friendly

- Who was our target audience?
- We spent a lot of time thinking about this—and we developed the project in such a way that it would have relevance for a broad range of colleagues throughout MSK. These potentially include:
  - ✓ Institutional Senior Leadership and our Board of Trustees
  - ✓ Our customers (laboratory and clinical researchers)
  - ✓ Research administrators throughout MSK
  - ✓ Other key constituents (i.e. colleagues within Public Affairs, Finance, or Human Resources)
  - ✓ The 300+ people who work within RTM, including our SVP and Office and Unit Leaders.
- Since this is a very broad list of people who might come to our divisional metrics report with varying degrees of familiarity with what we do, that original mandate about clarity and accessibility was extremely important.
  - Design implications included using chart titles to reinforce metrics messages, adding explanatory notes (when needed), and adding links to other RTM web pages so that visitors can access more information when needed.

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Research & Technology Management: Divisional Performance Metrics

- **RTM's offices and units deliver institution-wide impact through support for MSK's clinical and laboratory research activities at all stages of the research cycle.**
- **Learn more about RTM's 2018 contribution: See one-page metrics reports relating to RTM's key functions and responsibilities.**

Clinical Research Management

- **Clinical Research Protocol Startup**
- **Managing Site Accruals**
- **Translational Research Services**
- **Clinical Research Protocol Operations**

Funding Development and Management

- **Grants and Contracts Management**
- **Research Financial Management**
- **Clinical Research Finance**

Information Technology

- **Information Technology**

RTM

PATIENT CARE

RESEARCH

Technology Development and Management

- **Intellectual Property Management**
- **Technology Development and Regulatory Oversight**
- **Technology Commercialization**

Outreach, Education, and Training

- **Outreach, Education, and Training**

Research Integrity and Compliance

- **Clinical Research Multisite Compliance**
- **Clinical Research Quality Assurance**
- **Protocol Review and Monitoring Systems**
- **Grants Management and Research Compliance**
- **Laboratory Research Compliance**
- **Research Misconduct: Responding to Allegations**

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The Final Product

- We started off with a plan to develop 14 one-pagers; by the end of the process we were working from a list of **18 key functions.** These were listed on the landing page and then each one was linked to a one-page metrics report.

- In part because the project took so long, we were able to include full year **2018 metrics** relating to each key function (and we provided a historical context wherever possible). With some metrics we were also able to provide peer-institution comparisons.

- After a lot of discussion, we decided that providing real-time updates wouldn't provide significant added value and might work against our goal of keeping our messaging clear and concise.

- **How long did it all take?** We launched the project in 1Q 2018 and published it on OneMSK in March 2019. Working our way through the initial planning—including clarifying our strategic objectives—probably took 6 months.

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Telling, Not Showing

Since the report includes a lot of confidential information, it's not included in this presentation. But I can describe what's on some of the pages:

- **Clinical Research Protocol Startup**: 3 metrics charts including one showing steady progress in time-to-activation of Clinical Trials over the past five years; one that illustrates Clinical Research contract response time (MSK vs. industry sponsors); and a breakdown of CR-related contracts by type over a period of years.

- **Intellectual Property Management**: 3 metrics charts which detail, among other relevant trends, historical increases in patent applications and issued patents.

- **Laboratory Research Compliance**: Various metrics, including detailed trends over time, relating to administration of MSK's Institutional Animal Care and Use Committee and Institutional Biosafety administration.

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The Wrap-up

- Throughout the overall process, we remained faithful to the notion that **the report wasn't about marketing—it was about evaluating, communicating, and educating.** So, although many metrics demonstrated success and impact, others illustrated that change is taking place—with movement in a promising direction.

- We're now publicizing our 2018 Performance Metric report through an extensive rollout that will include divisional and institutional communications, an article in our divisional newsletter, and notices on our web pages.

- We are encouraging RTM professionals to help spread the word during institutional interactions and presentations.

- We will also work with MSK's internal web team to find other ways to raise institutional awareness.

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Long-term plans

✓ **We look forward to institutional feedback, which will help us assess what's worked well and where there is room for improvement.**

✓ **We plan to update RTM's Performance Metrics on an annual basis (it's our expectation that this will take 3-4 months rather than a year to accomplish!).**

✓ **Over time, the choice of specific metrics may change. We may add or even subtract key functions/metrics pages.**

✓ **Timelines may expand on some charts as we develop more data.**

✓ **Each year's divisional metrics will be archived as an Annual Report available on OneMSK.**

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With Thanks

- I want to recognize the commitment and very hard work of colleagues throughout RTM who worked with me on this project and helped produce a truly robust, comprehensive, and really innovative metrics report.
- Thanks to SRA International for the opportunity to speak to you about our project and this journey we've been on during this past year.
- I want to thank you all for your time—and encourage you to reach out to me if you've got questions or want to talk about your own metrics reporting.

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