

Forward-Looking Strategy



- Deeper Expertise**
- Diabetes
 - Specialty Pharmaceuticals
 - In Vitro Diagnostics
 - Lab Specimen Logistics
 - Implantable Medical Devices

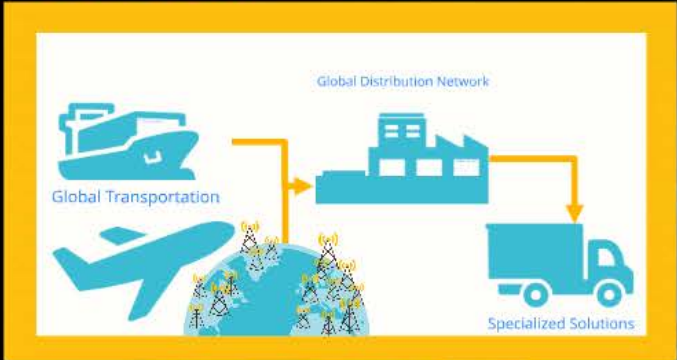
- Deeper Collaboration**
- Partnership Philosophy



Healthcare Clusters



UPS Healthcare Solution Set



Pain in the Chain
 Healthcare Supply Chain Strategy

- Connected by 100's of global distribution hubs
- Global reach of services
- Global facilities as supply chain nodes
- Global network of people, processes, and technology
- Supply chain optimization

Workflow Redesign



in Courier and Logistics

Robin Hooker
Director of Marketing
Healthcare Sector

Note: This presentation was run using Prezi software during the Lab Quality Confab. The PDF export does not capture all of the graphic content of the Prezi version. A Prezi version is available by emailing rhooker@ups.com



危機

危機

危 Risk

機 Opportunity

危機

危 Risk

機 Opportunity

Crisis

Healthcare Forces

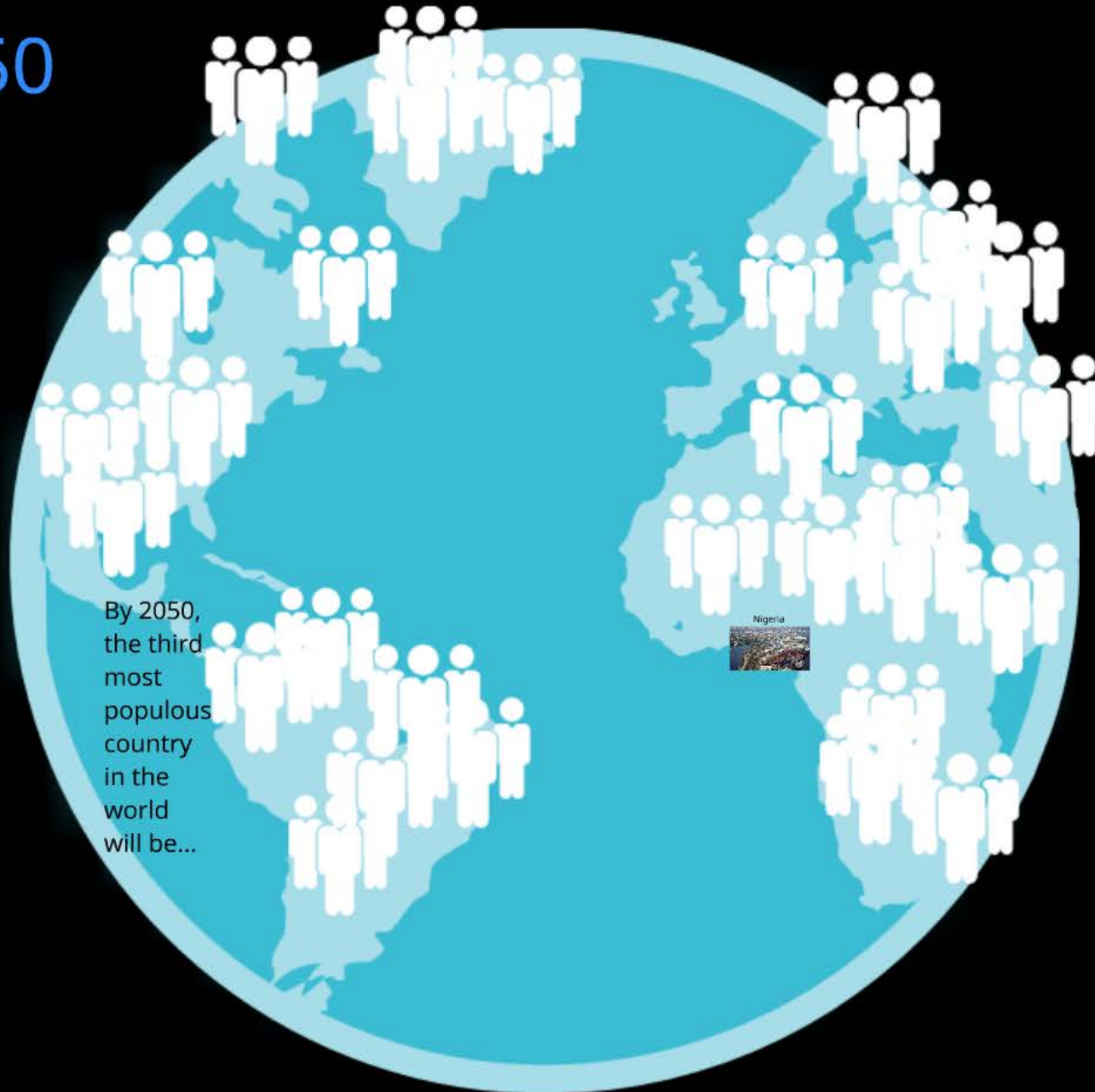


Changing Global Demographics



THE GLOBAL POPULATION WILL
GROW TO ABOUT 10 BILLION BY
2050.

THE GLOBAL POPULATION WILL GROW TO ABOUT 10 BILLION BY 2050



By 2050,
the third
most
populous
country
in the
world
will be...



Nigeria



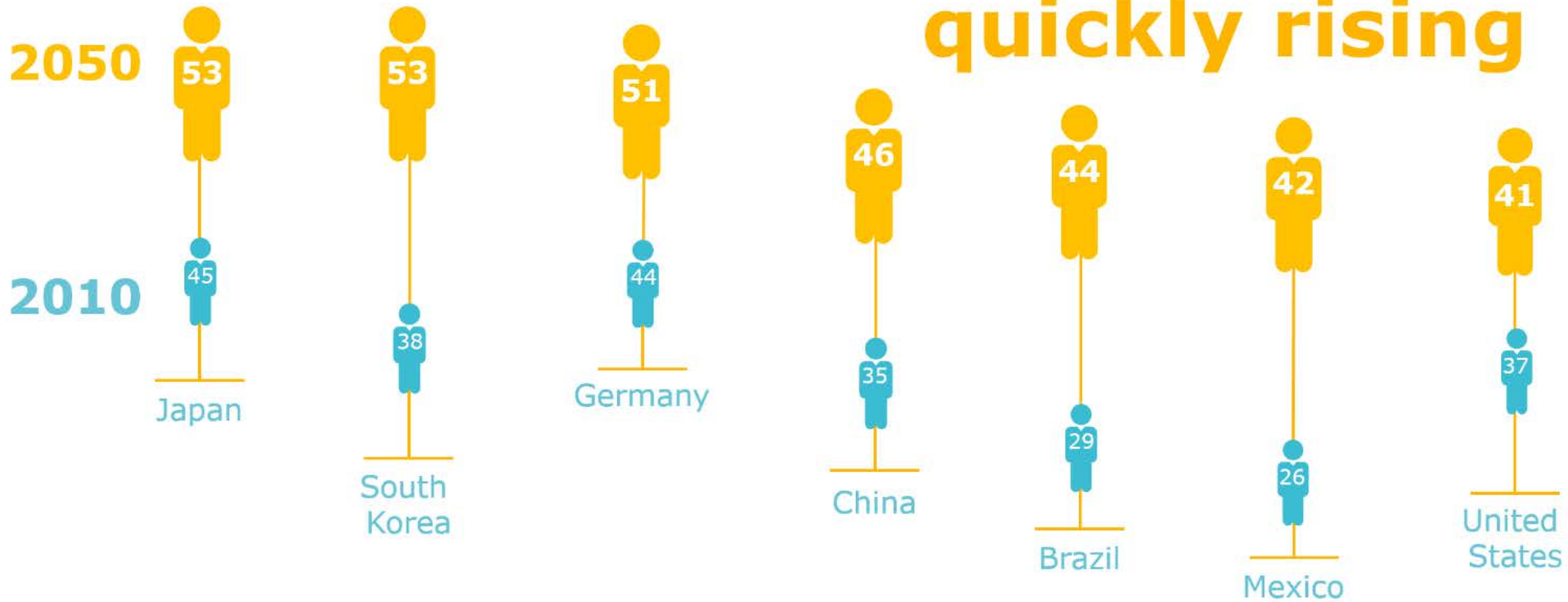
Changing Global Demographics



ising



median age is
quickly rising

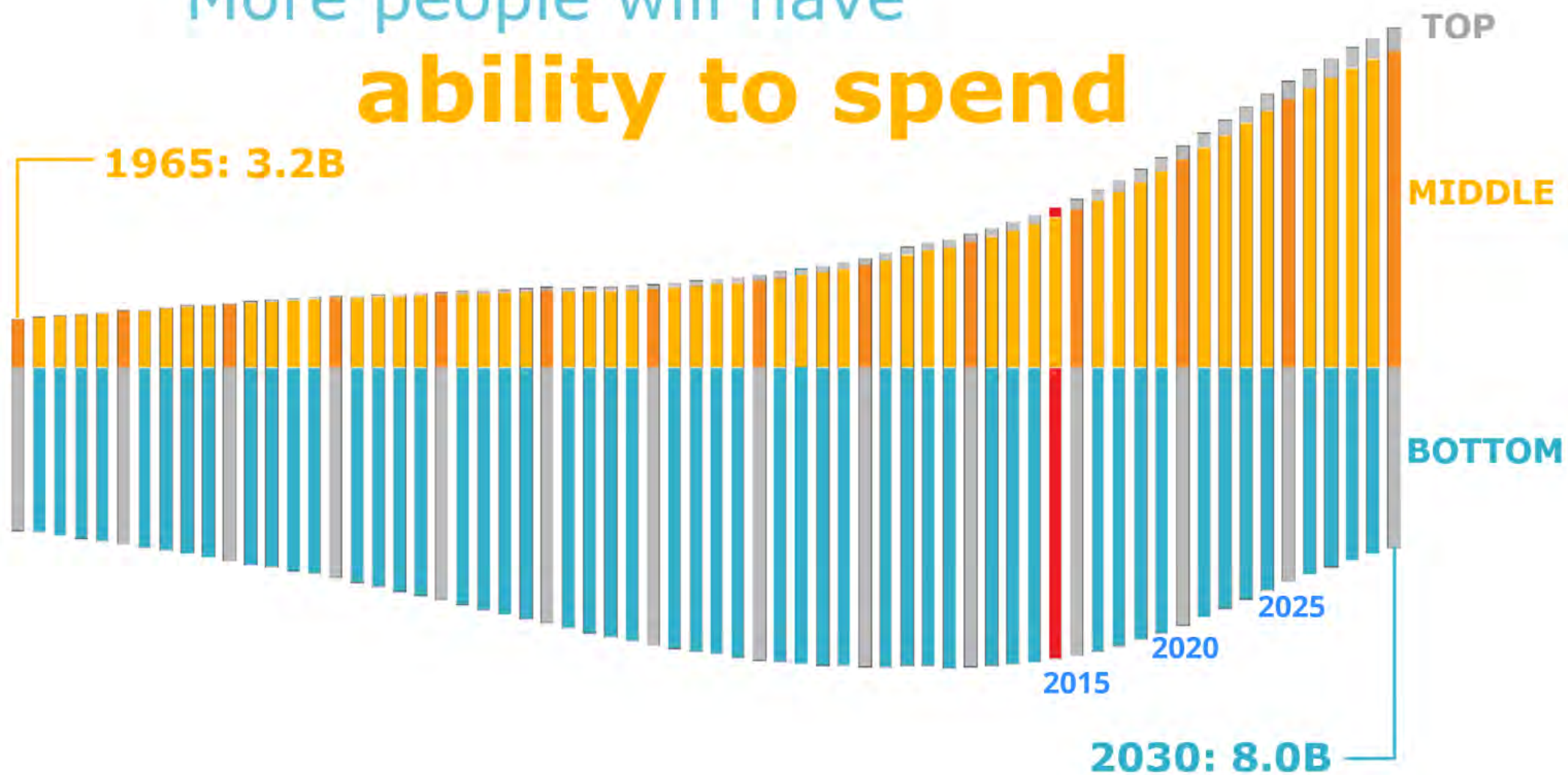


Rising Consumerism



More people will have

ability to spend



**Increased
Urbanization**



**Increased Availability
of Health Information**



**Increased Healthcare
Consumption**



Increased Urbanization



Shanghai: 1990 vs. 2010



Dubai: 1990 vs. Now



Shenzhen: 1980

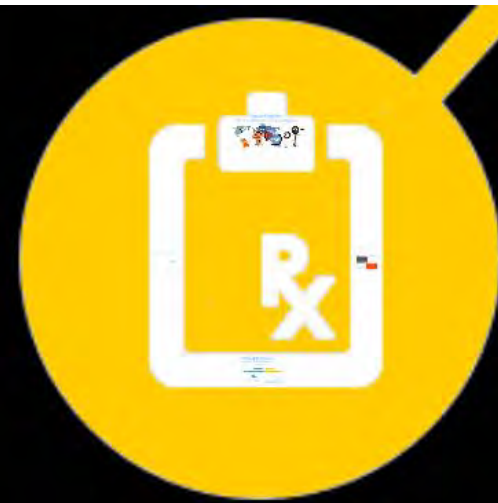
Shenzhen's first ever private company broke ground



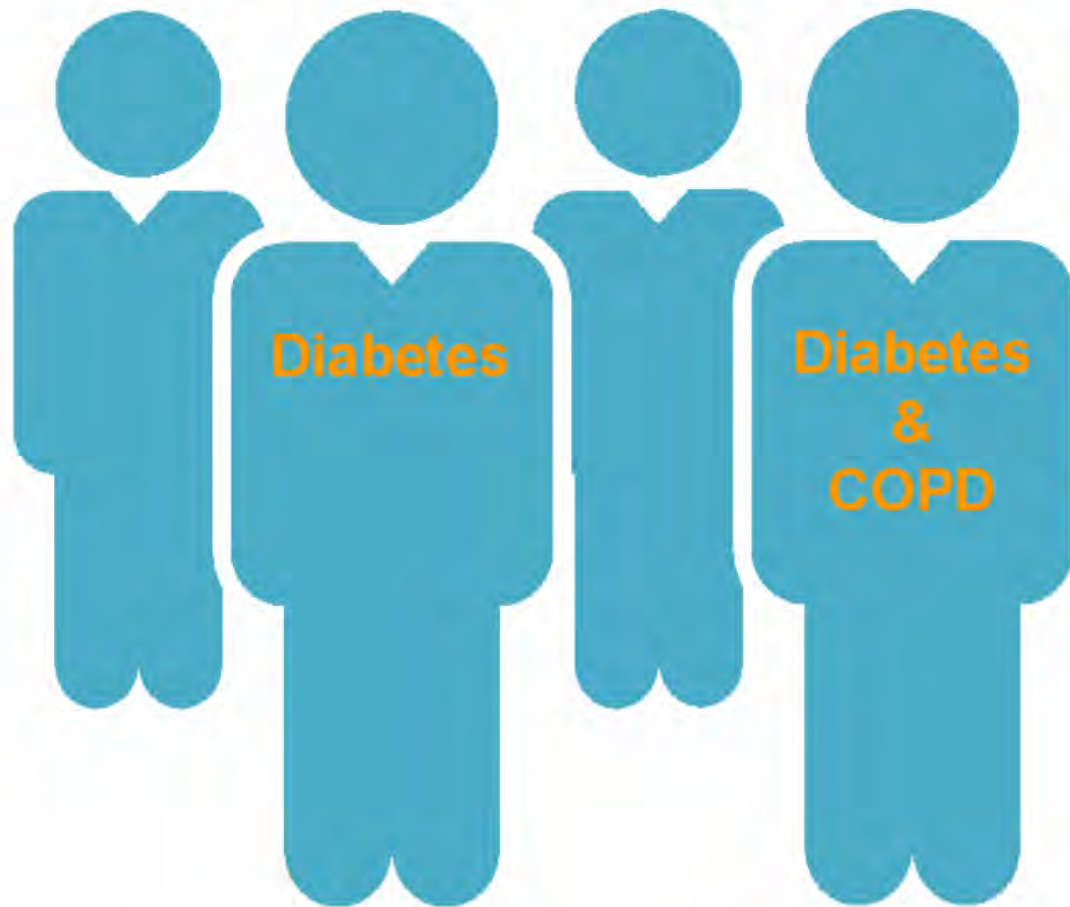
Shenzhen Now



Increased Healthcare Consumption



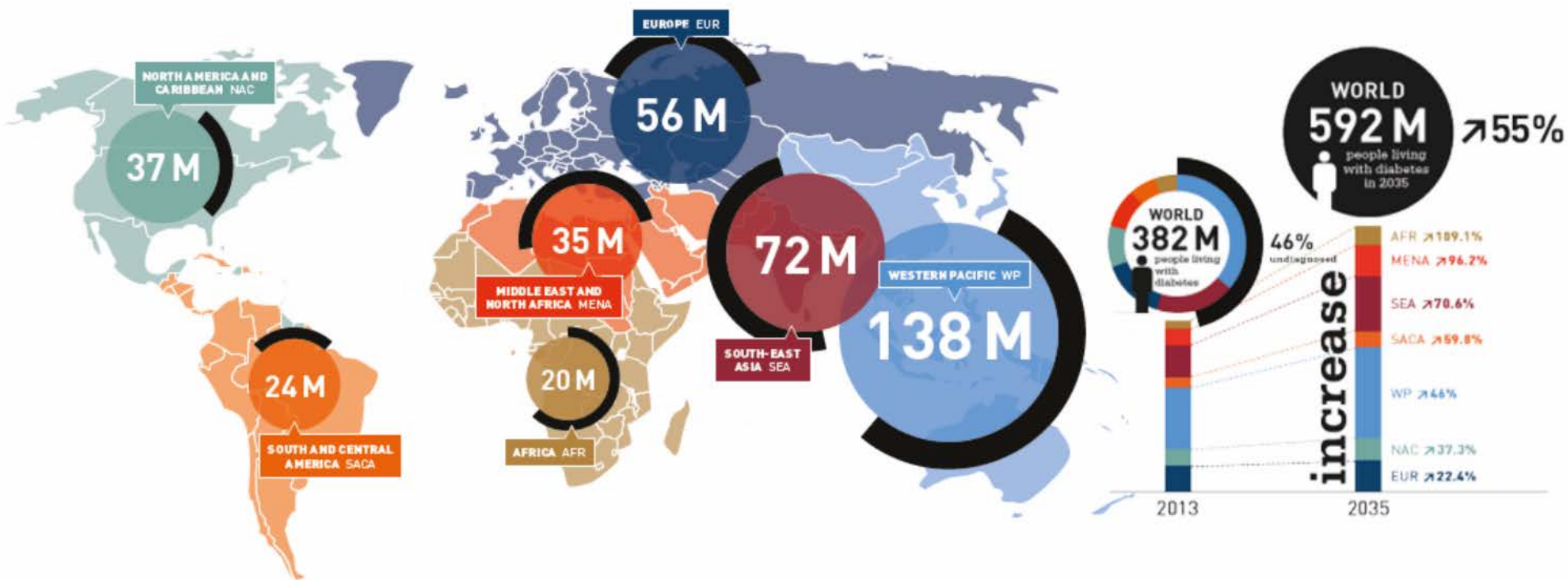
More than half of all Americans will have a chronic illness by 2020



24% will have more than one

Diabetes Epidemic

382M People with Diabetes and 46% undiagnosed



China National Tobacco "nurtures talent"



The writing's on the wall ... "tobacco nurtures talent".

- 300M smokers
- 700M exposed
- 50% of men
- 2% of women

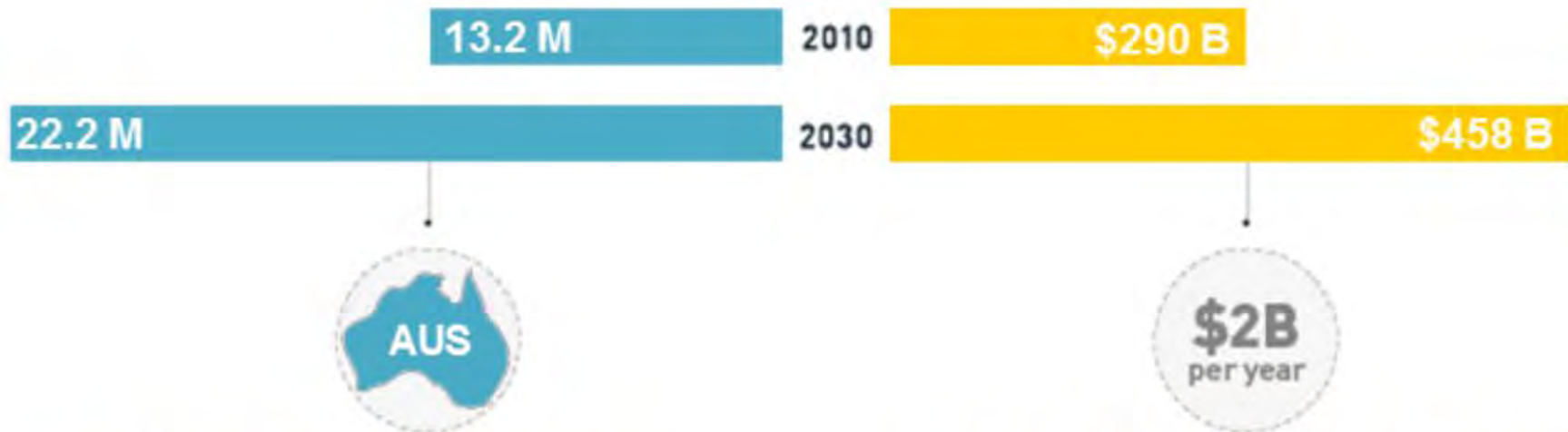


A message from their sponsor ... students in KunMing Province, whose uniforms are covered in Marlboro advertisements.

Oncologics Growth

Cancer growth rates will drive therapeutic demand

NEW CASES & THEIR COST



New cases in 2030 will equal the current population of Australia

The cost of to strategies to mitigate common cancer risk factors cancers in the low and middle countries alone

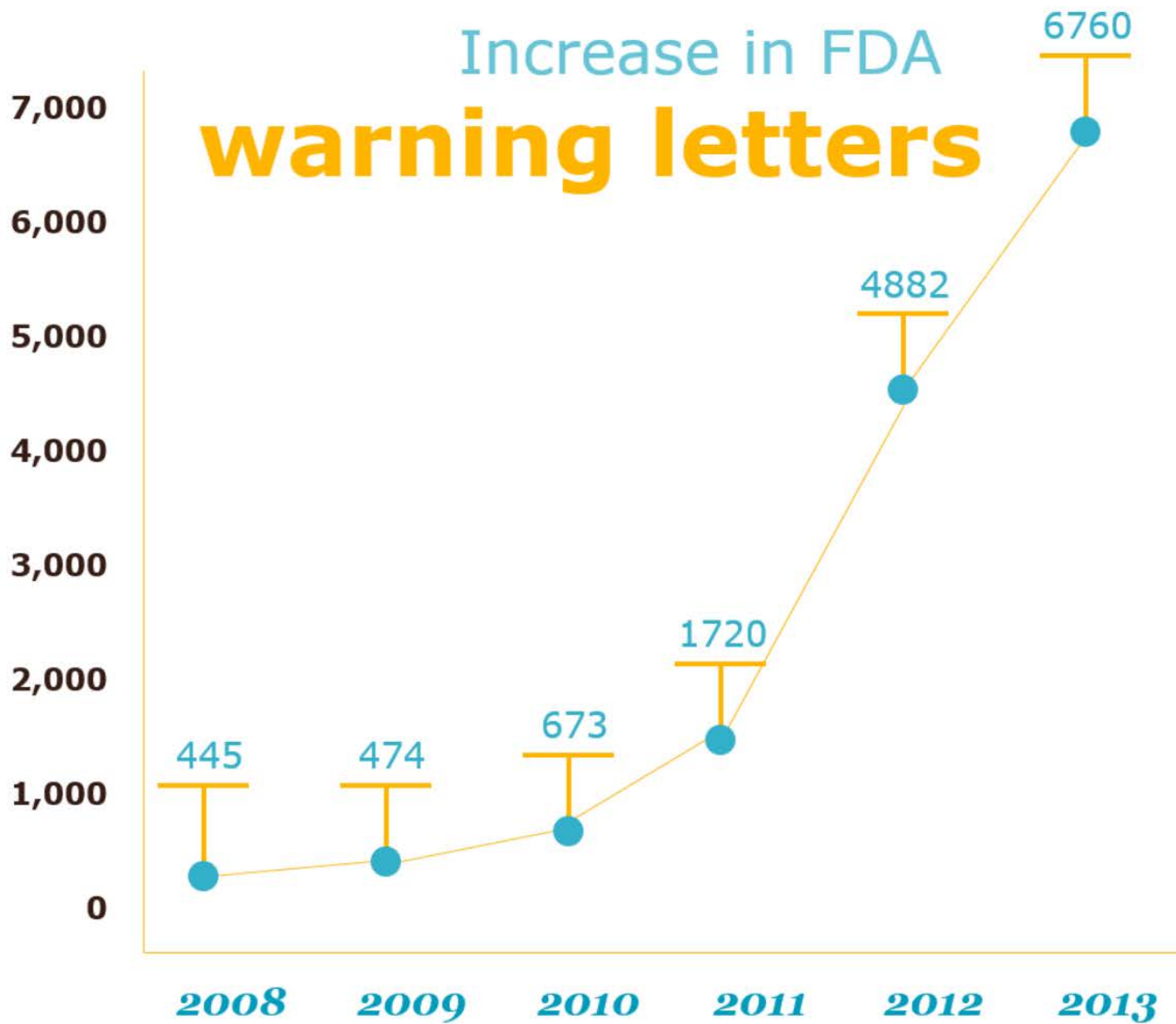


Increasing Regulatory Complexity



Increasing Cost of Healthcare

Increase in FDA warning letters



FDA takes steps to help ensure the reliability of certain diagnostic tests

Reinforces agency's commitment to fostering personalized medicine

**For Immediate
Release**

July 31, 2014

Release

Today, the U.S. Food and Drug Administration took important steps to ensure that certain tests used by health care professionals to help diagnose and treat patients provide accurate, consistent and reliable results.

First, the FDA is issuing a final guidance on the development, review and approval or clearance of companion diagnostics, which are tests used to identify patients who will benefit from or be harmed by treatment with a certain drug. Companion diagnostic tests are intended to aid physicians in selecting appropriate therapies for individual patients. These tests are commonly used to detect certain types of gene-based cancers.

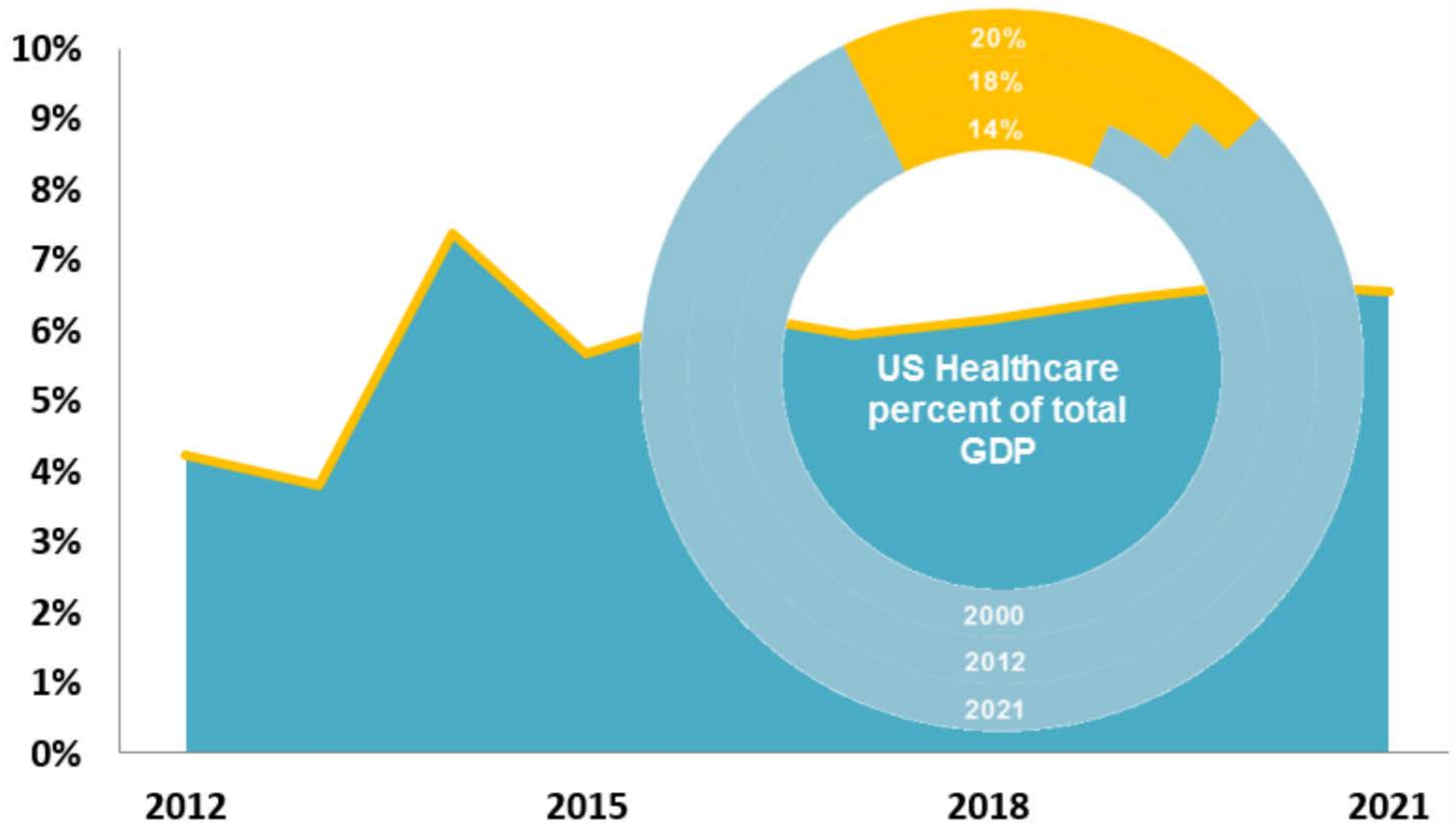
Second, consistent with the requirements of the Food and Drug Administration Safety and Innovation Act of 2012 (FDASIA), the agency is notifying Congress of its intention to publish a proposed risk-based oversight framework for laboratory developed tests (LDTs), which are designed, manufactured and used within a single laboratory. They include some genetic tests and tests that are used by health care professionals to guide medical treatment for their patients. The FDA already oversees direct-to-consumer tests regardless of whether they are LDTs or traditional



Increasing Cost of Healthcare

US Healthcare spending growth

Current trends will put Healthcare at 20% of GDP by 2021



2.3%

Medical Device Tax
Pass Through



**Diminishing
Blockbuster
Drug Pipeline**



**Increasing Power
of the Payer**



**Accelerating
Technological Innovation**

Reimbursement Headwinds and Cash Flow Headwinds for Labs

- Denial of Out of Network Claims
- High Deductible Health Plans
- Increase in Bad Debt
- Shift Away from Fee for Service
- Outcomes
- ACOs



Clinical Lab Fee Schedule

Year	Fee Schedule Update
2012	0.65%
2013	-2.95%
2014	-0.75%



**Diminishing
Blockbuster
Drug Pipeline**



**Increasing Power
of the Payer**



**Accelerating
Technological Innovation**



Accelerating Technological Innovation

Topics: Regulatory

Exact Sciences nails coveted Medicare coverage for colon cancer DNA test

October 10, 2014 | By Mark Hollmer

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TOOLS



Exact Sciences
CEO Kevin Conroy

Exact Sciences (**\$EXAS**) now has something that diagnostics companies find increasingly hard to win: Medicare coverage, obtained for its new cutting-edge colorectal cancer-screening test.

Specifically, the Centers for Medicare & Medicaid Services issued what is known as a final National Coverage Determination for the Wisconsin company's Cologuard test. The milestone makes Cologuard the first and only FDA-approved stool DNA test to help spot colorectal cancer and precancer to have Medicare coverage, something Exact Sciences was quick to crow about. As well, CMS issued a preliminary payment decision for the test--\$502--and processing of results.

"CMS's decision to cover Cologuard will provide Medicare's 50 million patients with access to this accurate screening option," Exact Sciences President and CEO Kevin Conroy said in a statement. "Colorectal cancer is often considered the most preventable, yet least prevented cancer due to the lack of patient compliance with screening."

FORTUNE



THIS CEO IS OUT FOR BLOOD

ELIZABETH HOLMES AND HER SECRETIVE COMPANY, THERANOS, AIM TO REVOLUTIONIZE HEALTH CARE

BY ROGER PARLOFF

WE'VE JOBS OR... THE NEXT LARRY PAGE?
BY ADAM LASHINSKY

Healthcare Forces



The
Implications:



Consolidation



Specialization

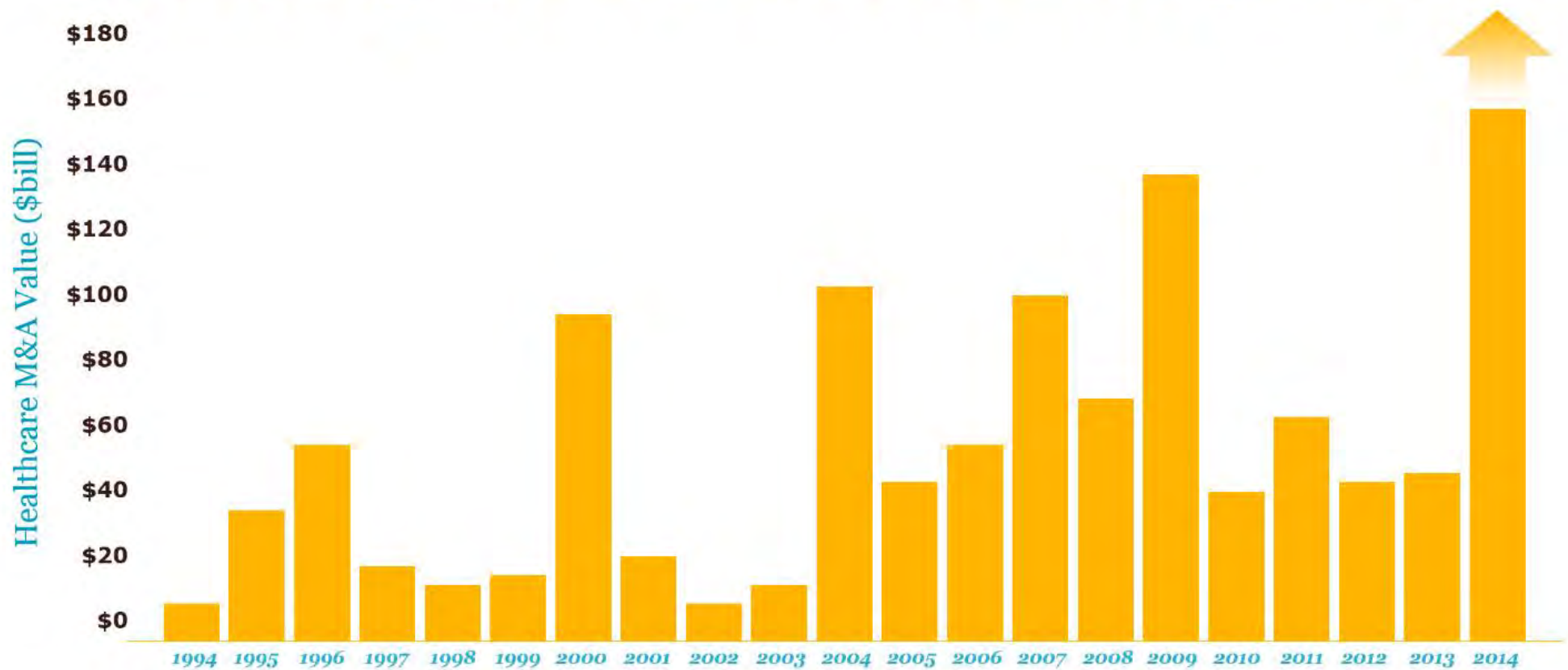


Convergence



Collaboration

M&A is at its highest level since 1980,
hitting \$153 billion in Q1 2014





CVS Caremark completes acquisition of Coram

BIOMET ANNOUNCES CLOSING OF LANX, INC ACQUISITION

BIOSCRIP COMPLETES THE ACQUISITION OF CAREPOINT HOME INFUSION BUSINESS

Bayer to acquire Dihon Pharmaceutical Group Co., Ltd. in China

Covidien closed its acquisition of Given Imaging

BIOSCRIP COMPLETES THE SALE OF HEALTH SERVICES BUSINESS TO LHC

CR Bard acquiring Medafor, Inc.

IDEXX Laboratories Acquires Brazil Distributor - Madasa

Covidien acquired WEM Equipamentos Eletronicos Ltda,

Express Scripts completed its \$29.1 billion acquisition of Medco Health Solutions, creating the country's leading healthcare services company.

Henry Schein Completes Acquisition Of Medivet

Systemex has reached agreement to acquire Partec and Inostics

Bayer to acquire Dihon Pharmaceutical Group Co., Ltd. in China

Physio-Control buys Sansio

VWR acquired Prolab Laboratuar Teknolojileri Limited

VWR acquired Basan UK Limited

Medtronic Acquires Majority of the Shares of [unclear]

QIAGEN purchases CLC bio

Johnson & Johnson Accepts Bindi Offer From The Carlyle Group To Acquire Ortho-Clinical Diagnost

Sun Pharmaceuticals is acquiring Ranbaxy Laboratories from Daiichi Sankyo

Owens & Minor completes acquisition of the Movianto Group

Henry Schein Completes Acquisition Of Arseus

Express Scripts completed its \$29.1 billion acquisition of Medco Health Solutions, creating the country's leading healthcare services company.

The
Implications:



Consolidation



Specialization



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Collaboration

Strategic players divesting **noncore assets**

Panasonic and
AmerisourceBergen sold large
business units to private equity
firms in 2013

Bioscrip completed the sale of home
health services business to LHC Group

Covidien spun off Malinckrodt

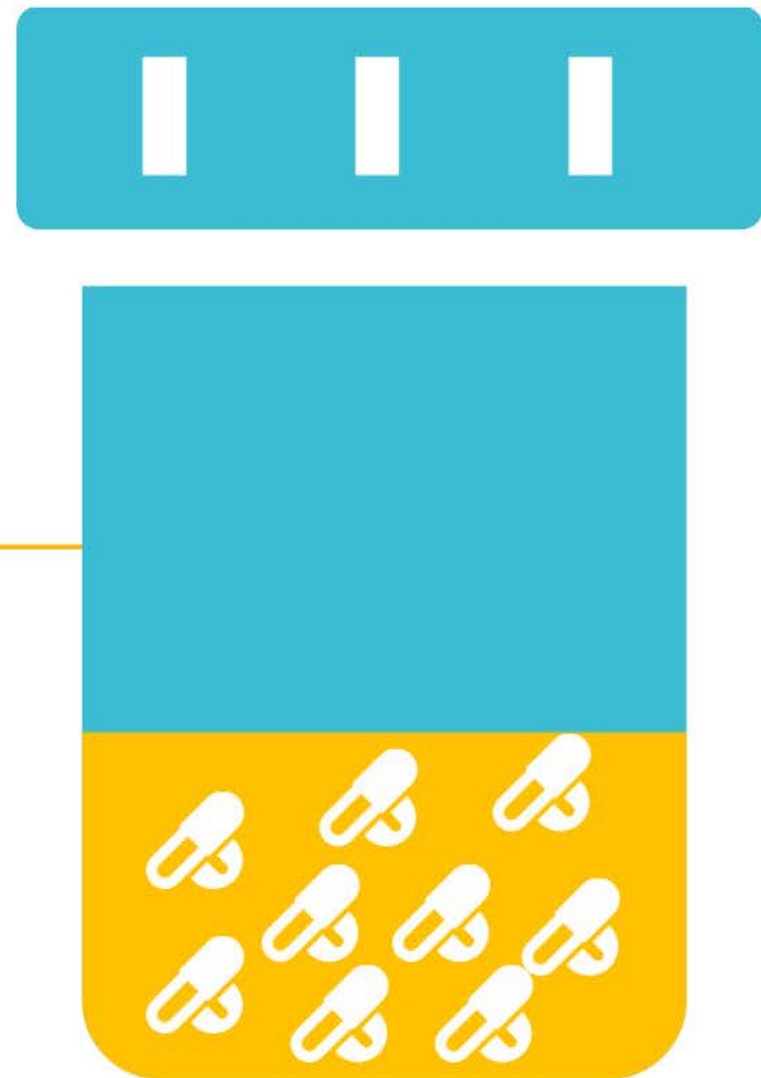
J&J announced the sale of
OCD to Carlyle in early
2014

Abbott Laboratories spun off AbbVie

McKesson, GE Healthcare and United
BioSource all carved out healthcare
information technology assets

Pfizer spun off Zoetis

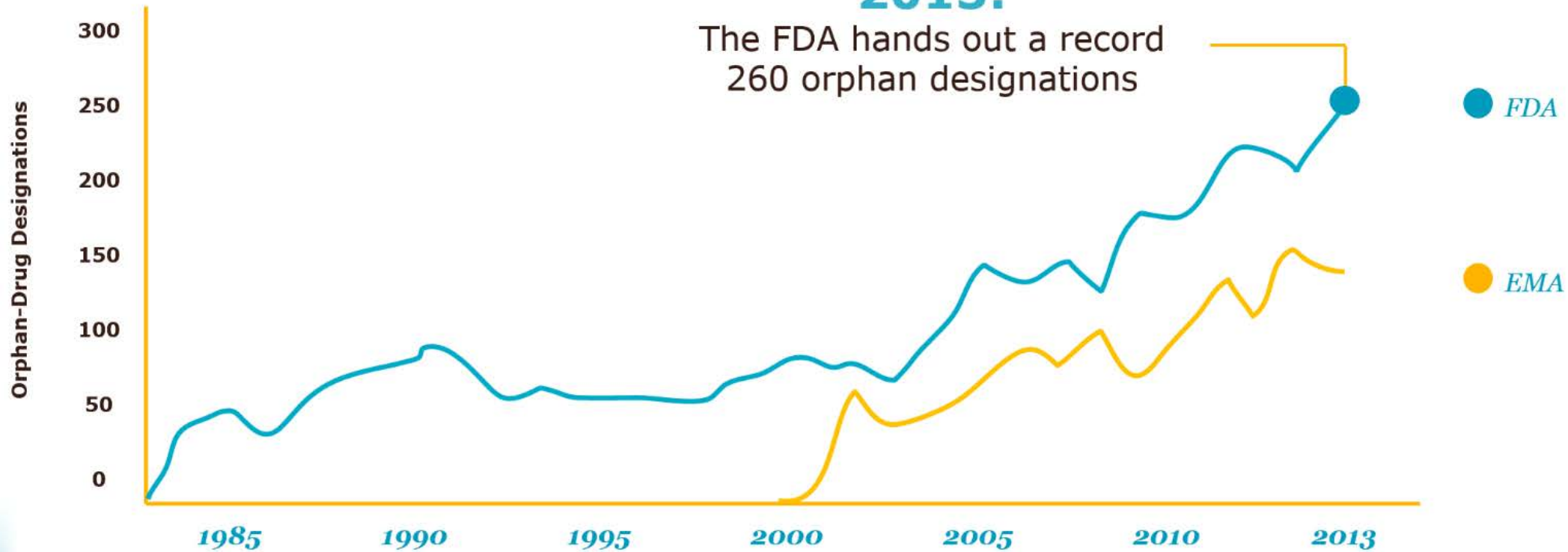
IN 2013, 33% OF
APPROVED DRUGS WERE
ORPHAN DRUGS



Increased focus on **specialized drugs**

2013:

The FDA hands out a record
260 orphan designations



The
Implications:



Consolidation



Specialization



Convergence



Collaboration

Lines are
starting to blur



Brand pharma
manufacturing generics



Generics companies
launching branded
products



Retailers becoming
providers



Distributors owning
pharmacies



Accountable Care
Organizations



Medical devices-
consumer goods



Brand pharma
manufacturing generics



Generics companies
launching branded
products



Retailers becoming
providers



Distributors owning
pharmacies



Accountable Care
Organizations



Medical devices-
consumer goods

The

Implications:



Consolidation



Specialization



Convergence



Collaboration

Recent

Headlines

Covidien entered into a **joint venture** with the Changzhou Kangdi Medical Stapler Co., Ltd,

Biogen Idec and Eisai Enter **Collaboration** to Develop and Commercialize Alzheimer's Disease Treatments

Biogen Idec and UCB signed exclusive development and commercialization agreements

Merck Enters Strategic **Collaborations** with Amgen, Incyte and Pfizer to Evaluate Novel Combination Anti-cancer Regimens

Pfizer and Bristol-Myers Squibb announce the results of a sub-analysis of a Phase 3 trial

Sysmex has entered into a clinical research, **joint development** and licensing agreement with Merck

Sanofi and Regeneron Report Positive Results From Phase 2 Japanese Study

Philips and MEDSI to enter new healthcare technology **partnership** in Russia

Sunovion Pharmaceuticals Inc. and Afraxis, Inc. Announce Novel Drug Discovery **Partnership**

Five Prime Therapeutics and Bristol-Myers Squibb Sign **Collaboration** Agreement

Cipla & MSD announce India-specific strategic **partnership**

Five Prime Therapeutics and Bristol-Myers Squibb Sign **Collaboration**
Agreement

Cipla & MSD announce India-specific strategic **partnership**

Allergan, Inc. and Medytox, Inc. to Enter into Licensing Agreement

Amneal and Intrexon Enter into Exclusive Channel **Collaboration**
to Improve Active Pharmaceutical Ingredient Production

Astellas Pharma and Daiichi Sankyo Form Compound Library Sharing **Partnership**

Prosonix and Mylan Enter Into Global Licensing Agreement

Merck, Ferring Pharmaceuticals and the World Health Organization **Working**
together

Lonza and AMYRA Sign Comprehensive Development and Manufacturing
Services Agreement

Mylan Announces Acquisition of Rights to Novel LAMA Respiratory Compound
from Pfizer

R&D Collaboration Between Manufacturers & Universities



Pfizer-Washington University

\$25 million over 5 years
Inflammation



Pfizer-UCSF

\$85 million over 5 years
Multiple therapeutic areas



Gilead-Yale

Initially \$40 million over 4 years; option to expand to \$100 million over 10 years
Cancer



Sanofi-Harvard

Funding undisclosed, but of "significant magnitude"
Cancer, diabetes, inflammation



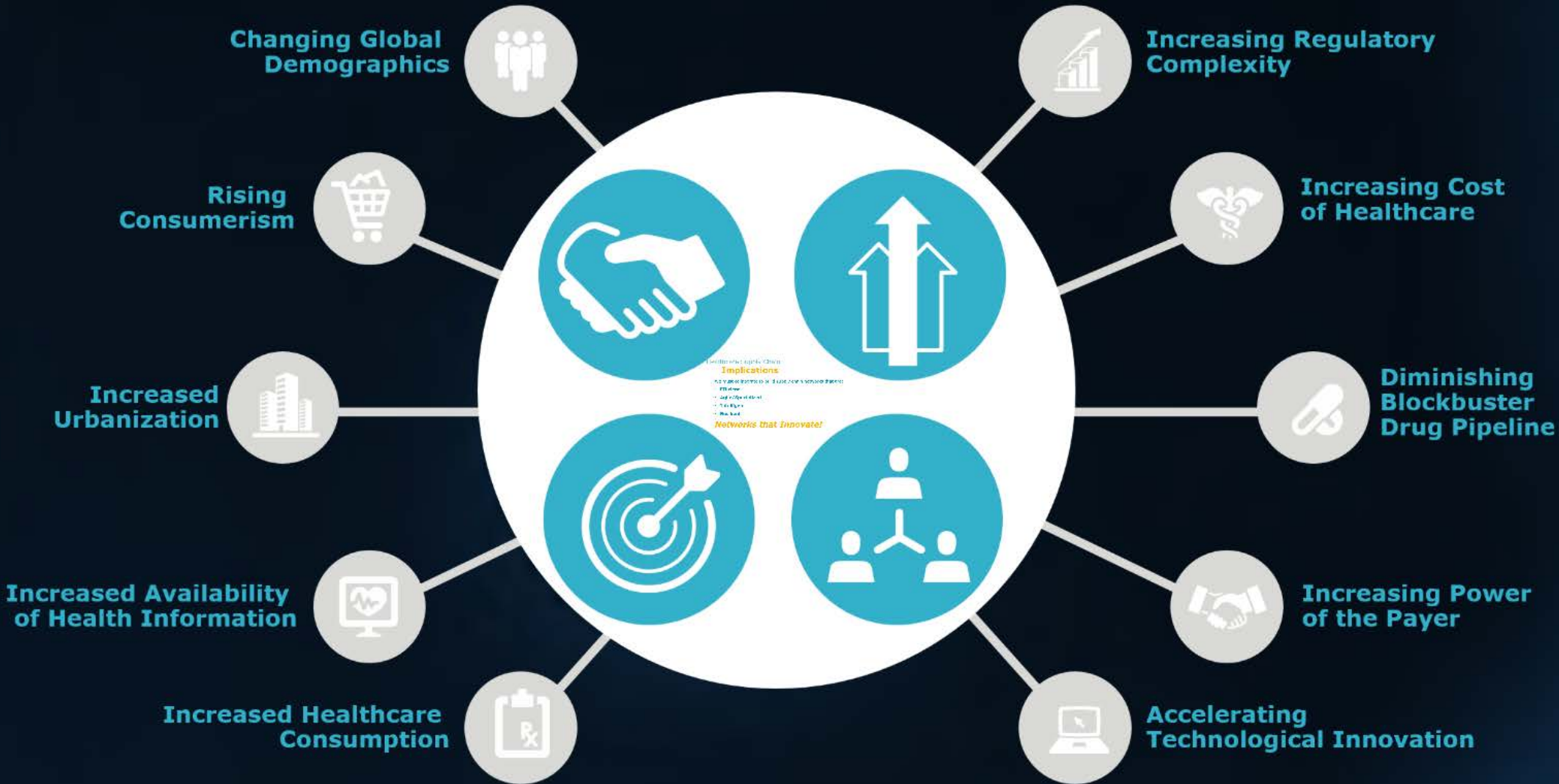
Pfizer-8 Boston-area Research Institutions

\$100 million over 5 years
Multiple therapeutic areas



UCB-Harvard

\$6 million over 2 years
Central nervous system, immunology



Healthcare Supply Chain **Implications**

We must collaborate to build supply chain networks that are:

- **Efficient**
- **Agile/Specialized**
- **Intelligent**
- **Resilient**

Networks that Innovate!

Pain In the Chain

Healthcare Supply Chain Survey



- Conducted by TNS Global on behalf of UPS
- Seventh year of survey
- Global healthcare supply chain KDMs
- Medical device, pharma, bio
- Regional cuts of data
- Supply chain strategies



**Specimens in
Stability**



**Turn Around
Time**



Packaging



Lean Strategies



**Lab Site
Selection**



**Parcel &
Couriers**



**Contingency
Planning**



Visibility

Lab Logistics Optimization



Turn Around Time

All parcel carrier air services were not created equal...

Depending on a lab's zip code, the two major parcel carrier's commit times ***vary from each other by 30 minutes to two hours*** or more

- Early: Next Day Air Service
- Earlier: Next Day Early AM Service

Understanding the strengths of each parcel carrier is key leveraging the advantages available: Engage in a white-boarding session prior to RFQ.

Price is not the sole criteria

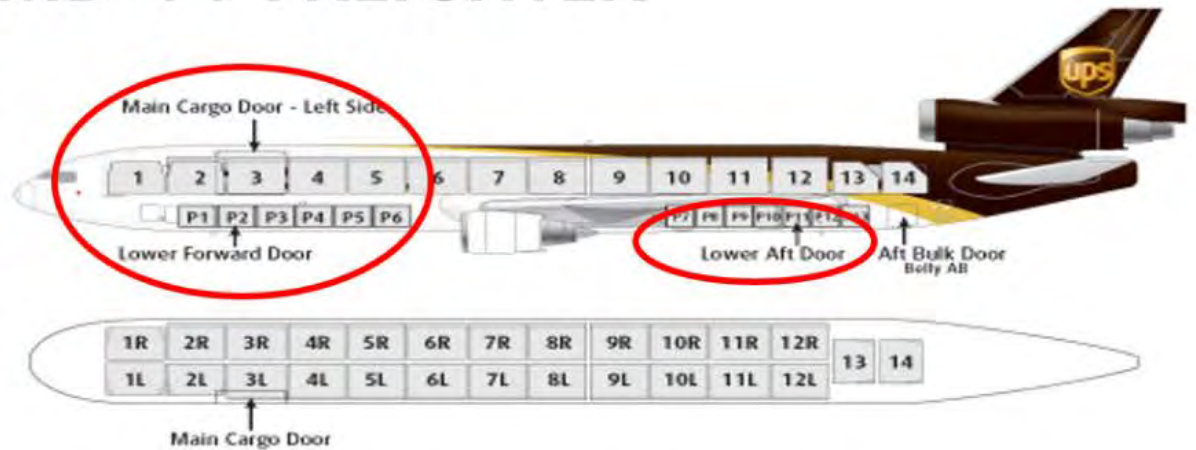
When the Standard Early AM Parcel Service is not Early Enough...There is Pre-Dawn Early Extraction



Pre-Dawn Early Extraction Process



MD-11 FREIGHTER





**Specimens in
Stability**



**Turn Around
Time**



Packaging



Lean Strategies



**Lab Site
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**Parcel &
Couriers**



**Contingency
Planning**



Visibility

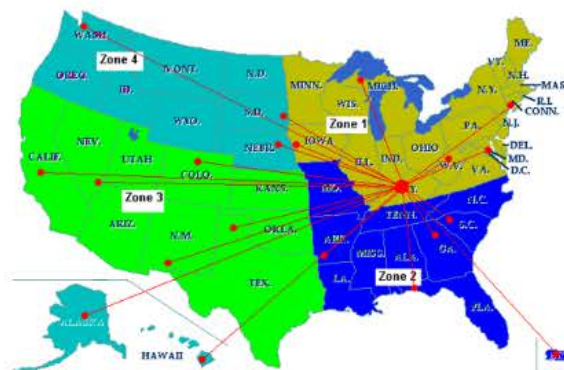
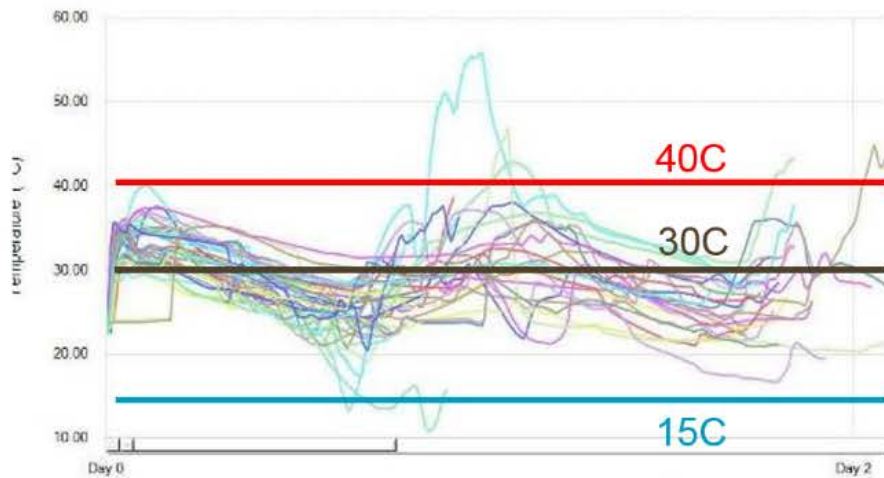
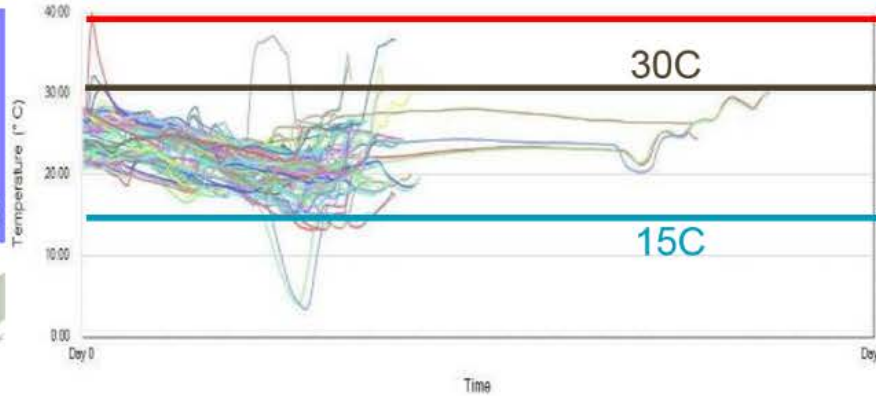
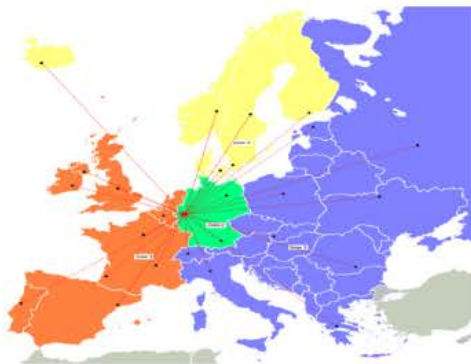
Lab Logistics Optimization



Packaging

Understand the Parcel Carrier's Capabilities: Do they offer?

- Network Temperature Profiling
- Packaging Certification and Purchasing



Product Security Strategies





**Specimens in
Stability**



**Turn Around
Time**



Packaging



Lean Strategies



**Lab Site
Selection**



**Parcel &
Couriers**



**Contingency
Planning**



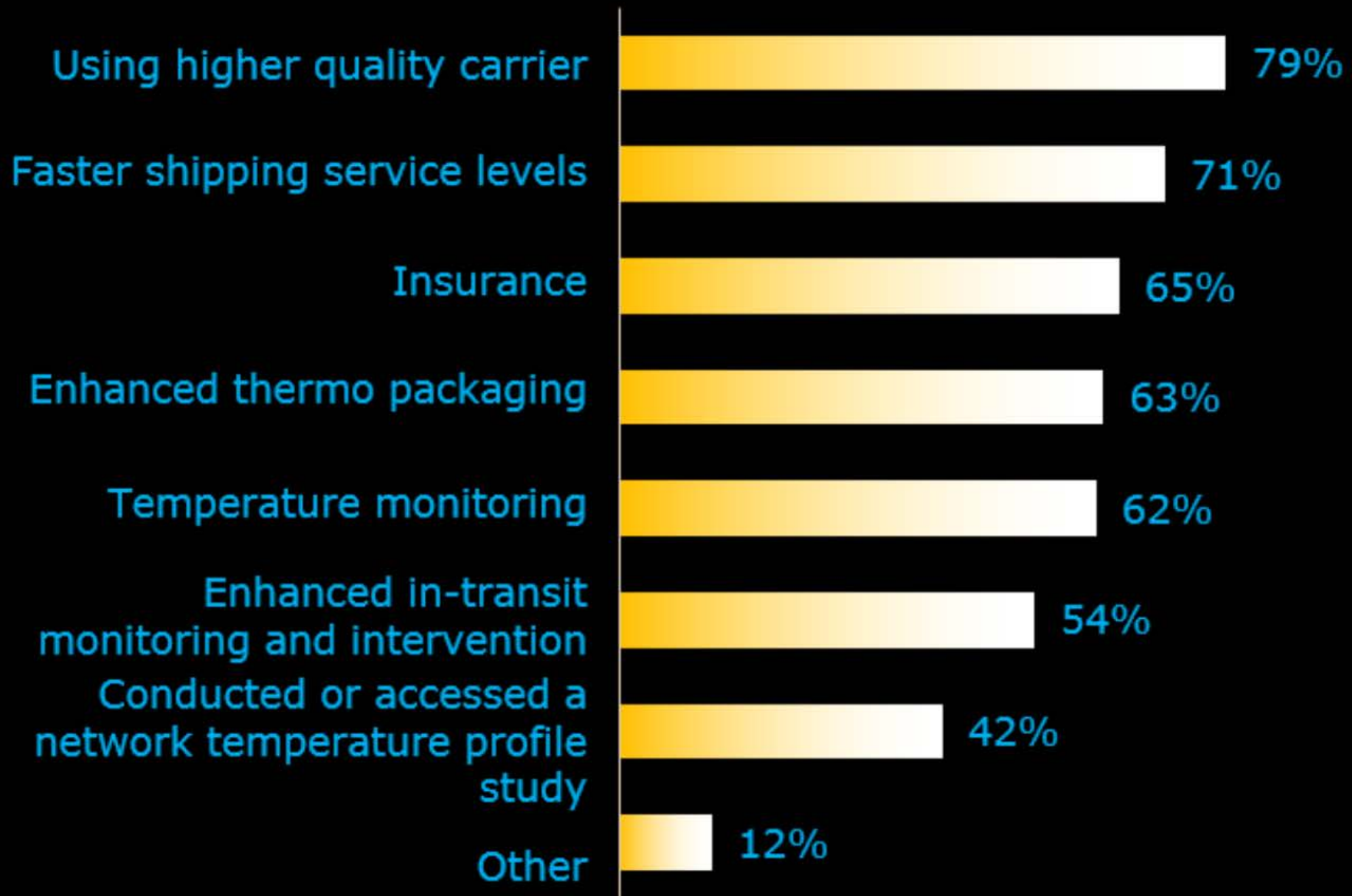
Visibility

Lab Logistics Optimization



Specimens in Stability

Pain in the (Supply) Chain Survey: Top Damage and Spoilage Strategies



Clinician Headwinds

Collection Employees:

- Entry-Level
- Transient & High Turnover

Strategies:

- Utilize Graphical How-to Guides
- Deskill the process

Example: Urine Collection Container was being utilized as a shipping container creating leakages.

Implement "lidless" specimen collection kit to force shipping vial usage, implement training and absorbent liner insert and double seal bag



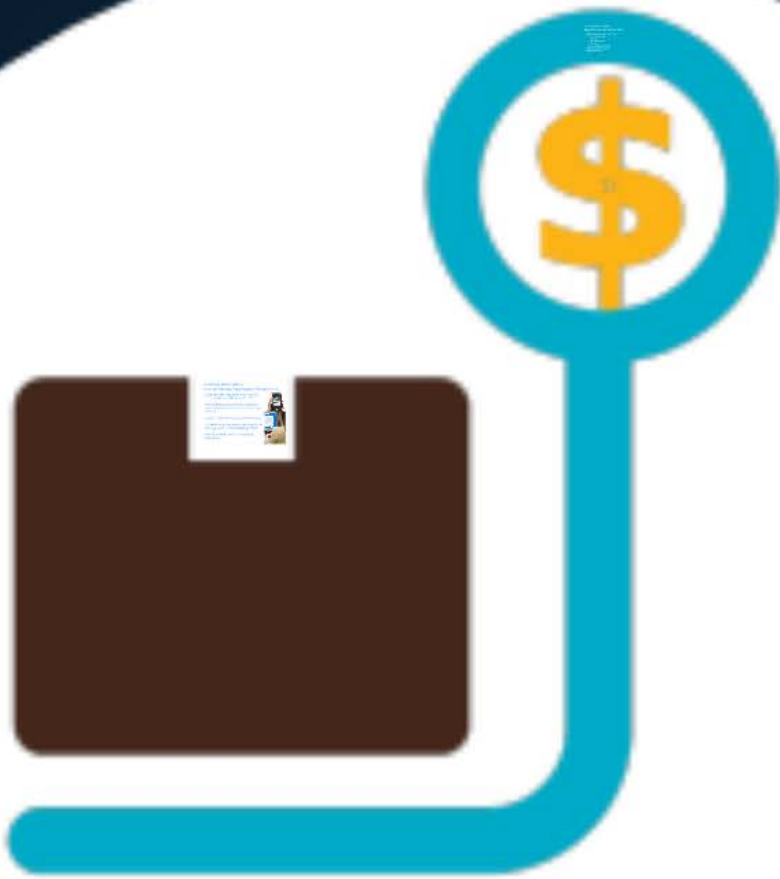
Establish formal specimen in-transit oversight and contingency plans

Parcel carrier monitoring agents will act on behalf of customer to save at risk specimens



UPS Proactive Response Secure

Monitoring, Intervention and Financial Risk Mitigation



Lean Strategies

Accessioning "starts" *when kits are sent out to clinics*

- Coded Packaging, Colored Labels or External Indicators by:
 - Test Type
 - Priority East Coast
 - Stat Tests
 - Newly Onboarded Clinics
- Coded by Tracking number / Reference Number

Automate Data Capture: Internal Visibility, Tracking and Measurement

Lost productivity while searching for a package that's already been delivered to your Lab?

Many large organizations use UPS Trackpad to electronically monitor the movement of packages internally.

Provides visibility from receiving to lab technician.

The hand-held unit and software work together to scan, capture, sort, store and generate reports

Assists in providing chain-of-custody during accessioning.



Pain in the Chain Top Strategies for Addressing Cost

78% Leveraging logistics partnerships

66% IT investment

62% Outsourced transportation management

59% Supply chain optimization analysis

Tip: Leverage parcel spend to access technology

Parcel Carriers have Customer Technology Programs (CTPs)

- Technology is provided at no cost in exchange for committed levels of shipping activity over time.
- Leverage procurement of IT Hardware: TrackPad, PCs, etc.

- Ordering groups need to understand the interplay with couriers
- Are couriers inducting packages into the parcel network
- Zero cost stops are attractive
- Supply Chain Optimization is needed
- Parcel firms can whiteboard the process



Parcel & Couriers

Understanding Parcel and Couriers

- Pick-Up Density is key
- Packages per stop
- Stops without packages
- Parcel groups need to understand the interplay with couriers
 - Are couriers inducting packages into the parcel network
 - Zero cost stops are attractive
- Supply Chain Optimization is needed
- Parcel firms can whiteboard the process



Lab Site Selection

Leverage Parcel Expertise for Network Optimization

Supplier

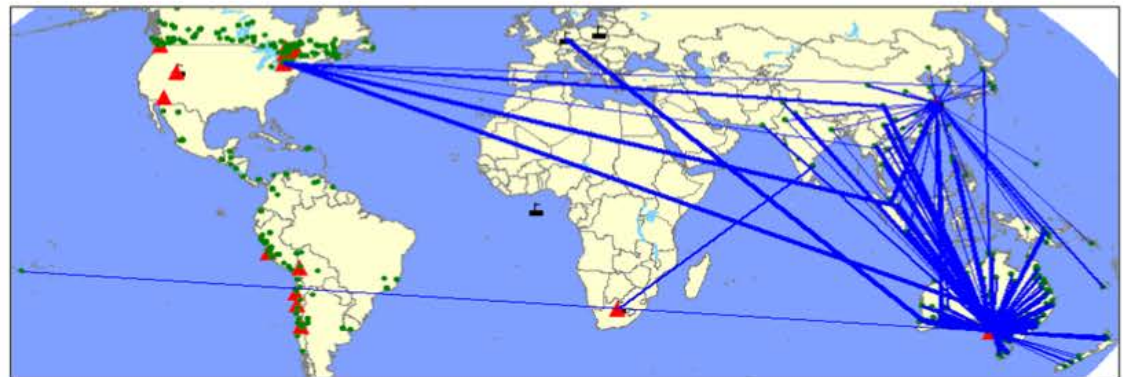
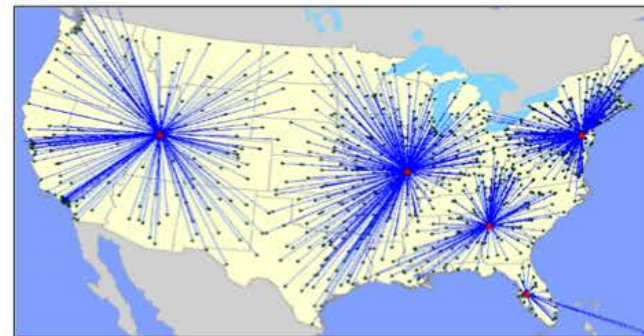
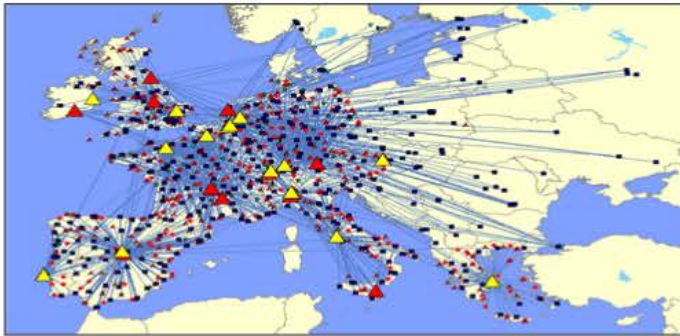
- How many raw material suppliers?
- Where?
- Which products to source and how much?

Dx Facilities

- How many?
- Where?
- Which tests?
- Future Expansion?

Collection Points

- Where should the clinic be serviced from?
- Which mode?





**Specimens in
Stability**



**Turn Around
Time**



Packaging



Lean Strategies



**Lab Site
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**Parcel &
Couriers**

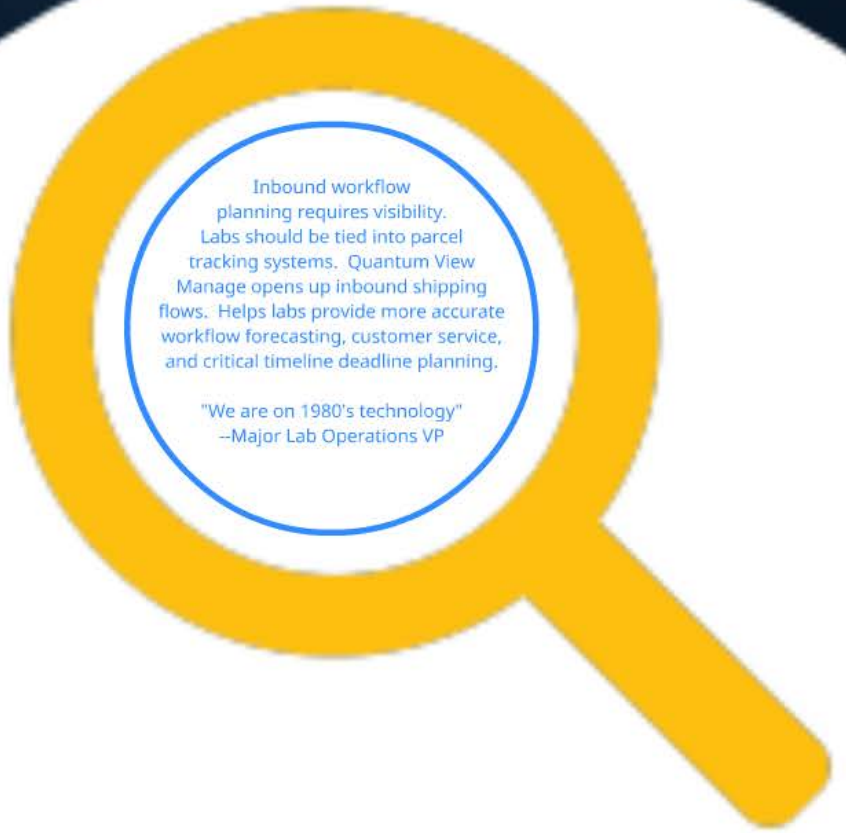


**Contingency
Planning**



Visibility

Lab Logistics Optimization



Inbound workflow
planning requires visibility.
Labs should be tied into parcel
tracking systems. Quantum View
Manage opens up inbound shipping
flows. Helps labs provide more accurate
workflow forecasting, customer service,
and critical timeline deadline planning.

"We are on 1980's technology"
--Major Lab Operations VP


Visibility

Inbound workflow planning requires visibility. Labs should be tied into parcel tracking systems. Quantum View Manage opens up inbound shipping flows. Helps labs provide more accurate workflow forecasting, customer service, and critical timeline deadline planning.

"We are on 1980's technology"
--Major Lab Operations VP



Contingency Planning

A 3D rendering of a broken metal chain. The chain is made of several interlocking links, but one link is broken and is flying through the air, surrounded by several smaller pieces of metal. The background is a solid blue circle. The text is positioned in the upper left quadrant of the blue circle.

13% of Pain in the Chain
respondents indicated
that disruptions impacted
their supply chains by
more than 26%

Disruptions
Ahead

Solutions
NEXT EXIT →



FDA: Hurricane Sandy Assessment

- 266 Facilities of regulated products had flooding and damage
- 54 device firms had flooding and damage
- Device packaging vulnerable to flooding, extreme humidity, or temperature



La Jolla, CA







Reactive Mindset

Disruptions are considered too unlikely or infrequent to be a threat

61%



Mitigation strategies are believed too expensive to deploy

46%



Little or no organizational prioritization

42%



Too busy keeping up with new regulations

24%



Evonik recovers after nylon 12 shortage

By **Frank Esposito**

SENIOR STAFF REPORTER

Font size:



Reprints



Print

Published: October 17, 2013 4:45 pm ET

Updated: October 17, 2013 4:55 pm ET



Image By: Plastics News, Catherine Seidel

Gregor Hetzke, Evonik Industries' performance polymers business unit head,

DÜSSELDORF, GERMANY — Less than two years after a major nylon 12 resin shortage, Evonik Industries AG has regained all of its sales volume for that material, officials said.

"We are the sole supplier [of nylon 12] to all of our customers and applications again," performance polymers business unit head Gregor Hetzke said at an Oct. 17 news conference at K 2013. "We're quite happy about it. Our customers saw that our material had the best material and best performance properties."

Strategies Business Continuity

Leveraged 3PL for alternate/additional distribution infrastructure

59%

Conducted scenario planning and disruption recovery exercises

59%

Invested in secondary/multiple distribution infrastructure

50%

Consulted with 3PLs to develop contingency plans

44%



**Specimens in
Stability**



**Turn Around
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**Lab Site
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**Parcel &
Couriers**



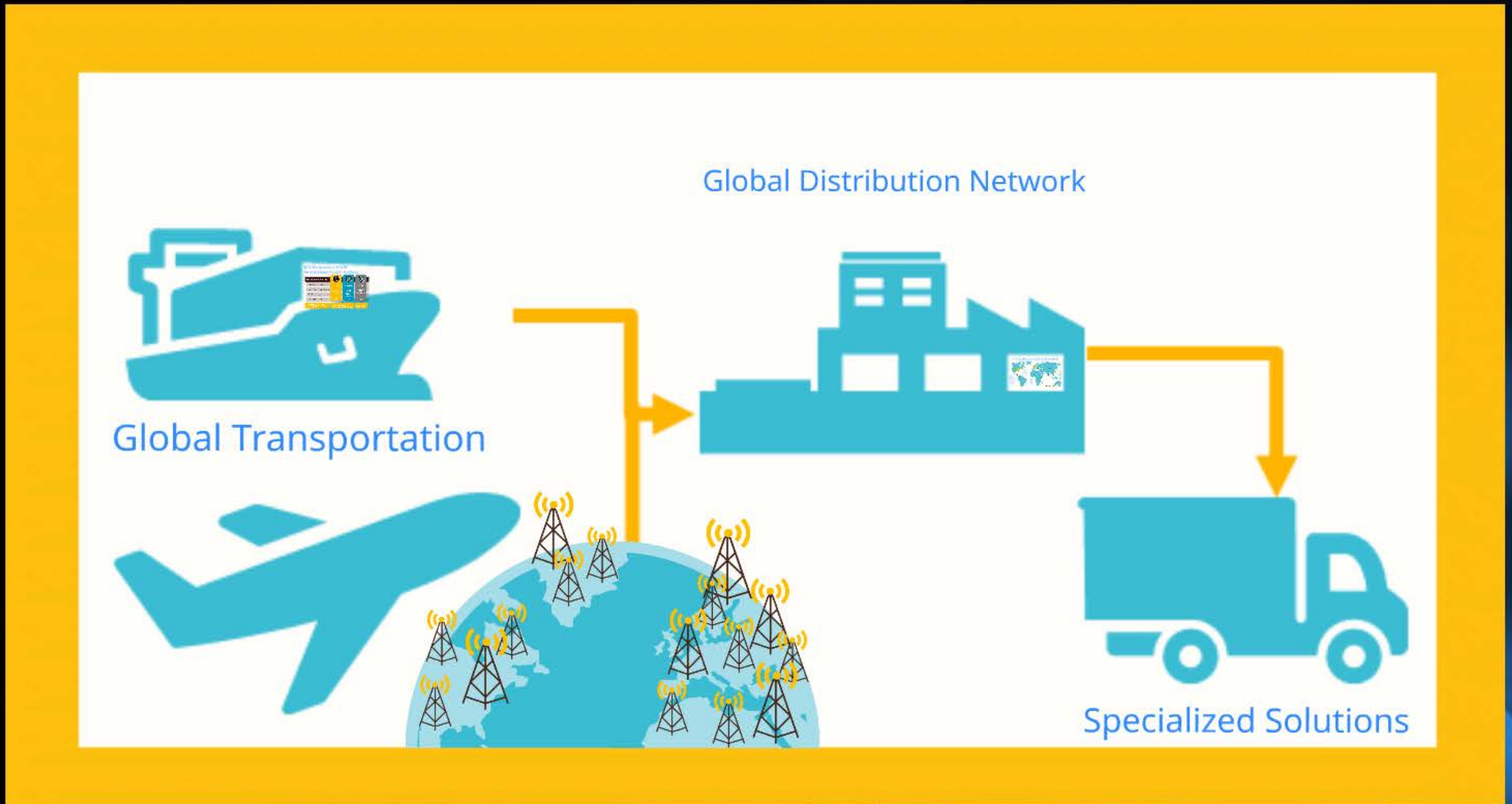
**Contingency
Planning**



Visibility

Lab Logistics Optimization

UPS Healthcare Solution Set





Global Transportation



UPS Temperature True®

Air and Ocean Freight Portfolio

UPS Temperature True®

- Documented Processes
- Global Control Tower Monitoring
- Quality Assurance
- Value-Added Services



PLUS

Priority:
Temperature-
Control

\$\$\$\$



STANDARD

Priority:
Time in
transit –
Packout
expiry

\$\$\$



SAVER

Priority:
Cost-
Effectiveness

\$\$

UPS® Global Forwarding
Capabilities

International Air Freight
North American Air Freight

Ocean Freight

Global Distribution Network

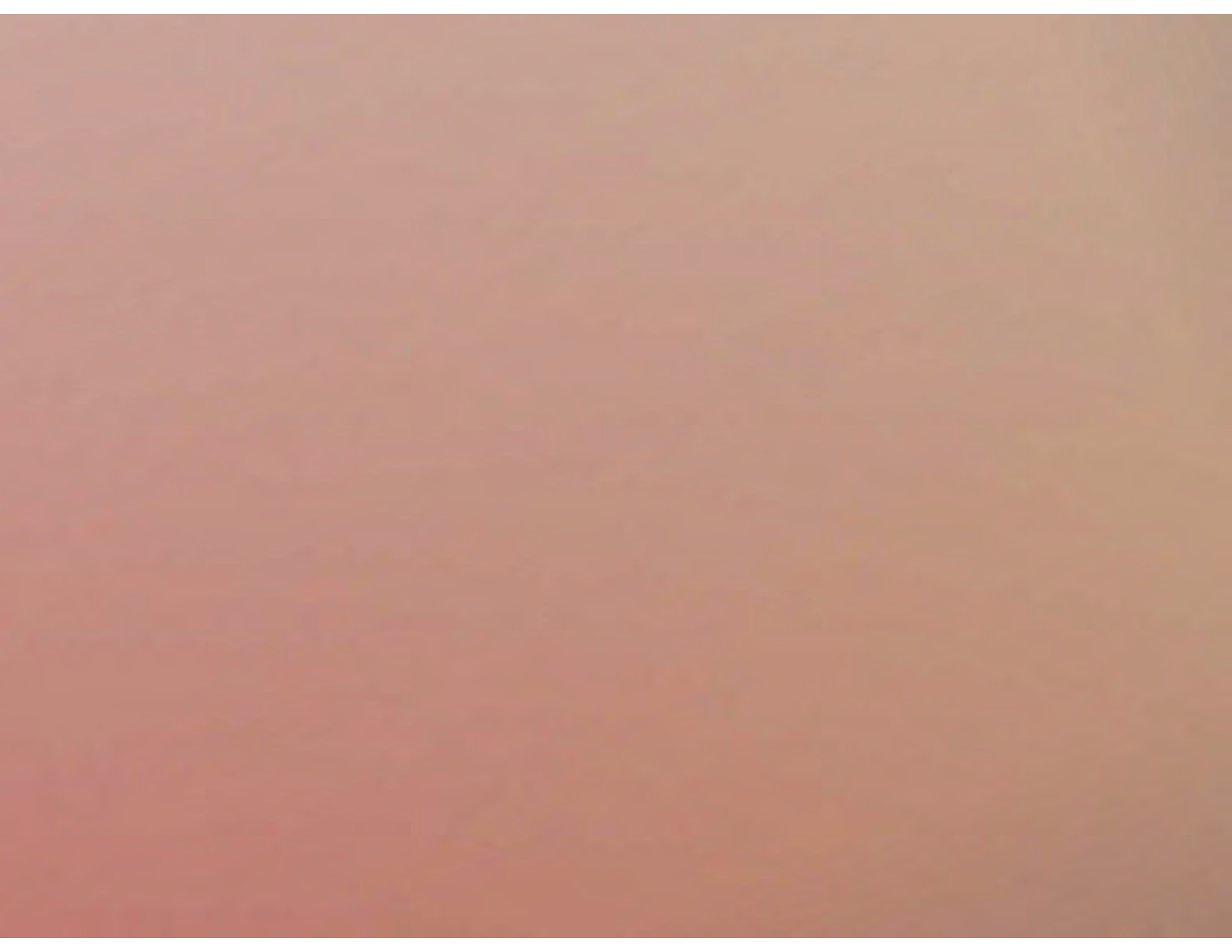


UPS Healthcare Distribution Network



UPS Healthcare Campus Louisville, Kentucky







Polar Speed

- Headquarters: Leighton Buzzard, near London, UK
- 3 warehousing facilities in London
- 11 forward stocking locations throughout the UK
- 38,000 ft² healthcare-dedicated warehouse space



Polar Speed

Vaccines

Diagnostic Products/Equipment

Specialty Medicines

Cytotoxic/Dangerous Goods

Oncology Treatments Plasma

Clinical Feeds

Optical and Dental Products





EUROPE
Cologne Air Hub
Rome, IT
Milan, IT
Roermond, NL
...

CEMELOG

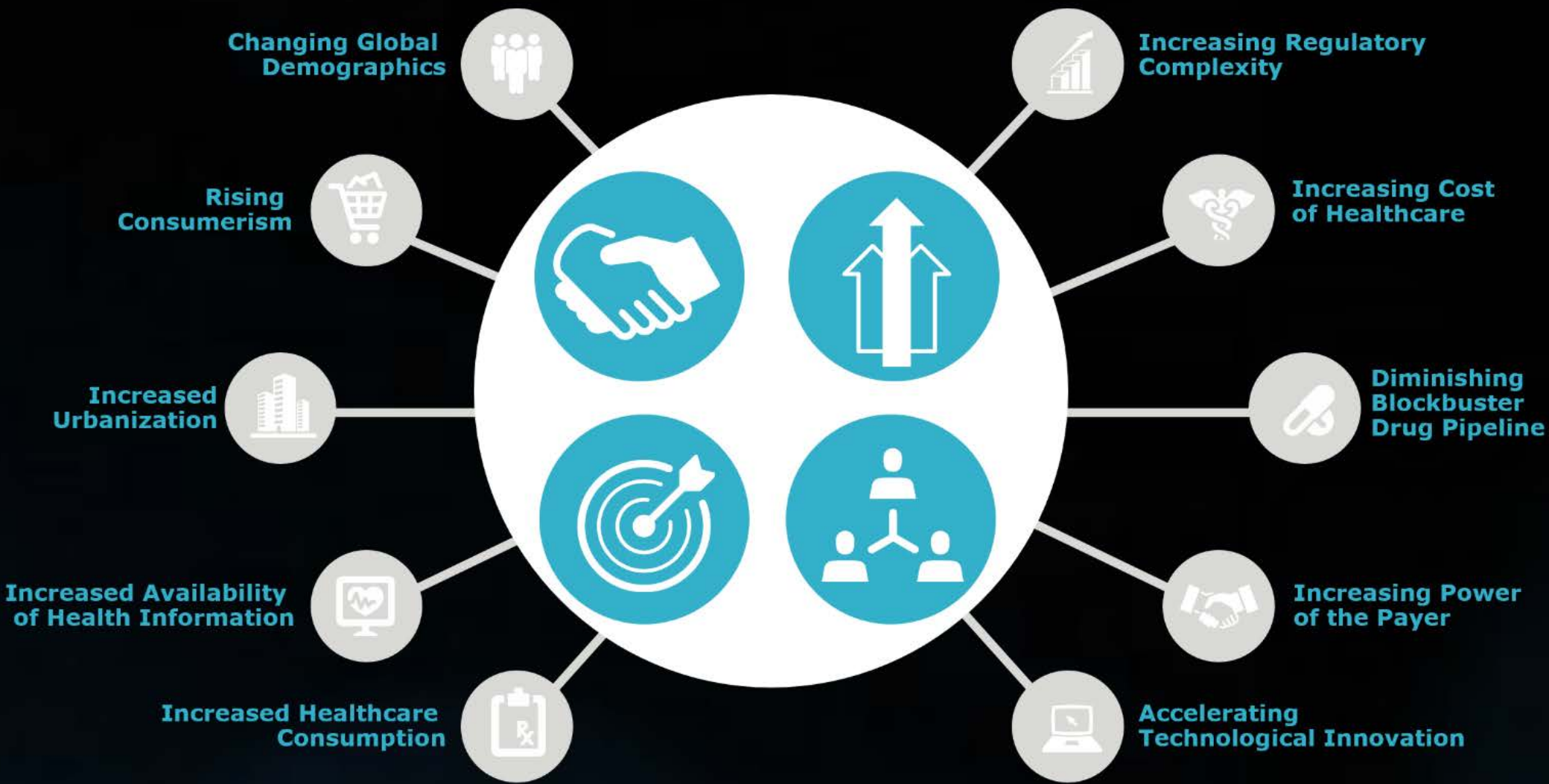
Budapest, Hungary

- Pharma Park: Hungary domestic distribution
- Camel Park: Regional distribution
- Shark Park: ADR, medical device and narcotics distribution





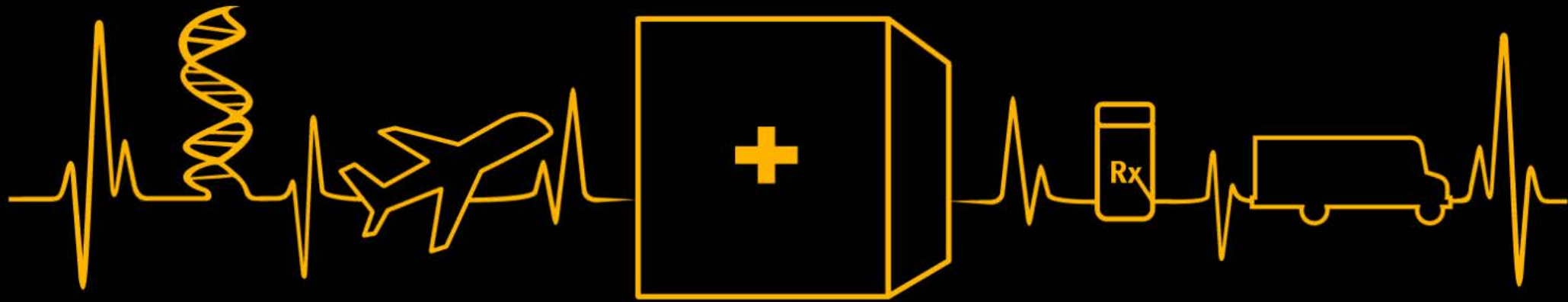
Specialized Solutions



Healthcare Clusters



It's a Patient,



not a Package



Robin Hooker

Director, Marketing Healthcare Sector

rhooker@ups.com

www.linkedin.com/in/RobinHooker1