



China Healthcare Industry Outlook 2024





December 12, 2023

These materials are intended to supplement a discussion with L.E.K. Consulting. These perspectives will, therefore, only be meaningful to those in attendance. The contents of the materials are confidential and subject to obligations of non-disclosure. Your attention is drawn to the full disclaimer contained in this document.

L.E.K. Consulting

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L.E.K. Consulting is a global strategy consulting firm with significant coverage in healthcare

-  Est. 1983
-  21 offices
-  ~210 partners
-  ~2,000 staff



Industry leading healthcare and life sciences practice

Healthcare services



Medical devices and technology



Diagnostics



Healthcare investing and financial sponsors



Specialty pharma / Drug delivery



Bio-pharma

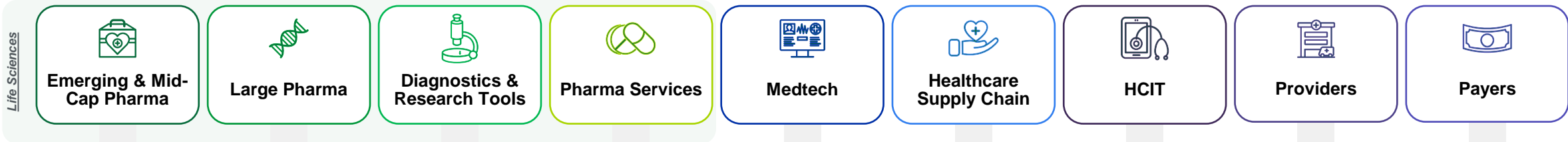


L.E.K. Healthcare covers all parts of the healthcare ecosystem with deep expertise across all major practice areas

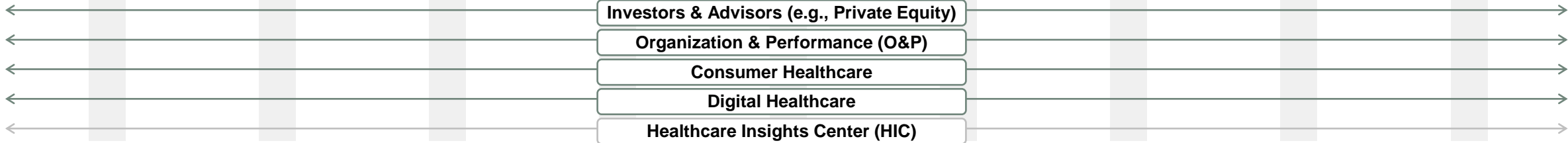
L.E.K. Healthcare Sector Overview



L.E.K. Vertical Practices



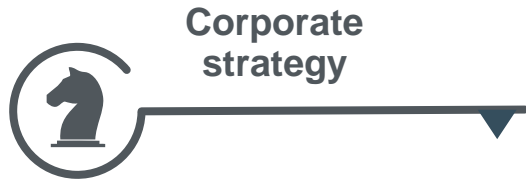
L.E.K. Horizontal Practices



L.E.K. Capabilities

- ~75 full-time healthcare-focused Managing Directors / Partners globally across 9 vertical and 4 horizontal practices
- **Hundreds of dedicated** healthcare consulting staff across the world (plus hundreds more in critical supporting functions)
- Global network of **10,000+** healthcare industry executives, experts, clinicians, thought leaders (for research and industry insights)
- **Hundreds of projects** per year with a diverse range of large-cap, mid-cap and PE-backed clients
- Industry-leading **thought leadership and IP** (e.g., best-in-class methodologies, benchmarks, market fact-bases, industry surveys)
- Recognized as a leading advisor for **growth strategy, M&A support** and solving key **strategic and complex business issues**

We help our clients to address key strategic and operational issues and deliver value-creating growth



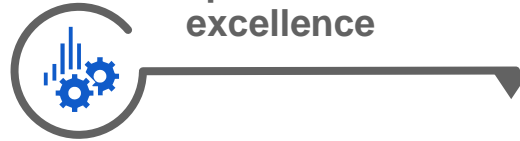
Corporate strategy

- Industry trends and evolution
- Growth opportunities analysis
- Strategic planning
- Therapeutic area diversification
- Sector diversification
- International expansion
- Portfolio planning and strategy
- Innovation strategy
- Outsourcing strategy
- Whitespace opportunities
- Shareholder value creation



Product & franchise strategy

- Market sizing and segmentation
- Product evaluation
 - attribute testing
 - target profile development
 - market share assessment
 - performance thresholds
 - revenue forecasting
 - financial modeling (eNPV)
 - scenario and sensitivity analysis
- Competitive positioning
- Pricing and reimbursement
- Launch planning
- Commercialisation options
- Sales force optimization
- Brand management
- Lifecycle management
- Global expansion



Operational excellence

- Performance improvement
 - relative cost position
 - business processes
 - turnarounds
 - organization and design
 - operational effectiveness
 - measurement & incentives
- Cost reduction
 - overhead / SG&A
 - inventory optimization
 - sourcing and procurement
- Supply chain management
 - role of technology
 - planning and execution
 - alignment with channels
 - globalization
 - distribution / cold-chain mgmt



Transaction support*

- Target screening & identification
 - companies
 - products
 - partners
- Bidder screening and identification
- Vendor due diligence
- Commercial due diligence
- Fairness opinion
- Litigation support
- Negotiation & term sheet support
 - deal terms analysis
 - dynamic valuation tools
- Post-merger integration

L.E.K. is watching a number of key themes for 2024



Healthcare market growth



Anti-corruption campaign dynamics



Pricing and access controls

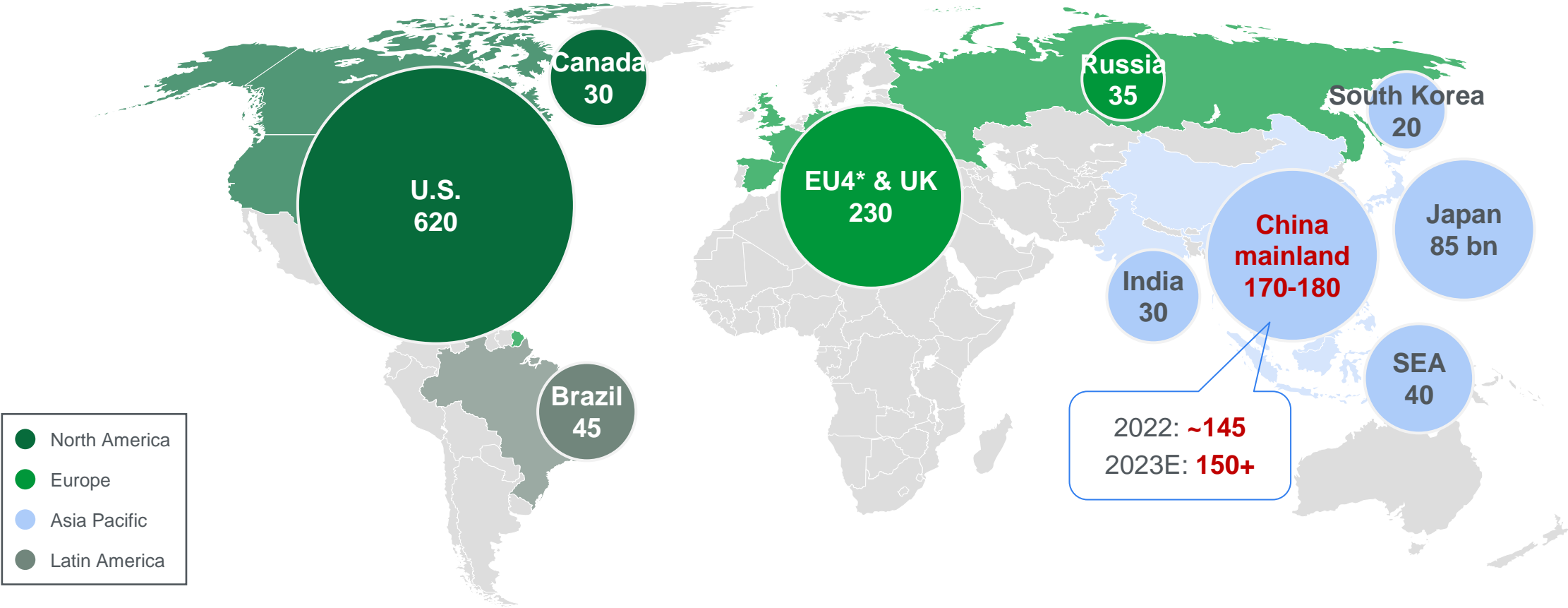


New technology enablers

China pharmaceutical market is expected to reach ~USDbn170-180 in 2025, while other APAC countries collectively represent a pharma market of similar size with China

Healthcare market growth

Top 10 Pharmaceutical Markets (2025F) USD Bn



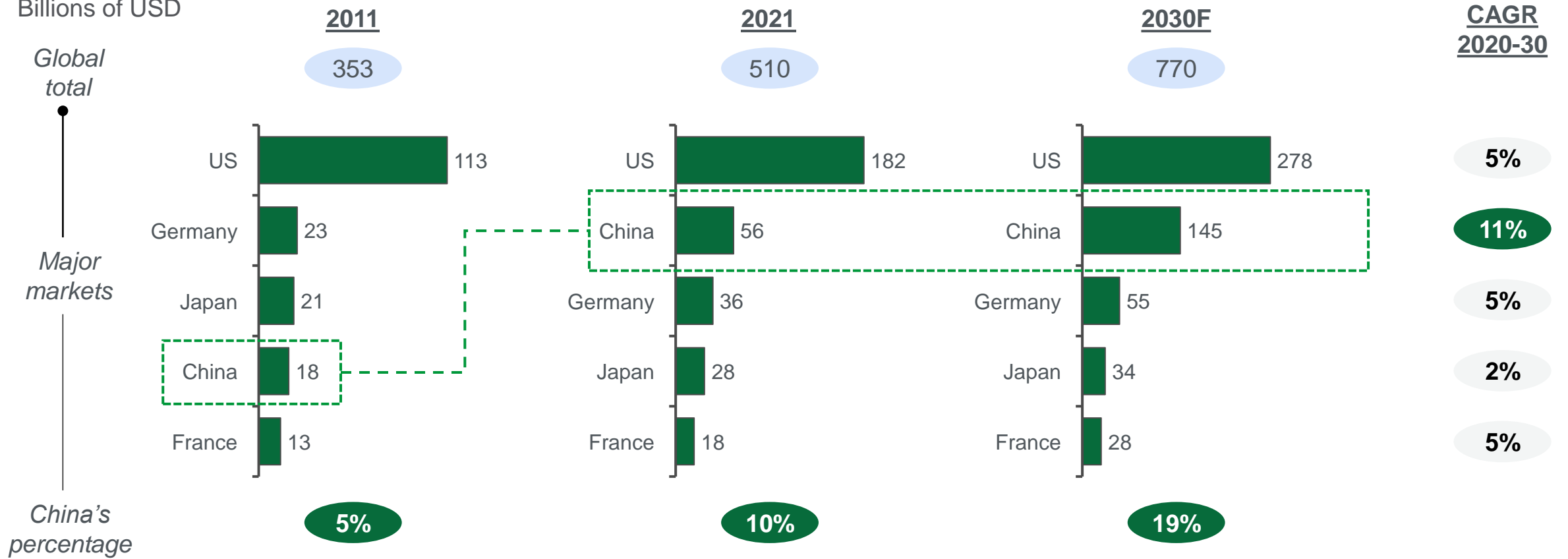
Note: Germany, France, Spain, Italy
Source: IQVIA, L.E.K. IP and analysis

In the medtech market, China is expected to remain a leading global source of market growth

Healthcare market growth

Medtech market size of key economies (2011-30F)

Billions of USD



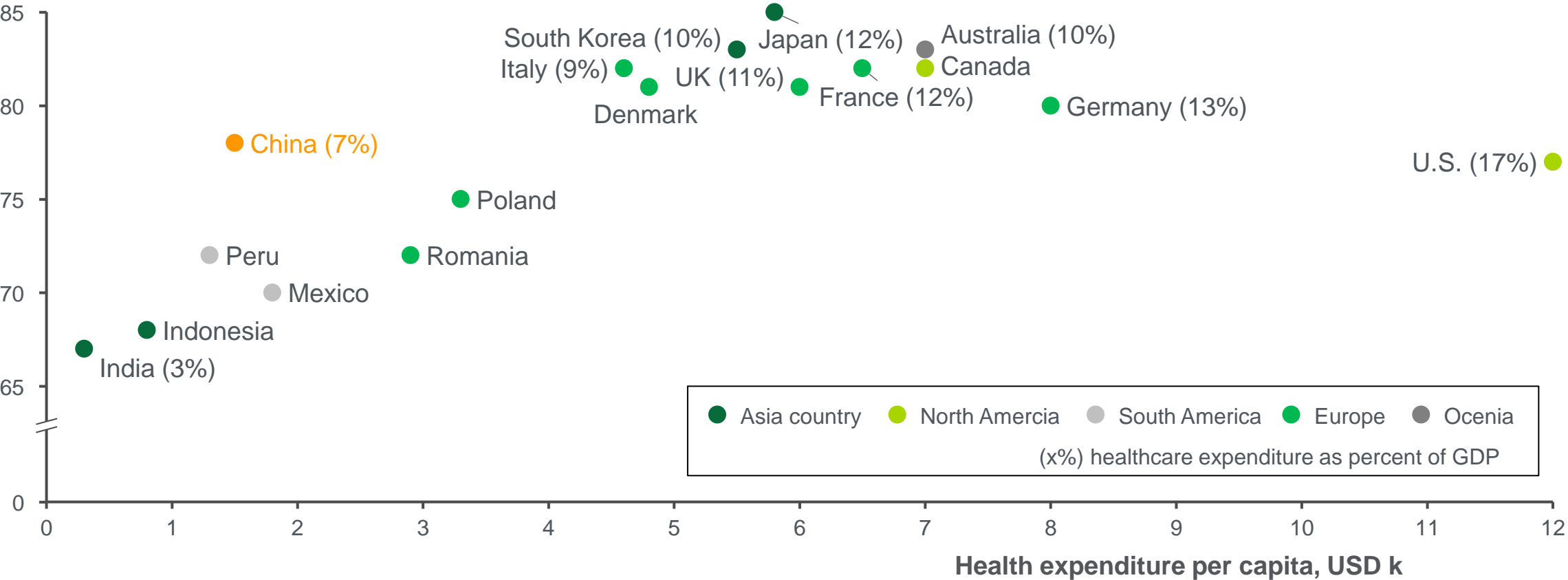
Source: China International Import Expo Exhibitor Alliance Medical Device Committee (November 2022), L.E.K. research and analysis

Further significant increase in healthcare expenditure could be challenging considering the economic slowdown and the perceived effectiveness of the healthcare system

Healthcare market growth

Life expectancy and health expenditure per-capita comparison across countries (2022)

Life expectancy at birth



Source: OECD data, L.E.K. research and analysis

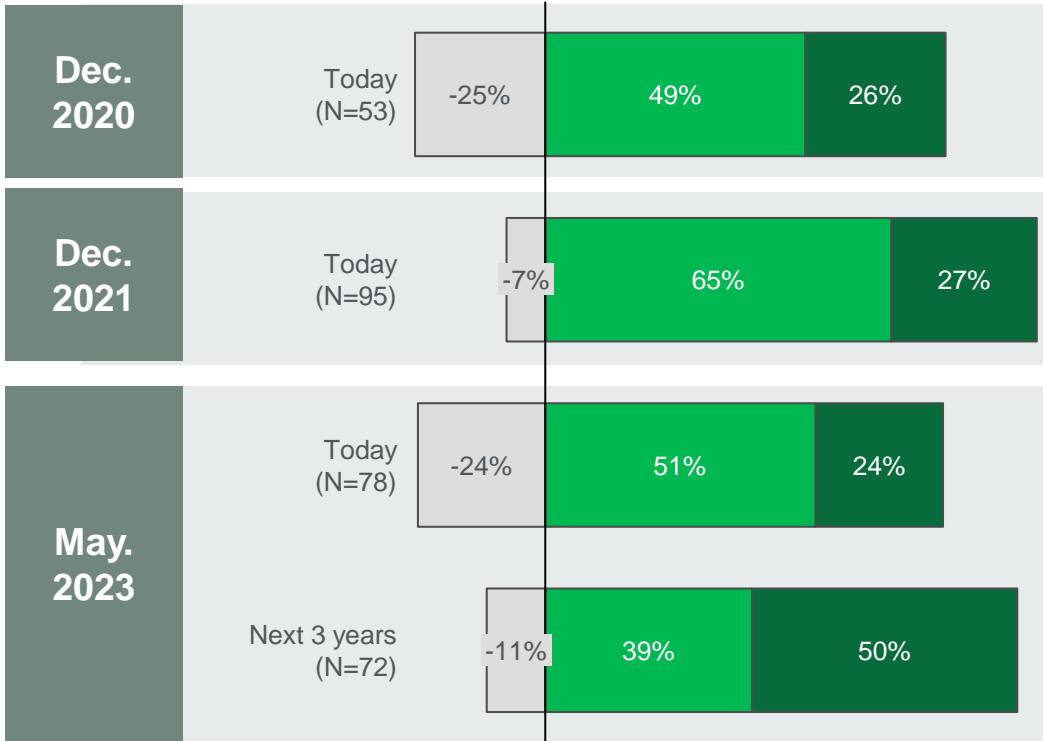


Public hospitals still have a passive outlook for this year; forward looking view is brighter

Healthcare market growth

Public hospital budget outlook - China*

Percentage of respondents



■ Budget surplus
 ■ Balanced budget
 ■ Budget deficit

Private hospital profitability/EBITDA - China**

Percentage of respondents



■ Positive profitability/EBITDA
 ■ Negative profitability/EBITDA

Note: *Question: What is the level of budget surplus/deficit incurred by your hospital today? 在以下时间段您所在医院的预算盈余/赤字是多少? Responses with "I do not know/prefer not to disclose" have been excluded
 **Question: What is the EBITDA margin/profitability level of your hospital? 您所在的医院现在的息税前利润 (EBITDA) 水平 (不计利息、税项、折旧及摊销) 如何? Responses with "I do not know/prefer not to disclose" have been excluded

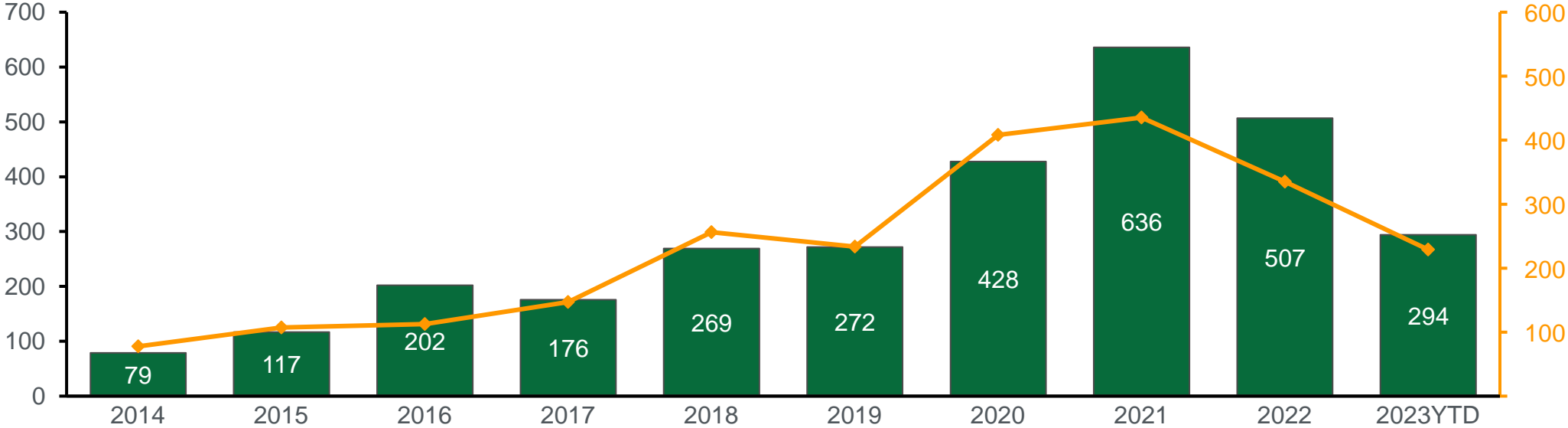
Source: L.E.K. 2021, 2022 and 2023 APAC Hospital Priorities Survey

In terms of capital market, after a decade-long increase, PE / VC biotech deal volume and size in China market have decreased significantly

Healthcare market growth

Biotech PE/VC deal volume in China* (2014-23, as of 23rd October)

Number of deals



26	44	59	58	77	70	147	201	120	37	# of deals with disclosed deal value
2	5	7	9	20	16	60	88	40	8	Total disclosed deal value (Bn of RMB)

Note: * Including all pre-IPO financing events
Source: China Venture, L.E.K. analysis

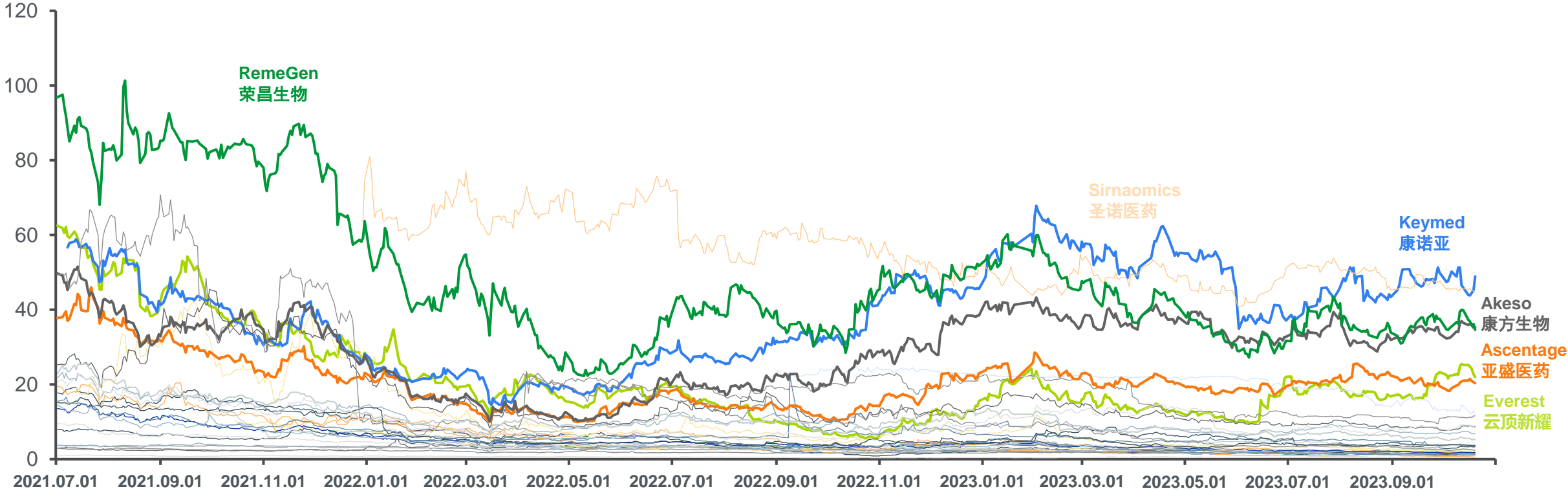


Most Hong Kong 18A listed biotech experienced valuation adjustments in the past 2 years; gradual valuation rebound is on-going

Healthcare market growth

Stock price of 32 HKEX 18A listed biotechs* (as of Oct. 20th, 2023)

RMB per share



Note: * Excluding HKEX 18A listed companies whose main business is not pharma-related; BeiGene, Innovent, Junshi, CanSino and Henlius have been moved to the main board
Source: HKEX, Wind, Capital IQ, L.E.K. research and analysis



Market consensus continues to favor long-term rational growth of Chinese biotech

Healthcare market growth

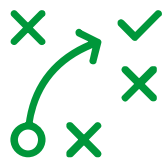
Market views on biotech outlook

Valuation rebound



- The valuation adjustment since second half 2021, triggered by gov't's increased requirement on therapeutical innovation and global economic downturn, will **presumably reverse to growth trajectory in 2024**
- The long-term growth of Chinese biotech are still expected considering **innovation upgrade** and **multiple financing sources** (e.g., license-out)

Rational investment



- The fundings would turn towards those assets with **true innovation** (Me-better, First in Class, Best in Class) and companies would **rationalize their trial plans**



Market feedback

“... We see **2023 as a year of rebuilding for Biotech sector**, with continued positive clinical study readouts and large M&A underscoring sustained innovation still needed to grow share momentum over the next 12-18 months ... On the deal front, we expect this also to pick up (but likely weighted towards 2H23/1H24e) ...”

- BofA Securities, Alec Stranahan, Analyst

“... I think there is a good chance that the biotech sector **will rebound strongly** from the downturns and **may have already begun its climb** ...”

- RA Capital Management, Peter Kolchinsky, Partner

“... I believe we're **on the cusp of a resurgence in biotech**... I remain bullish on the biotech sector in 2022. In fact, I wouldn't be surprised at all if biotech was the best-performing sector this year ...”

- Brownstone Research, Jeff Brown, Founder

“... The entire investment market will be **more cautious and rational**. Compared with the past, **investors will value ROI more**, and the invested biotech companies will have stronger hopes that their products will enter the market quickly ...”

- Frost & Sullivan, 2022 Biotechnology Investment Forum



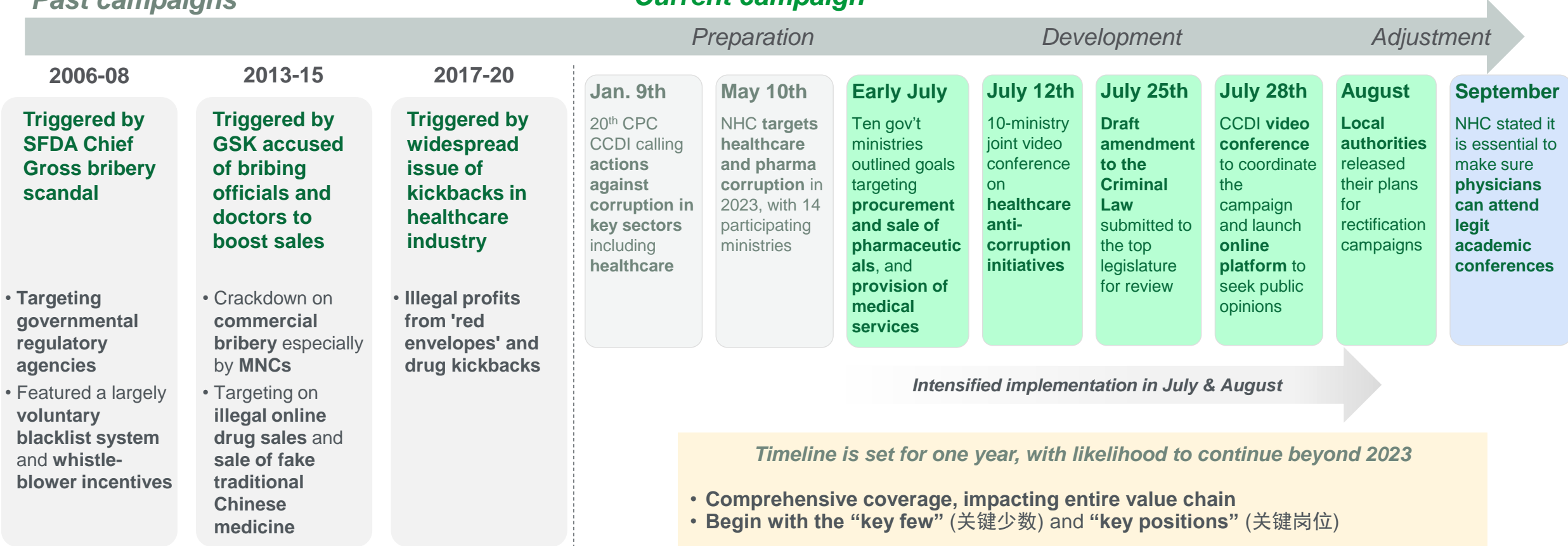
China has implemented many rounds of healthcare anti-corruption campaigns in the past two decades; the current campaign intensified since July 2023, followed by direction adjustment

Anti-corruption

Historical key policies and events of national healthcare anti-corruption

Past campaigns

Current campaign

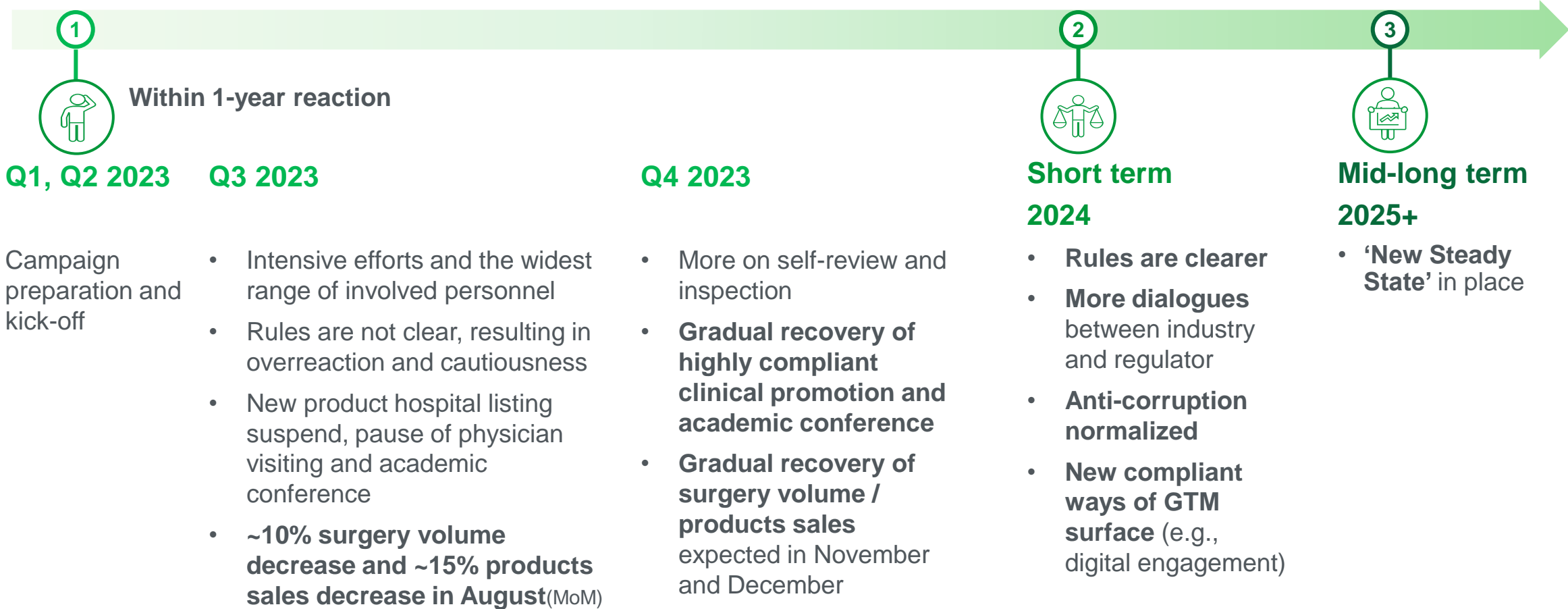


Note: NMPA: National Medical Products Administration 国家药品监督管理局 (previously SFDA and CFDA); NDRC: National Development and Reform Commission; CCTV: China Central Television
 Source: The Paper, CN healthcare, Vistamed, NHC, official websites, Reuters, L.E.K. analysis

Initial reactions were blunt and extensive, while more detailed rules and implementation guidelines help gradually ease the anxieties and transition to the 'New Steady State'

Anti-corruption

Anti-corruption impact timeline estimation



Source: L.E.K. analysis

Companies face challenges such as new product listing and rising price pressure on mature product; sales model transformation and portfolio management are potential workarounds

Anti-corruption

Key Challenges

Solutions



Challenge in listing and sales ramp-up for new product
Pause in hospital procurement, preference over low-priced mature product, and challenge in product marketing activity

Commercial model transformation and team capability building
Omni channel marketing will play more important role; academic driven sales and marketing will be future trend



Rising price pressure on mature product
Anti-corruption campaign is driving stricter implementation of VBP and DRG, further driving down price for mature products

Portfolio balance and product lifecycle management
Shift commercial efforts to new / innovative product; seek opportunities such as indication expansion



Rising supervision from government and requirement for compliance
Anti-corruption campaign is expected to normalize and continue in next 2-3 years, with rising requirement for compliance

Continuously adapt and build compliance system
Closely monitor regulatory trend and requirement and adapt / enhance internal compliance system

Source: L.E.K. analysis

Most market participants have seen the sign of recovery from China anti-corruption campaign and express optimistic view towards future China market

Anti-corruption

MNC's view towards anti-corruption campaign



"... a significant slowdown of hospital operations and sales rep interactions across the country caused by the country's anticorruption campaign that started about three months ago... But what we're seeing right now is **promotional activity is resuming**, not to where we were before, but it's **improving gradually** ..."

- Extracts from 2023 Q3 Bayer Earning call



"... We saw a reduction in promotional activities in China in Q3 which created some demand softness for certain medicines in the quarter, but I have **already seen recovery beginning in October**. We **remain confident in delivering our total revenue guidance for China** for the full year ..."

- Extracts from 2023 Q3 AstraZeneca Earning call



"... We obviously felt the effects of the China anticorruption earlier about customers disengaging at some level but as that reintegrated in later in the quarter obviously, we put up good numbers with being able to outperform the previous year... We're starting to see **signs of the anticorruption campaign stabilize here** ..."

- Extracts from 2023 Q3 GE Earning call

"... Anti-corruption campaigns do have a short-term impact on hospital access and promotion work, however, **to long run, they will benefit overall industry development** ... it mainly affect the sales of prescription drug in August and September and **the impact has abated since late September** ..."

- Extracts from Livzon 2023 Q3 report



The Chinese government continues to refine NRDL rules and its objectives of encouraging differentiated innovation and reducing cost

Pricing and access controls

NRDL latest policy update

Bidding access (竞价准入) for non-exclusive drugs

- **Non-exclusive drugs** can apply for **access through bidding**
- NHTA sets a payment threshold, and as long as one company bids lower than the threshold, the molecule enters NRDL; payment is based on the lowest price of all bidders

Simplified renewal (简单续约) for exclusive drugs

- **Exclusive drugs** can apply for **simplified renewal**
- Renewal price cut is based on the ratio of estimated vs. actual expenditure and additional budget impact



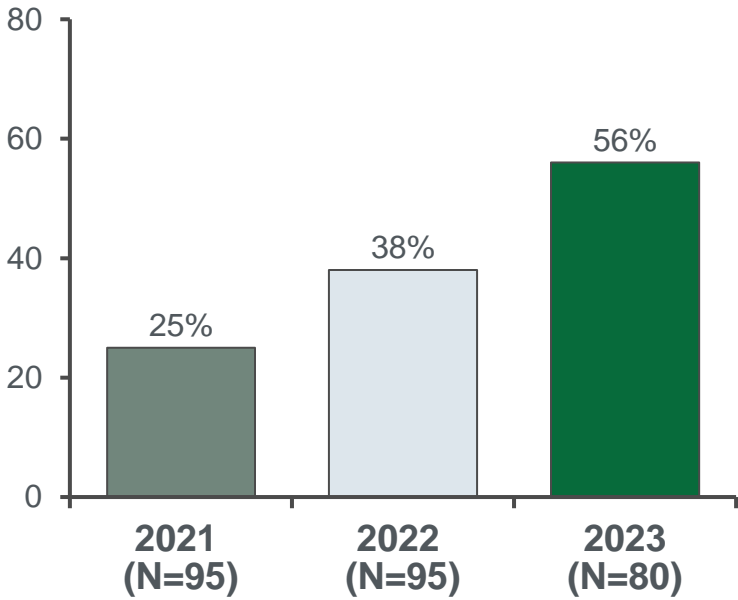
***NRDL rules stabilize and price/revenue impact increasingly predictable;
Previously modeled scenario may change under the new rules***

Negotiated NRDL drugs are increasingly automatically listed in public hospitals, due to NHTA's strong endorsement on hospital listing acceleration

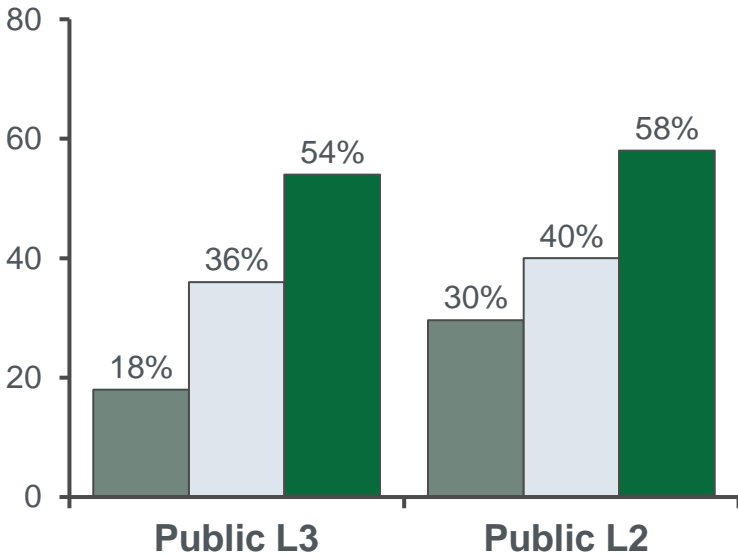
Pricing and access controls

56% NRDL products are automatically listed

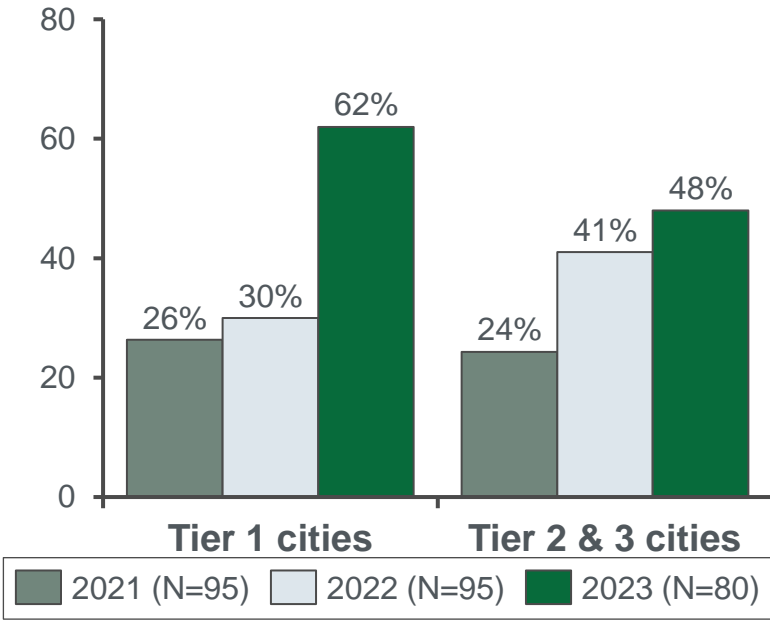
Percent of NRDL drugs (through negotiation) automatically listed in public hospitals*
自动列名医保谈判药品在公立医院中的占比
Percent of respondents



Similar situation in Public L3 and Public L2...



... and a decrease in listing difficulty in Tier 1 cities



*Question: What are the considerations for drugs negotiated to get on the National Reimbursement Drug List (NRDL) to get onto the hospital formulary, if they are not on the formulary before negotiation?
对于通过谈判进入国家医保报销目录 (NRDL) 的药品, 若此前该药尚未被纳入医院药品清单, 医院一般会如何决定是否将其加入医院药品清单?
Responses with "Most negotiated drugs are automatically, immediately included onto the hospital formulary as soon as it is included in the NRDL" 大多数谈判药品一旦被纳入国家医保, 就会自动被纳入医院药品清单
Note: NRDL=National Reimbursement Drug List; NHTA=National Healthcare Security Administration
Source: L.E.K. 2021, 2022 and 2023 APAC Hospital Priorities Survey



For Rx VBP, evolving rules and stricter implementation requirements are aiming to ensure supply sustainability and cost control

Pricing and access controls

VBP rule / requirement update

Supply sustainability

- Increased the minimum requirements of GQCE manufacturers to 4 (from 3), and added one backup supplier (备供企业) per province to reduce the risk of supply disruptions

Evolving rules on price cut for VBP losers

- For VBP lost products, international reference pricing is proposed to be included in the ladder price cut considerations (exact rules TBD)

Committed volume management

- Stricter requirement on hospital volume reports
- More stringent implementation in lower tier cities & hospitals

Renewal criteria beyond price

- Some provinces are expanding VBP renewal criteria beyond price



More difficult to maintain prices and revenues if opting out of VBP

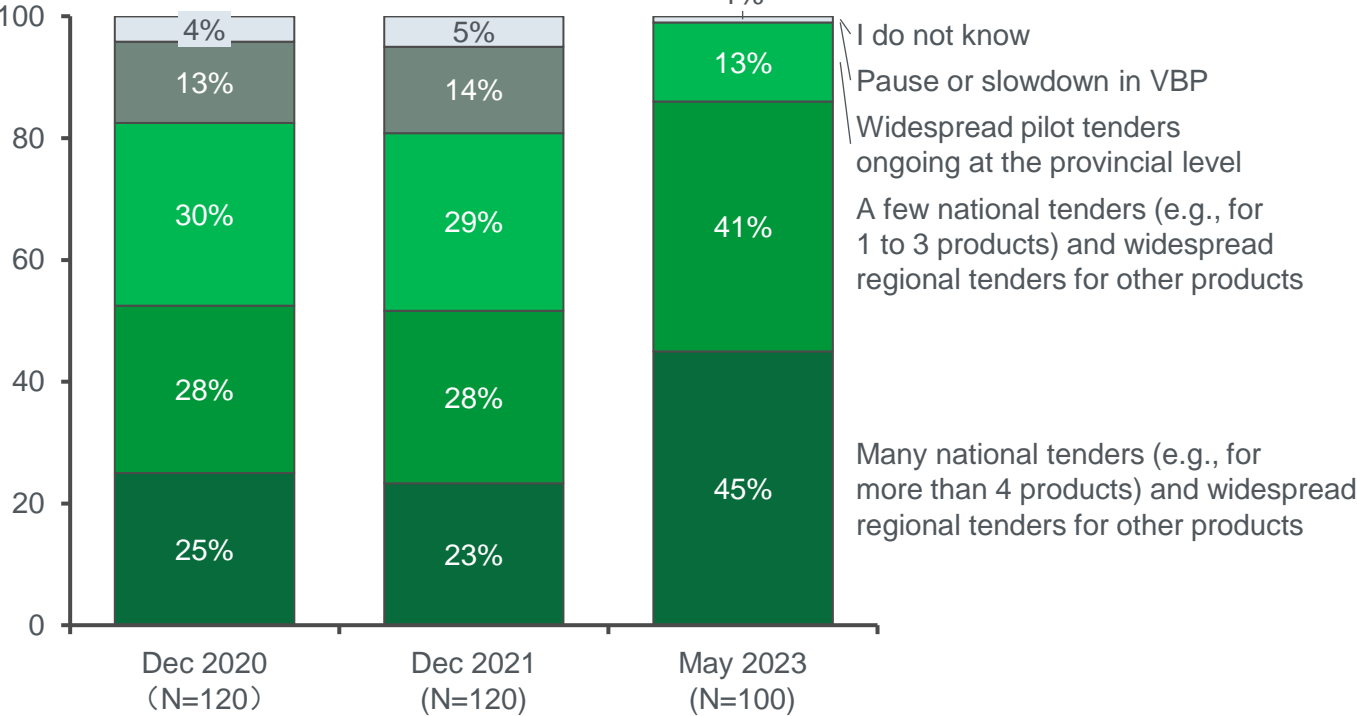
Source: NHSA, State Council, L.E.K. analysis

Medtech VBP has been extensively rolled out in China; VBP products coverage will continue to expand at an accelerated timeline

Pricing and access controls

Expected adoption of VBP in China* 中国带量采购的预期落地情况 (2021-23)

Percent of respondents



- Medtech VBP has been widely rolled out in the past 3-5 years and normalized, government highly recognized its efficacy in cost-saving
- Moving forward, market consensus believe the VBP will further accelerate, impacting wider product category
- More nuances expected in detailed implementation, factoring detailed product category's attributes and encourage innovation

Note: *Question: This question pertains to volume-based centralized procurement (VBP) of medical consumables. Currently certain products are being procured at the province level, and some are being procured at the national level (e.g., cardiac stents). What do you expect to be the status of VBP by the end of 2023? 这个问题涉及医疗耗材的带量采购。目前、部分产品是省级带量采购、另外还有一些产品是通过国家集中带量采购（例如：心脏支架）进行购买。到2023年底、您预计带量采购将会发展到什么程度；**Question: What portion of your hospital's spending on medical products is done through volume-based centralized procurement currently? How does this vary by type of product? 您所在医院的医疗产品支出中有多少通过带量采购完成？是否会因产品类型而异？

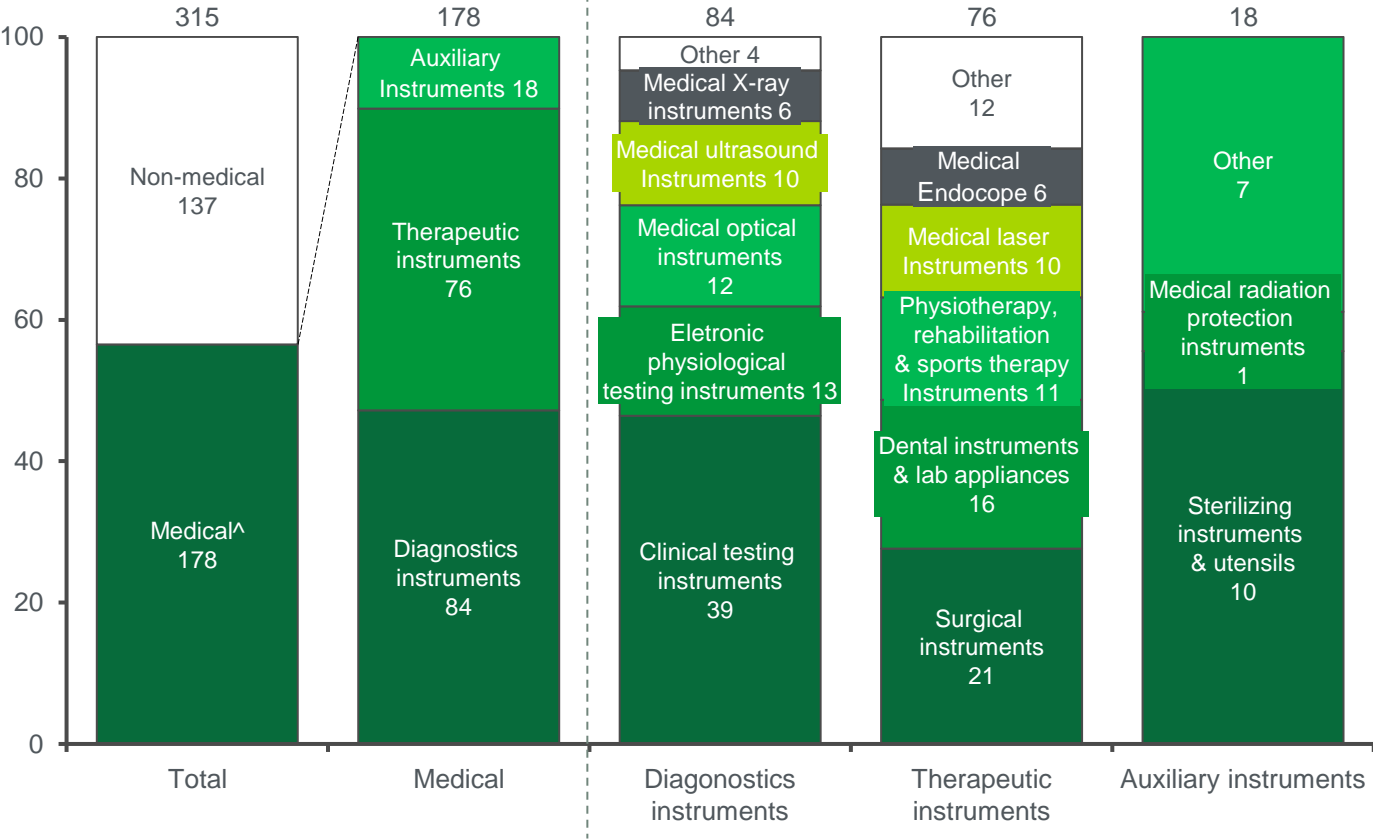
Source: L.E.K. 2021, 2022 and 2023 APAC Hospital Priority Survey



Medical equipment has undergone even severe challenge given Order 551 that specifies the procurement goal of “local products” for public sector buyers

Pricing and access controls

Product categories included in Order 551
Number of products



Note: * Ministry of Industry and Information Technology; ^ Including both NMPA registered and non-regulated
Source: MoF, MIT, L.E.K. interviews and analysis



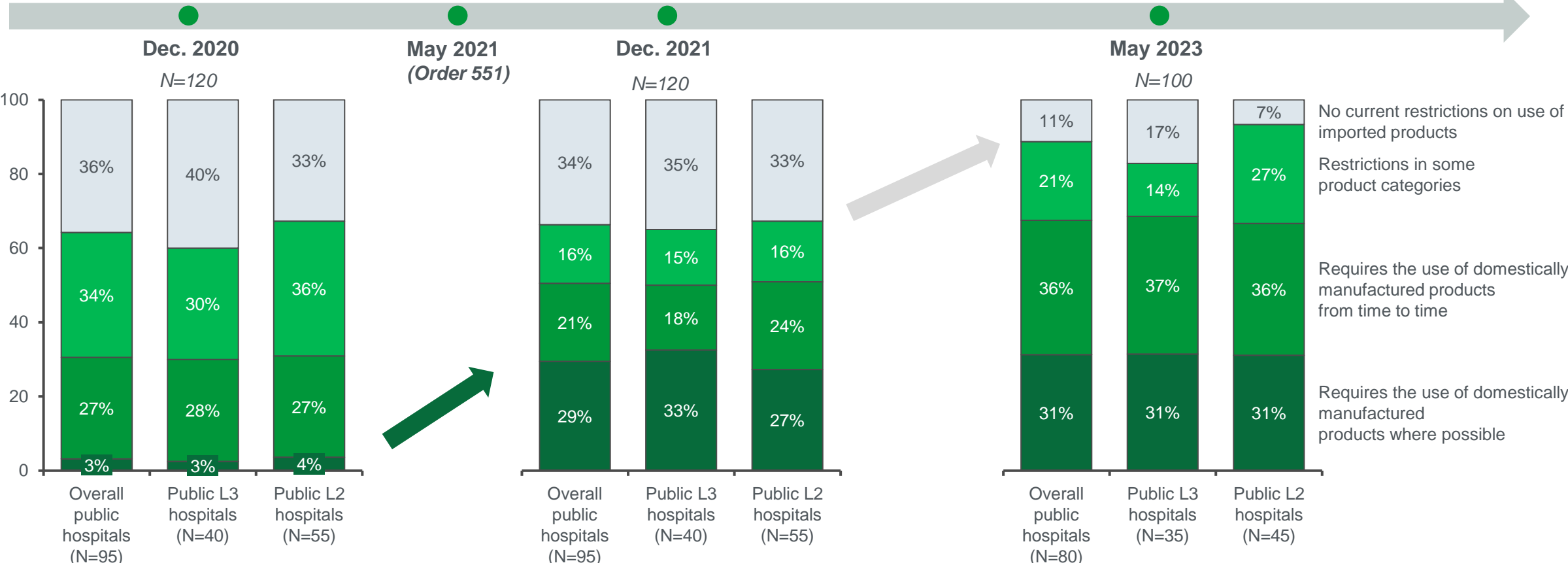
Since Order 551, the demand for local manufacturing in public hospitals has experienced rapid growth, creating pressure on Medtechs to reassess supply chain strategies

Pricing and access controls

Restrictions on the use of imported medical device products*

对于进口医疗器械使用的限制

Percent of respondents



Note: *Question: Which of the following statements best describes your hospital's attitude towards the use of imported MedTech/medical device products? 以下哪项陈述最能说明您所在医院对于进口医疗器械产品的态度?
 Wording for option provided was adjusted between 2021 and 2022 surveys
 Source: L.E.K. 2021, 2022 and 2023 APAC Hospital Priorities Survey

Products with NMPA 'local' registration certificate need at least the last manufacturing step in mainland China, while the definition is key observation point

Pricing and access controls

Locally manufactured '国产'

Official definition
(Written)

- Registration policy explicitly requires 'locally manufactured' (准字号注册证)
- Does not specify
 - locally mfg. %
 - mfg. step(s) happened in China

Some ongoing rumours that this may be revised in future to be more sophisticated (e.g., minimum level of value added)

Implicit perception
(Unwritten)

Last step manufactured (assembly) in China

In-China final assembly, configuration, sterilisation, packaging is typically sufficient to qualify

Requires case-by-case interpretation by NMPA

Source: L.E.K. prior experience

NHSA issued an action plan for DRG/DIP, which requires a nationwide implementation by 2025; the pilot has already been rolled out to 30+ cities for DRG and 70+ cities for DIP

Pricing and access controls

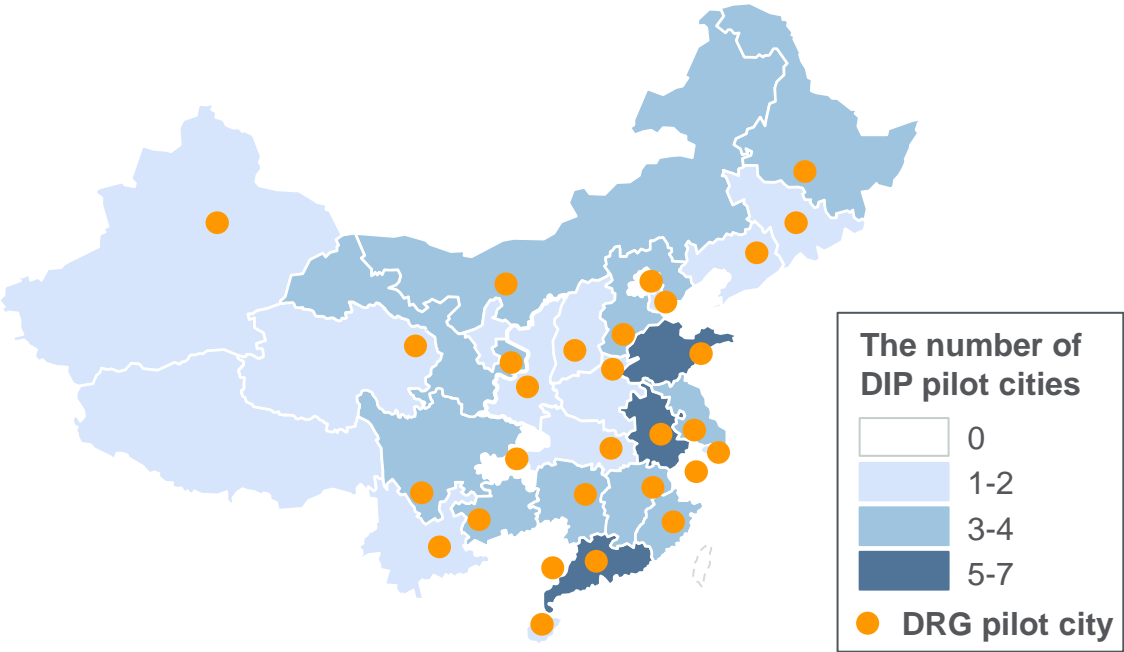
Three-year Action Plan for DRG / DIP Payment Reform 《DRG/DIP支付方式改革三年行动计划》 [NHSA, November 2021]

- The Action Plan highlighted goals to be achieved by the end of 2025 and three-year stepwise annual targets for coverage of:

	Year 1 (2022)	Year 2 (2023)	Year 3 (2024)	By 2025
Prefecture cities*	40%	70%	100%	100%
Medical institutions**	40%	70%	100%	100%
Disease types	70%	80%	90%	>90%
Medical fund impact	30%	50%	70%	>70%

DRG and DIP national pilot city

DRG and DIP pilot list issued in Jun. 2019 and Nov. 2020, respectively



DRG / DIP implementation status varies across cities, and each city could tailor its own DRG / DIP payment

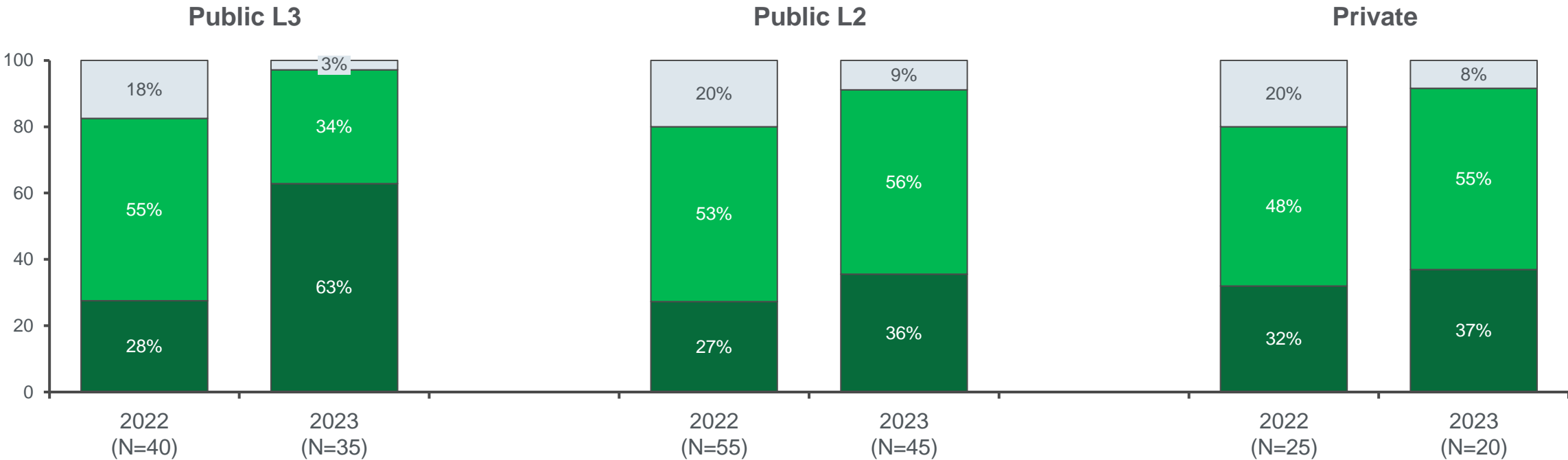
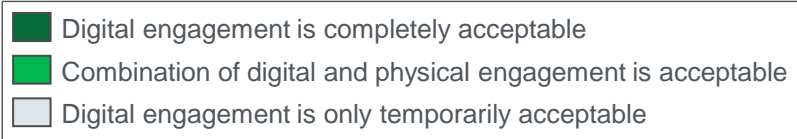
Note: *Refers to administrative level ranked below province, **those with inpatient services
Source: NHSA, L.E.K. interviews and analysis

Digital engagement with suppliers is gaining acceptance in various forms across all types of hospitals; L3 hospitals show a particularly high level of acceptance

New technology enablers

Digital engagement with suppliers is well accepted across different hospital types

Acceptability of digital engagement with suppliers*
 被访医院对供应商远程数字化交互的接受度
 Percent of respondents



*Question: How acceptable do you find digital engagement from suppliers vs. traditional physical interactions? 您认为与供应商线上交流比起传统线下交流可接受程度如何?
 Source: L.E.K. 2022 and 2023 APAC Hospital Priorities Survey

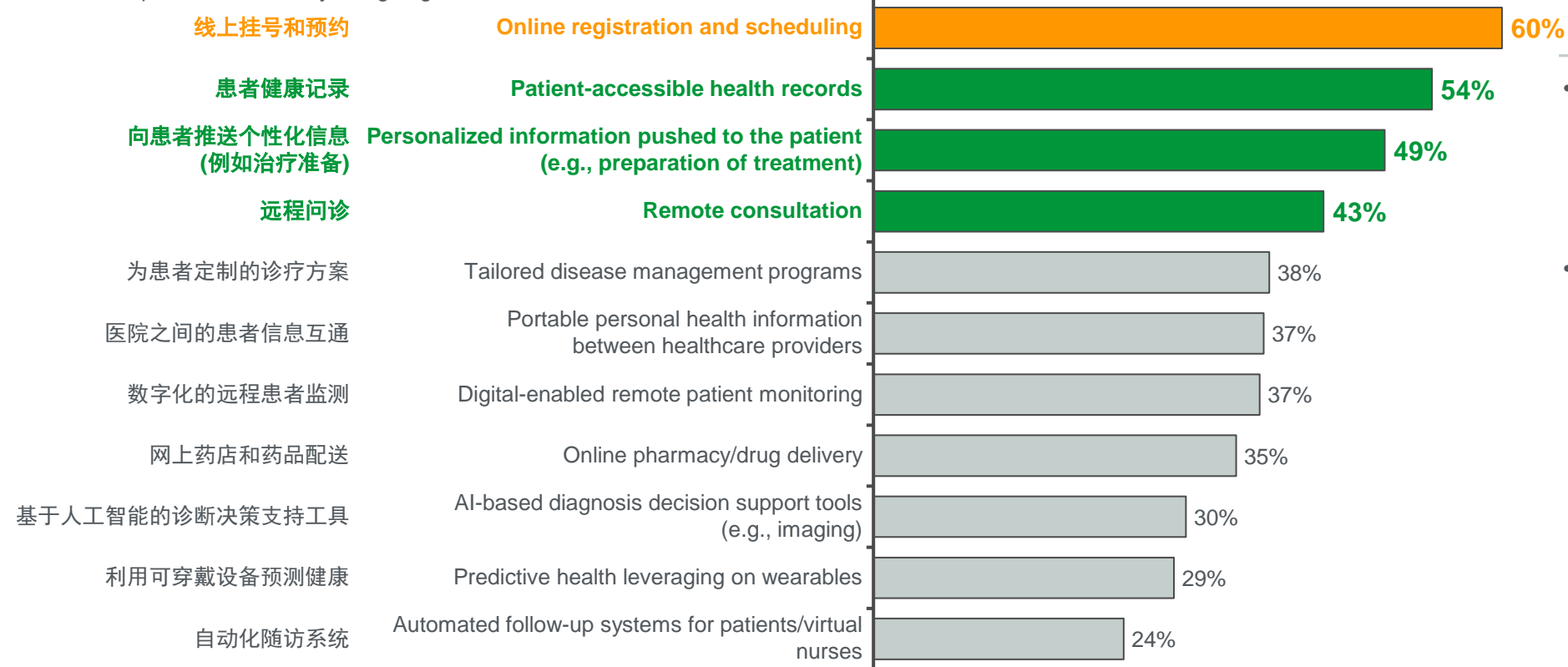
Online registration is the most widely used digital tool in China healthcare; the pandemic has also permanently shaped the habit of using digital tools to facilitate health service

New technology enablers

Adoption of digital solutions*

数字化方案的应用情况

Percent of respondents "currently using" digital solutions



Key implications

- Started from 2010s, online appointment booking has now been well-penetrated in all types of hospitals (60%)
- Digital tools that were widely used in response to the pandemic are now still heavily used by hospitals, such as patient-accessible health records (e.g., WeChat miniAPP to check test results), personalized information, remote consultation (54-43%)

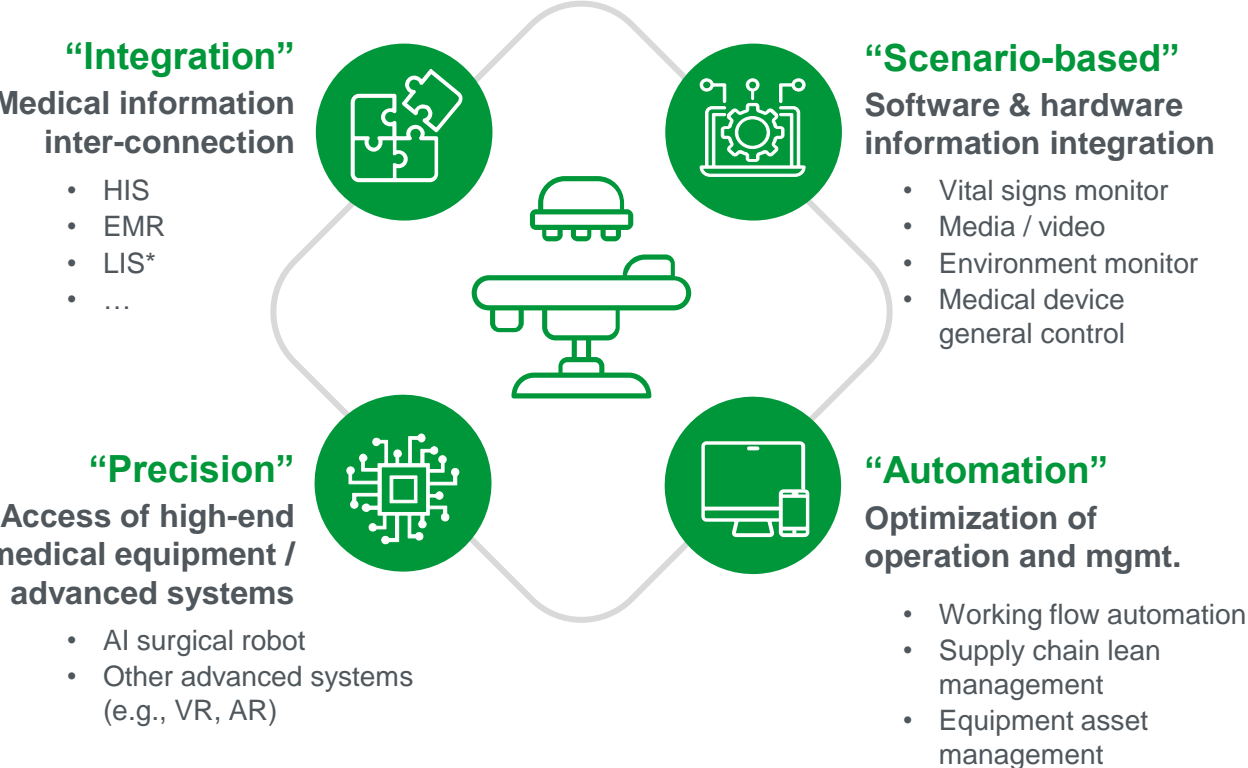
*Question: Digitalisation of hospitals is gaining traction in many countries. What digital health solutions have you adopted/would you like to adopt?
 医院的数字化在许多国家都得到了发展。您已经采用或者希望采用哪些数字医疗解决方案?
 Respondents who answered that the hospital is "currently using" each digital solution
 Source: L.E.K. 2023 APAC Hospital Priorities Survey

Four key functional areas are identified for smart operating room in China, which is anticipated to undergo accelerated development in the future

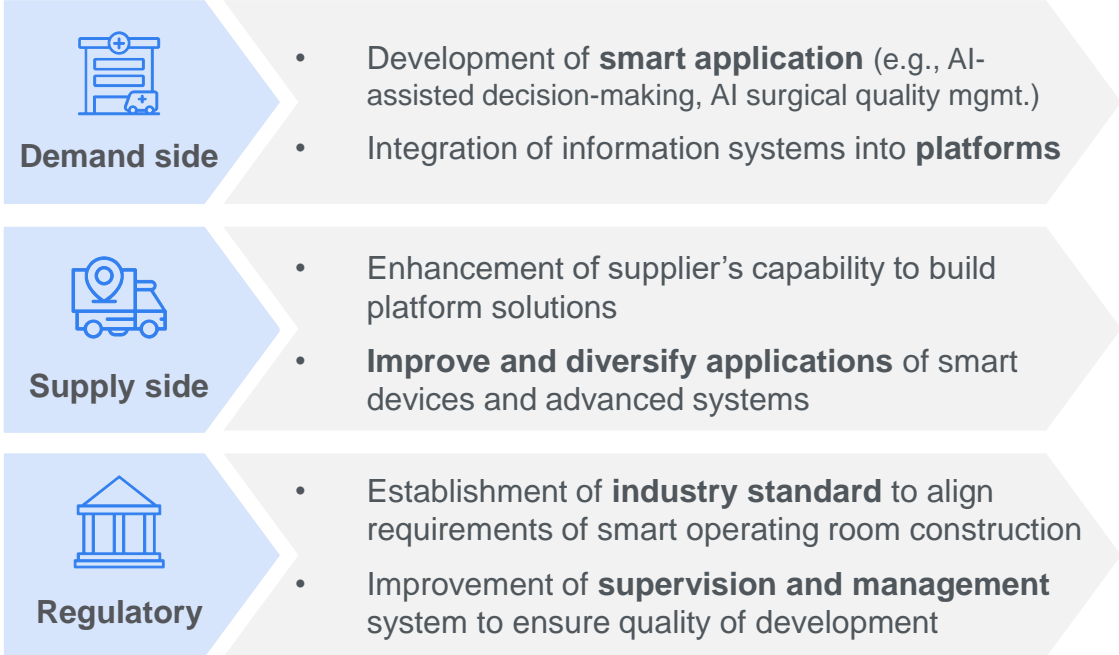
New technology enablers

Smart operating room in China: to enhance the quality of surgery and improve operational efficiency

Key functional areas of smart operating room in China



Major future trends of smart operating room in China



Note: * LIS = laboratory information system
Source: L.E.K. analysis

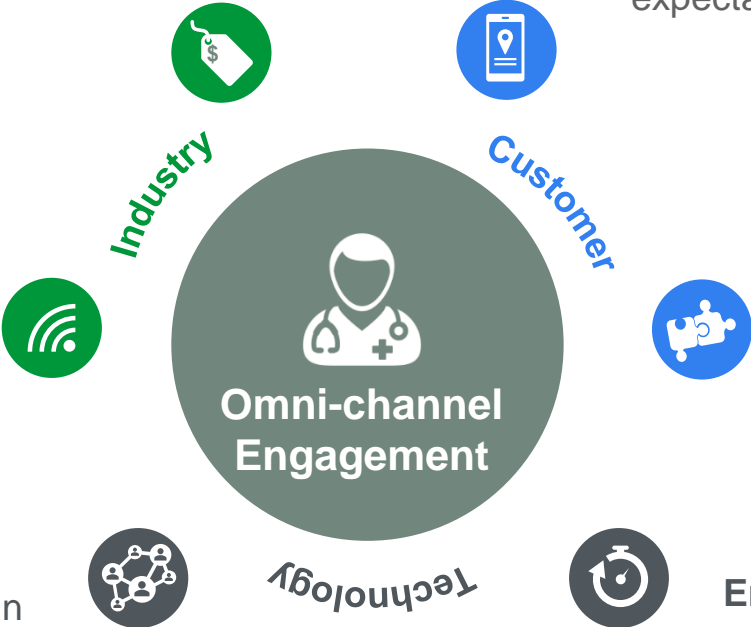
Industry, customer and technology mega-trends highlight the transformation for Pharma and Medtech

New technology enablers

Downward pressure of cost: pressure is mounting from governments, health care providers to reduce costs, improve outcomes and demonstrate comparative value

Increased regulatory : companies need to focus on implementing transparency and reporting solutions to meet compliance objectives

Fast Technology Leapfrogging: digitization in China has accelerated and innovation is highly encouraged by the government



Digital journey: customers are increasing their expectation for interaction and communication

Personalized content: customers prefer content and channel that is highly relevant

Emerging digital capabilities: new digital capabilities and platforms are raising the bar for enterprise efficiency and agility

Source: L.E.K. research and analysis

More market leading insights and thought leadership are available on the LEK.com website



[Creating a Vibrant Ecosystem for Precision Medicine: A Prescription for Success](#)

[打造有活力的精准医疗行业生态](#)



[China Market Opportunities for International Pharmas](#)

[对于跨国药企的中国市场机遇](#)



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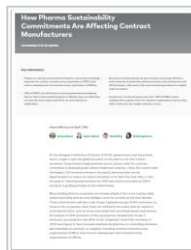
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