

Excellence in Medical Affairs

Recent trends in China Medical Affairs and Outcomes
from China Medical Affairs Survey 2016

February 2017

Introduction

As the roles of Medical Affairs have become more and more important, the China Medical Affairs Network (CMAN) conducted a survey in 2016 with the purpose of understanding the current state of Medical Affairs in pharmaceutical companies in China. A total number of 14 MNC pharmaceutical companies in China participated in this survey. Monitor Deloitte was invited to analyze the survey outcomes and to assess several aspects of Medical Affairs within these organizations, namely "Scope of Work", "Organizational Trends", and "Career Path".

This White Paper covers the current market trends which have been influencing Medical Affairs in China, and presents the findings and analysis from the China Medical Affairs Survey 2016.

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1. Recent trends in China Medical Affairs

In the past year, key trends in the healthcare market have helped reposition Medical Affairs as a function and contribute to its increase of effectiveness. As a result, Medical Affairs today is playing an increasingly important role in driving business agenda.

These key market trends include:

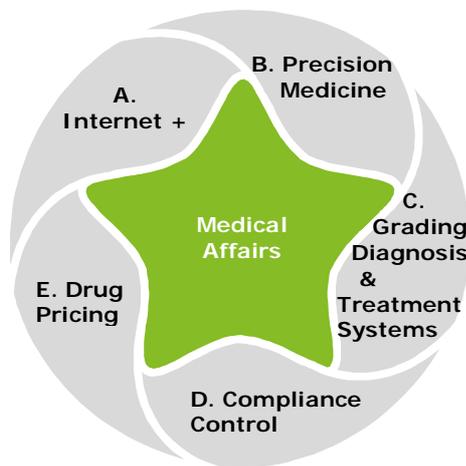


Exhibit 1 Recent trends in China Medical Affairs

A. Internet+



China's "Internet+" aims to accelerate the development of various online services across industries.

Specifically, within Healthcare industry, these include:

- Support for third party organizations to develop medical information sharing platforms across hospitals (e.g. medical imaging record, health record, lab reports)
- Better leverage mobile internet to provide healthcare services (e.g. appointment-booking, consultation reminders, payments)

Therefore, barriers between information systems may gradually break down in order to enable sharing of medical information. Mobile Technology and Big Data will likely exert a profound impact on the provision of healthcare services.

Medical Affairs can take advantage of the increasingly abundant information in several ways, such as, utilizing data analytics to further understand patient or physician behaviors, and leveraging the diverse patient-base for pharmacovigilance and evidence generation studies at larger scales – covering multiple regions with electronic health record owners. Secondly, the reliability of the teams' work will also be improved due to the larger sample sizes and real-time reporting of adverse events. Lastly, the teams can leverage new ways of communicating scientific and medical information, using multi-channels and

targeting multiple stakeholders in tailored manners.

Challenges also come along with the opportunities presented. In November 2016, China's parliament has announced the "China Cybersecurity Law", which aimed at addressing the country's concerns about hacking and terrorism, putting higher requirements on pharmaceutical companies regarding clinical trial data and patient personal data security.

B. Precision Medicine



Similar to the US, China has formally vowed to build up the nation's own Precision Medicine industry. In the recent 13th 5-year plan announced by the National Health and Family Planning Commission (NHFPC), precision medicine is a core component, with a total investment of RMB 60Bn planned by year 2030.

The Chinese government's commitment has propelled China's precision medicine into a new era, where increasing local capabilities in genomics, big data and precision medicine products are already emerging.

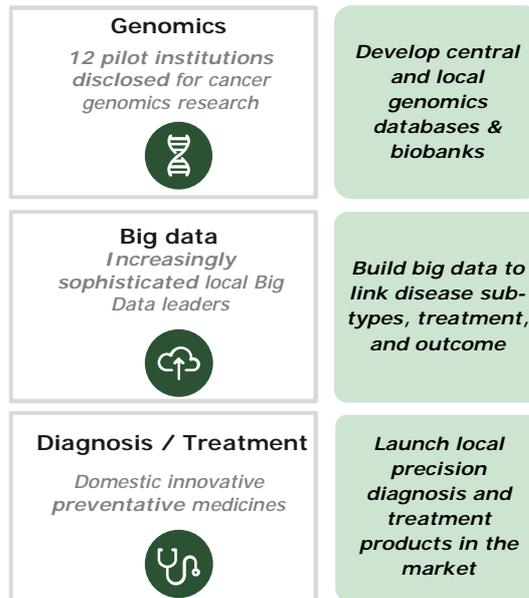


Exhibit 2 Key pillars of China precision medicine industry

In China, Precision Medicine needs to overcome three critical barriers or questions in its development: (1) Under what circumstances should it be used? (2) How should it be used and integrated into current care? And (3) what is its clinical value proposition? Medical Affairs will be able to play a critical role in demonstrating the value of Precision Medicine and in demonstrating how it can achieve improved clinical outcomes when combined with current treatments. For instance, advances in precision medicine could allow a product that enjoyed 50% positive efficacy results to be posted to 90% positive efficacy results now as it will be used more selectively when most effective.

As the local Precision Medicine industry starts to emerge, many multi-national pharmaceutical companies have chosen to leverage partnerships to tap this new opportunity and help redefine the value of their products. Medical Affairs can play a unique role to safeguard Precision Medicine's scientific and clinical merits when forming such partnerships. We

primarily observed three types of strategic goals of such a partnership:

- Promote translational research: Partner with leading institutes to understand diseases that have large implications in China (liver cancer, diabetes)
- Promote the use of precision medicine: Promote / demonstrate the value of precision medicine to key medical and government entities
- Bring innovative Precision Medicine to the market: Support selection and development of innovative companion diagnostics in target disease portfolios

C. Grading Diagnosis & Treatment Systems



"Grading Diagnosis & Treatment Systems" continued to gain traction in the past year with a focus on pilots throughout the country. In the past year, about 22 provinces in China have already devised implementation roadmaps for "Grading Diagnosis & Treatment Systems" with numerous stated goals such as:

1. Elevate provincial treatment rate to 90% in two to five years' time.
2. Increase CHC treatment volume to 65% of total treatments made.
3. Develop healthcare talents with a focus on General Physicians.

It becomes critical that Medical Affairs rethink its stakeholder engagement strategy and leverage creative channels to communicate to a broader market. Medical Affairs need to consider three critical factors:

- Understand the medical needs in different local markets
- Leverage "Multi-channel medical" and even big data to assist physicians in lower-class hospitals
- Strengthen connections between top and lower tier HCPs

D. Compliance Control



The Government continues to exert high levels of pressure on promotion compliance, requiring Medical Affairs to proactively manage regulatory risks. The emphasis should be around the separation between Medical Affairs and Commercial to distinguish scientific exchange from promotional activities, creating medically accurate information that supports marketing efforts while ensuring maximum transparency and scientific rigor.

E. Drug Pricing



Intensified regulation on equitable and transparent pricing has drastically raised the burden of proof for drug manufacturers. Though such oversight is targeting the whole pharmaceutical industry at large, multi-national pharmaceutical companies are particularly sensitive due to their primarily innovative portfolio with large affordability gaps.

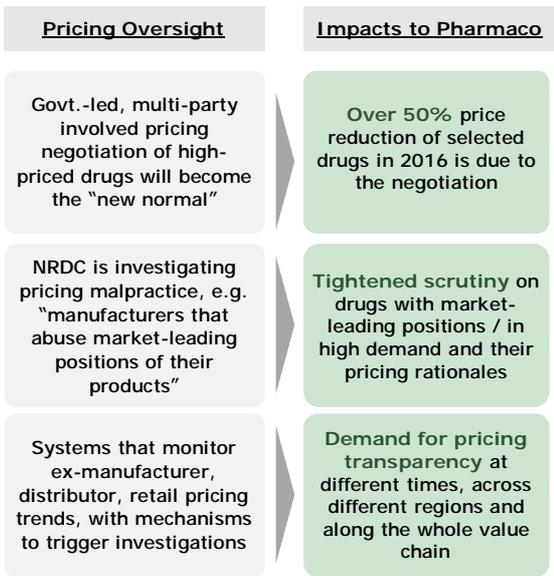


Exhibit 3 Pricing oversights and their impacts

Under such environment, the stakes have never been higher for Medical Affairs to more effectively shape the pricing algorithm and generate evidence-based value indicators. For innovative drugs, Medical Affairs can coordinate comparative effectiveness research to establish a unique treatment profile that supports pricing & market access. For reimbursed drugs, Medical Affairs can partner with Health Economics and Outcomes Research groups to quantify the treatment's total benefit-risk ratio.

2. Outcomes from China Medical Affairs Survey 2016

Against the backdrop of an increasingly important role for Medical Affairs teams, the China Medical Affairs Network (CMAN) conducted a survey in 2016 with the purpose of understanding the current state of Medical Affairs in pharmaceutical companies in China. A total of 14 MNC pharmaceutical companies in China participated. Monitor Deloitte was invited to analyze the survey outcomes and to assess Medical Affairs' "Scope of Work", "Organizational Trends", and "Career Path" within these organizations.

The key outcomes can be summarized as follows:

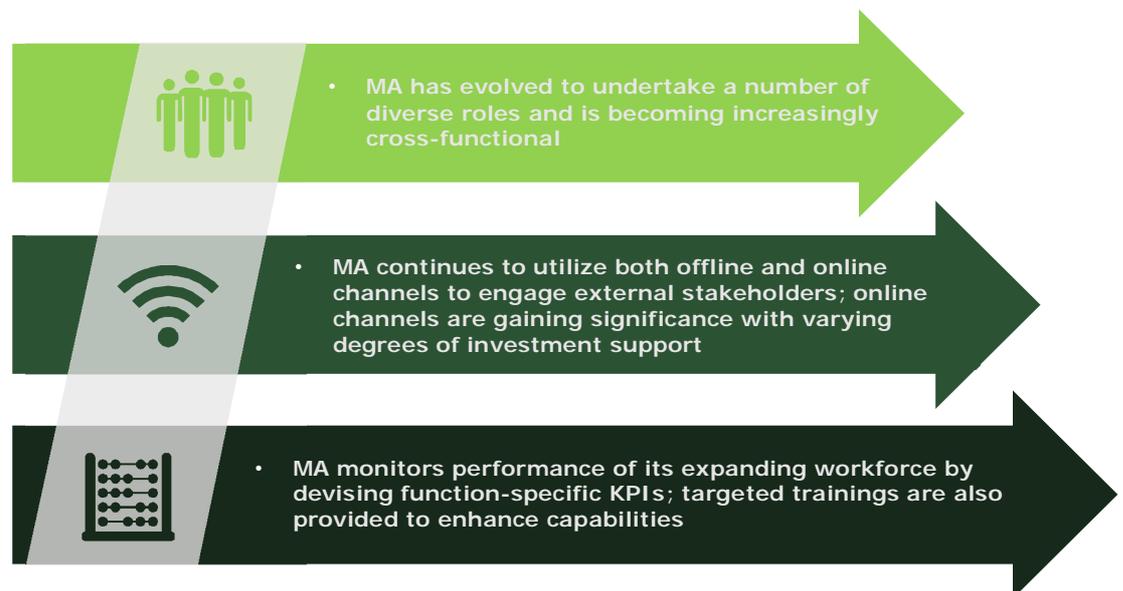


Exhibit 4 Key outcomes from China Medical Affairs Survey 2016

This survey exclusively focused on MNC pharmaceutical companies, as most domestic pharmaceutical companies do not have matured medical affairs functions yet. During our research and analysis, we observed very limited phase IV trials and real world data generation activities from the Chinese local players, this was largely because of the yet immaturity of their product portfolio. However, it has been a trend that local players are setting up functions and positions to cover Medical Affairs responsibilities.

A. MA has evolved to undertake a number of diverse roles and is becoming increasingly cross-functional

Leaders of pharmaceutical companies in China generally agree that Medical Affairs are crucial to the success of the business and is rapidly emerging as an integral component of strategy. Based on survey analysis, all participants agreed that Medical Affairs' value is being increasingly recognized in recent years and has been evolving from a supporting function to a powerful strategic partner in the business.

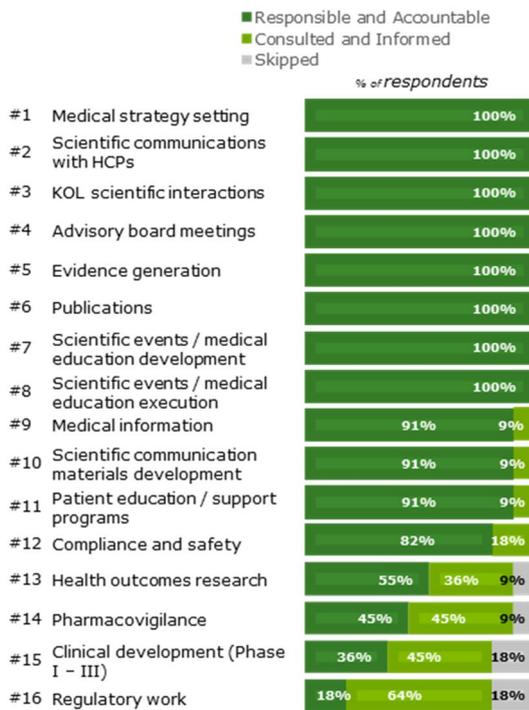


Exhibit 5 Medical Affairs cross-functional involvement 1/2

Medical Affairs' activities have also become increasingly cross-functional, with 5~6 functions involved in the day to day Medical Affairs activities for many companies.

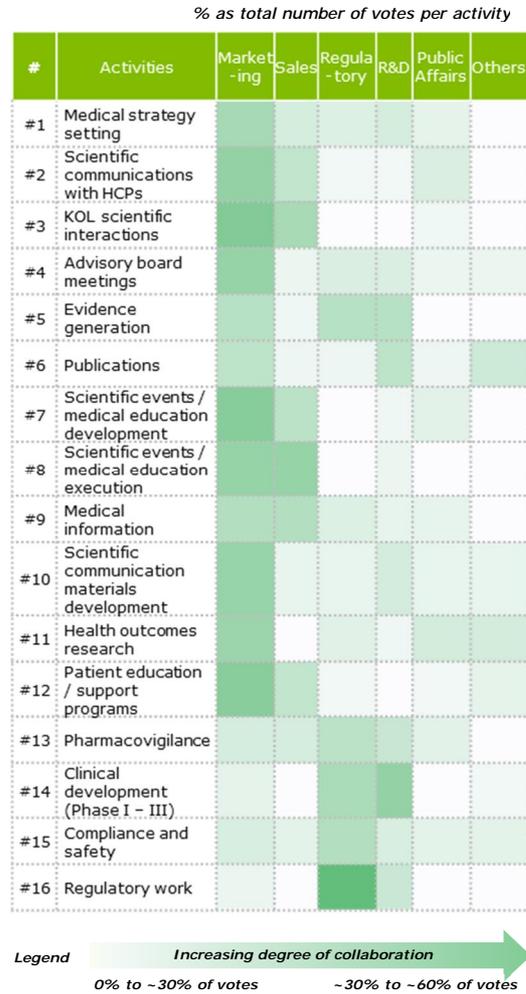


Exhibit 6 Medical Affairs cross-functional involvement 2/2

B. MA continues to utilize both offline and online channels to engage external stakeholders; online channels are gaining significance with varying degrees of investment support

Medical Affairs helps address changing dynamics in the market and will face a broader and diversified pool of hospital customers creating the need for an efficient customer engagement model. Currently, both traditional off-line channels and emerging online channels are used when communicating with external stakeholders such as healthcare physicians.

A diverse range of on-line channels are used to disseminate medical information, including Email (30%), WeChat (30%), pharmaceutical related websites (20%) and mobile apps (20%). It is not surprising to see Email and WeChat are the two most commonly used online channels, mainly due to their accessibility.

Despite online channels' increasing significance, pharmaceutical companies have made varying levels of investments in building digital capabilities. Among the survey participants, for some, only minimal resources are allocated to Medical Affairs for digital purpose, with 0 FTE (full time employees); while, some are willing to commit significant resources – up to 20 FTEs in some cases.

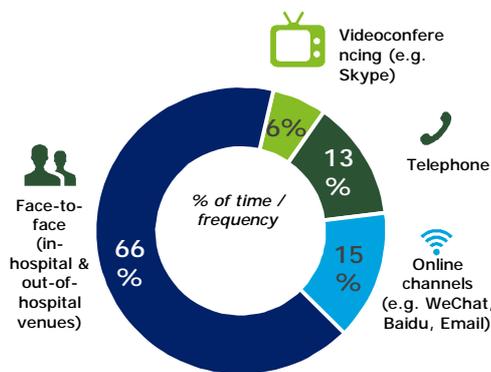


Exhibit 7 Medical Affairs channels usage to communicate with HCPs

Face-to-face communications are still the dominant channel (66%), while on-line channels are becoming increasingly prominent because of the following main reasons:

- Ability to more easily increase HCP coverage
- Low cost advantage (under budget constraint)
- And probably most importantly, customers' needs and HCP's preference for tailored content through online channels

C. Medical Affairs monitors the performance of its expanding workforce by devising function-specific KPIs; targeted trainings are also provided to uplift capabilities

C1. Medical Affairs professional size and qualification

Despite the increasing importance of Medical Affairs, developing an effective Medical Field Force is challenging. There is a significant variation in how pharmaceutical companies allocate MA staff relative to the salesforce. Among the survey participants, on average, there are 6 MA FTEs per 100 sales representatives; while there are 3 Medical Science Liaison (MSL) FTEs per 100 Sales representatives. Most Medical Affairs organizations achieved significant growth in the past years; the average annual growth of Medical Affairs staff headcount for the past 3 years has been between 14% and 37%. Looking ahead, most companies participating in the survey seemed to be more conservative or will be taking a more cautious approach in growing MA's headcount in the coming year, with an average of about 6% to 12%.

Along with the evolvement of Medical Affairs professionals, part of the management team – especially first-line managers – has relatively limited work experience at the time of hiring or promotion. A Master's degree is required across most levels of the MA management team while Medical Doctors are not always required for first-line managers.

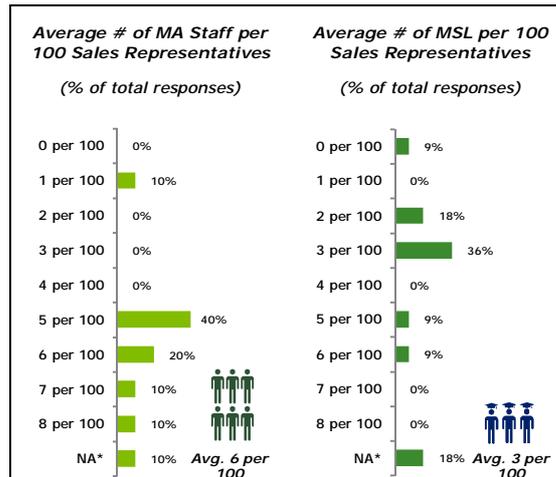


Exhibit 8 Average number of MA staff and MSL Staff per sales representatives



Exhibit 9 Average number of years of work experience required at the time of hiring or promotion

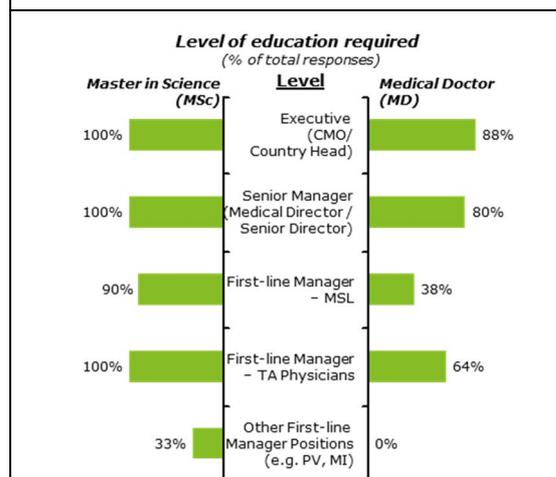


Exhibit 10 Level of education required for Medical Affairs management team

C2. Medical Affairs professional KPIs

Medical Affairs functions monitor the performance of their expanding workforce by devising function-specific KPIs. Many companies utilize KPIs to provide guidance on Medical Affairs execution. For MSLs, main KPIs include:

- Liaison targets: e.g. Liaise with at least 30 targeted KOLs
- KOL visits: e.g. conduct 19 KOLs visit per month
- Visit length: e.g. spend at least 30 minutes quality time with the physician per visit
- Events: e.g. organize 2 scientific events every month

While, other KPI examples include hospital standard of care (SOC) KPIs (e.g. MSL's ability to help enhance the SOC by providing quality data and accurate medical information), coverage of KOLs, feedback from KOLs, understanding of KOL needs, quality of interaction, and working hours.

For Medical Managers, their KPIs fall into four key dimensions:

- Development of medical strategy
- Performance on medical-related projects
- Feedback obtained from internal/external stakeholders
- People Management and development

C3. Medical Affairs professional capability building

To help Medical Affairs professionals to progress, pharmaceutical companies provide targeted trainings to boost their capabilities, including SOP-related training, Medical-specific Subject Matter training, New Hire/ On-boarding training, as well as Soft Skills Training (e.g. Leadership, Project Management).

70% of the survey participants confirmed that there is a New Hire training that is specific for new Medical Affairs staff, while 56% of the survey participants confirmed that there is a standardized process of accreditation for MSLs before they interact with HCPs, which is usually in the form of a 3 to 6 month certification program.

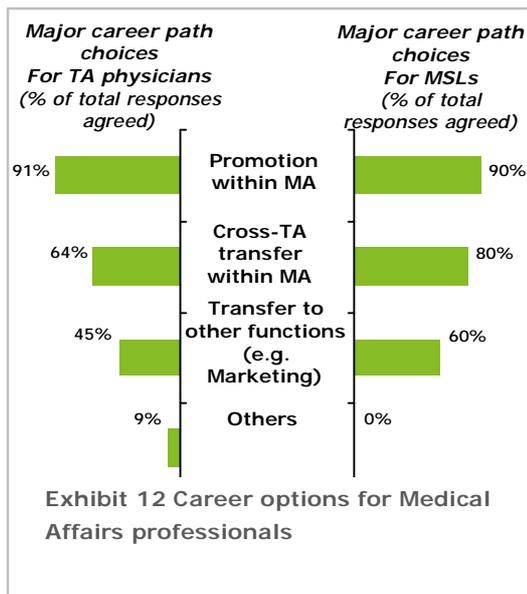


Exhibit 11 Case Study – MA Innovation Capability Building

C4. Medical Affairs professional career path

In light of most pharmaceutical companies' increasing appreciation of Medical Affairs' value, as well as the various development initiatives targeted at Medical Affairs talents, the Medical Affairs attrition rate remains moderate and stands at a range of 8% to 12%

Most Medical Affairs talents' career options lie within the organizations. Majority of the talents would be promoted organically within Medical Affairs, but may also be rotated across Therapeutic Areas. While occasionally, they would also be transferred to other functions, such as Marketing.



3. Road Ahead for Medical Affairs in China

As pharmaceutical companies become more price sensitive, and the overall healthcare burden continues to increase, stakeholders are looking for new treatments that are clinically and economically better than existing alternatives, together with hard, real-world outcomes data to back up any claims about a medicine's superiority.

Under such market dynamics, companies are re-visiting their strategic priorities and returning to the fundamentals of the business – Patient-centricity, Scientific Leadership, and Innovation beyond medicines.



Exhibit 13 Road Ahead for Medical Affairs in China

Medical Affairs are evolving as a major driver for sustained growth, as previous models based on large sales forces continue to recede. The “Marketing + Medical-driven Model” is emerging and is around patient-centricity, treatment outcomes, and co-wins across the ecosystem.

Medical Affairs have started to adopt new methods for evidence generation, KOL engagement, and medical information collaboration.

Internally, Medical Affairs are uniquely positioned to collaborate with a diverse range of functions and is expected to bring tremendous value to patients and businesses, as well as to drive innovation agendas. Examples of functional collaborations include:

- **Post-market Surveillance:** Research diseases, target patients, drug dosage and DOT to see how a wider range of indications can be covered
- **Market Access:** Facilitate funding decisions through development of value indicators and their inclusion into the decision-making criteria
- **Evidence Generation:** Gather real world evidence to enrich drug efficacy and safety data in order to further differentiate from competitors' products
- **Medical Communication:** Communicate insights not just with physicians and KOLs but also healthcare payer, medical and academic organizations, and patient groups; focus on building co-wins among all stakeholders

The rapidly changing healthcare landscape, characterized by the intensified cost pressure, rising expectation of stakeholders, maturing mobile health players, and uncertainties of medical reform, has created an imperative for pharma organizations to spur internal transformation. Externally, various forms of medical collaborations are emerging for Medical Affairs:

- **Experiment with new methods of data generation:** Cost pressure and market dynamics are imposing challenges on the traditional evidence generation model. Medical Affairs are leveraging external data providers and analytics capabilities to collect real world evidence, and discover hidden insights through technology breakthroughs, such as IBM Watson
- **Synthesize holistic solution to patient:** Driving patient programs partnering with internal and external parties. The patient program can go way beyond patient education, more often than not, these programs connect multiple players in the ecosystem, and provide holistic solutions that significantly benefit patients
- **Deliver compelling and customized scientific information:** KOLs today are more and more accustomed to fast-paced, fragmented, and customized information delivery. Traditional medical information (e.g. detailed medical publications) are usually too lengthy and generic. This requires Medical Affairs to extract useful scientific insights that matter most to individual KOLs, and deliver them through a combination of traditional and digital channels
- **Leverage industry-wide effort to improve overall data generation and data access:** New collaboration models have emerged, where large MNC pharmaceutical companies are collaborating with research institutions, CROs, healthcare start-ups, and cognitive science players to explore new ways of data generation

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