

ANNUAL FORECAST REVIEW

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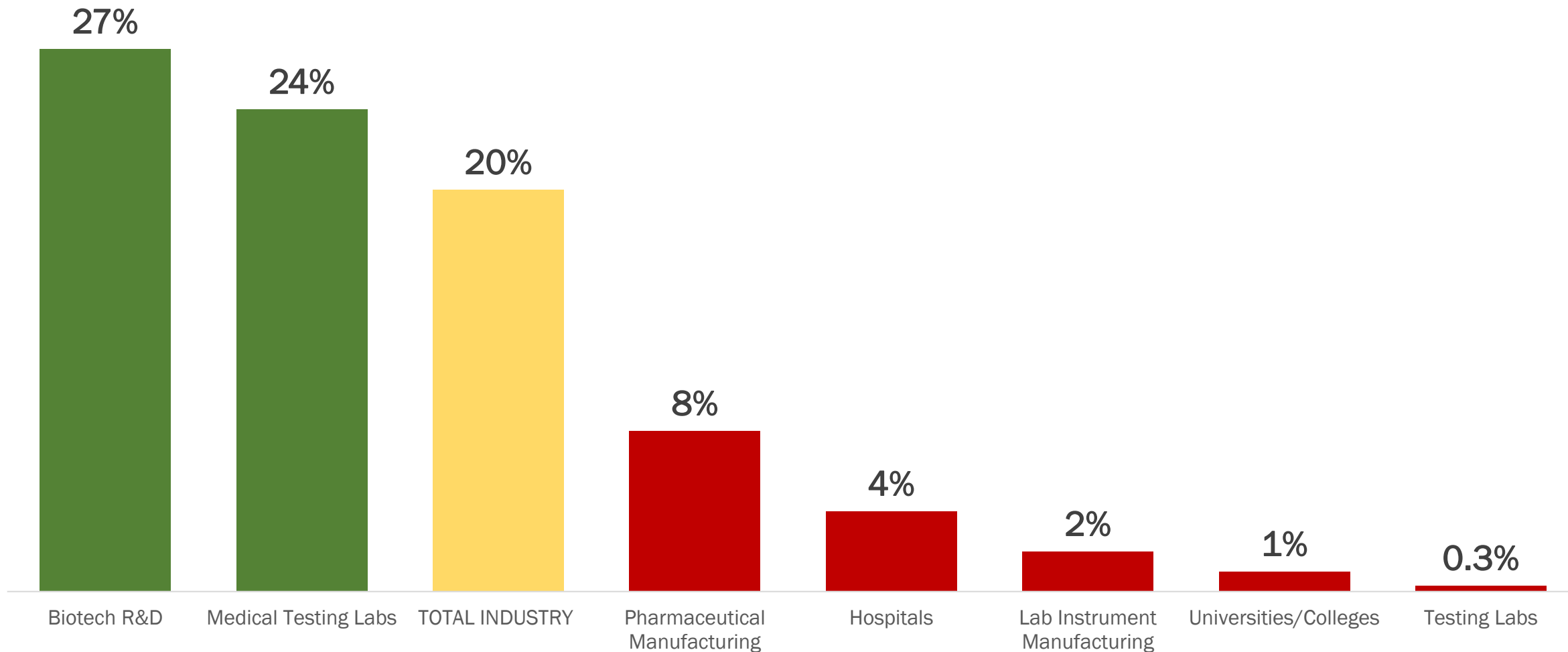
FIVE STORYLINES

1. Industry keeps growing
2. Pace of growth is perhaps slowing a bit
3. 12,000 new jobs
4. Historically long times to fill openings
5. Industry can do more to expand access

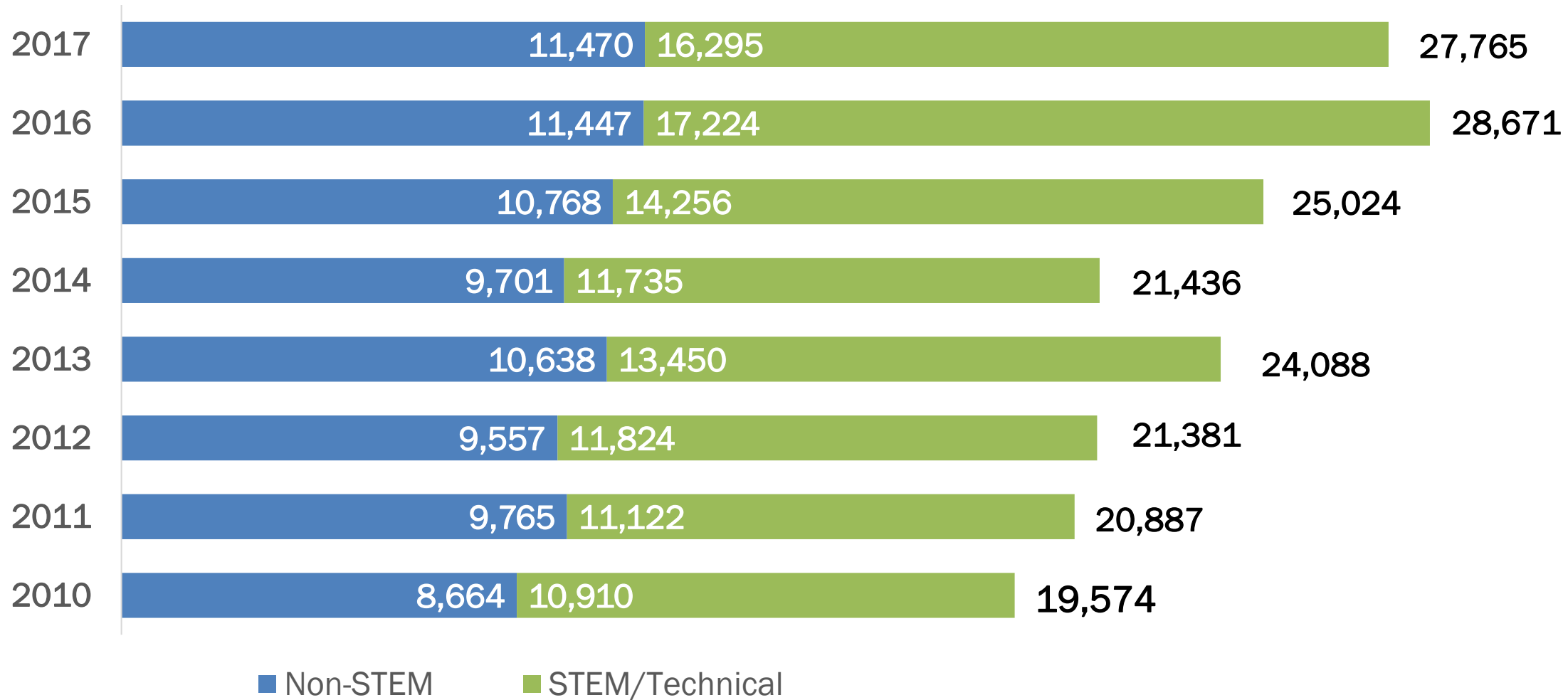
INDUSTRY GROWTH

INDUSTRY EMPLOYMENT, MASSACHUSETTS 2007 - 2017

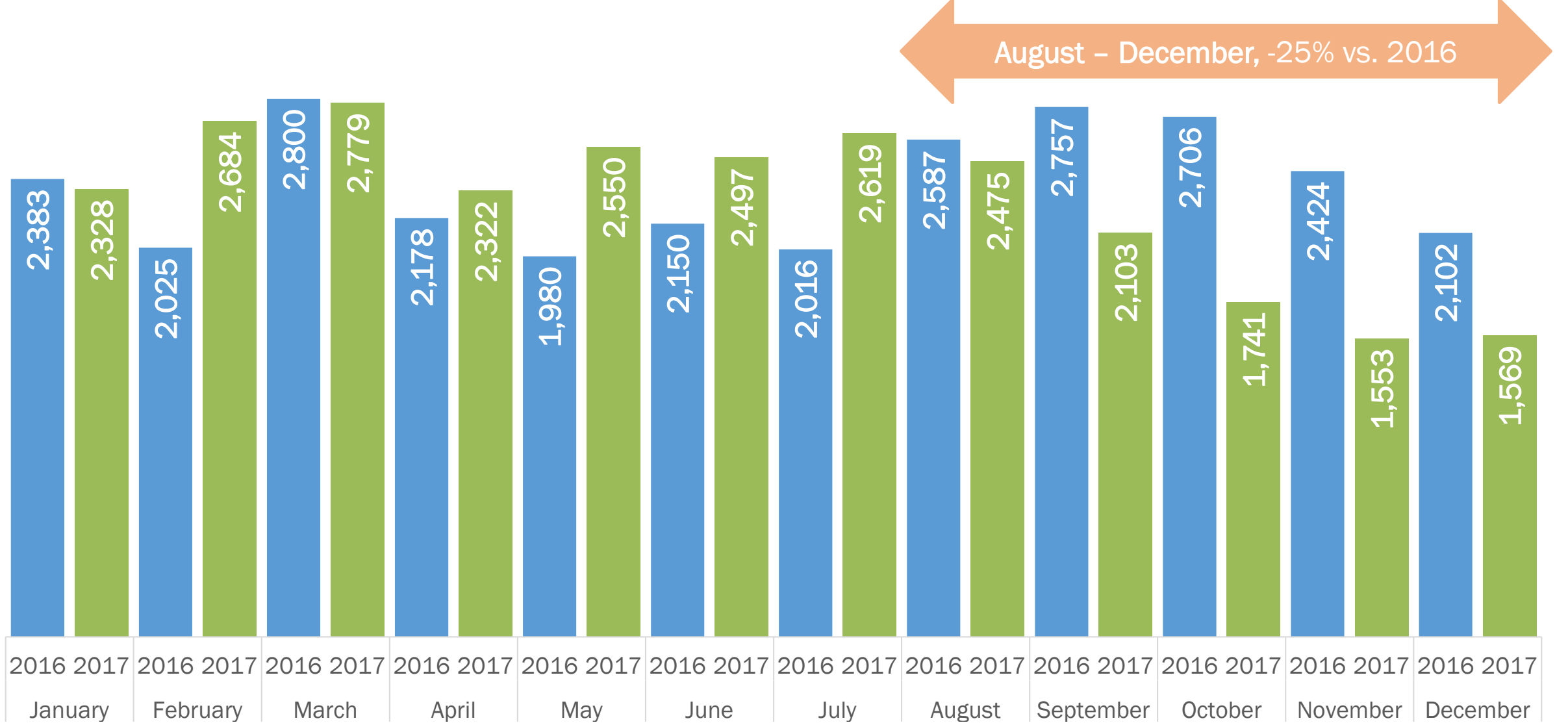




GROWTH RATE BY SECTOR, LAST FOUR YEARS



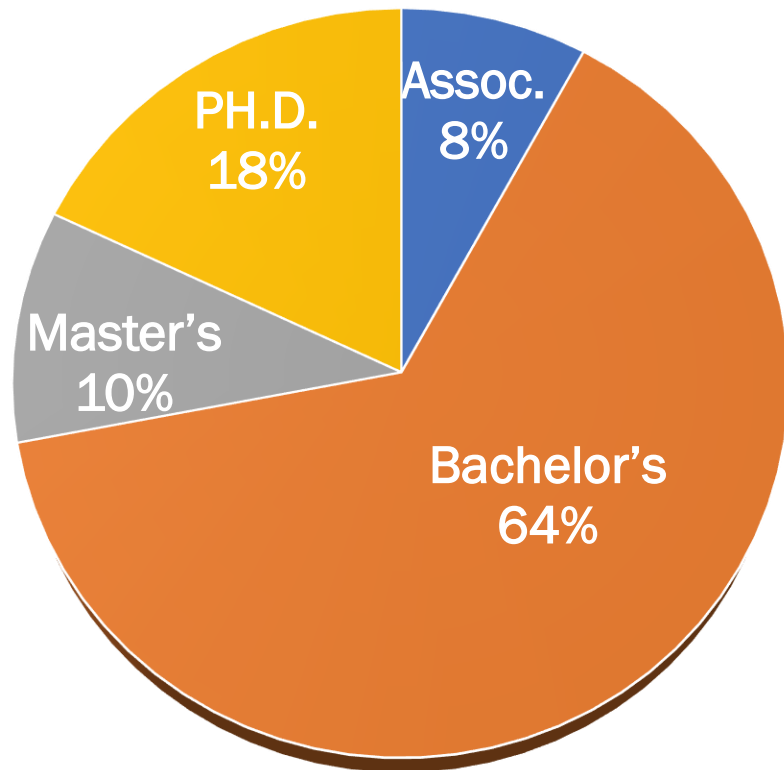
INDUSTRY JOB LISTINGS BY YEAR



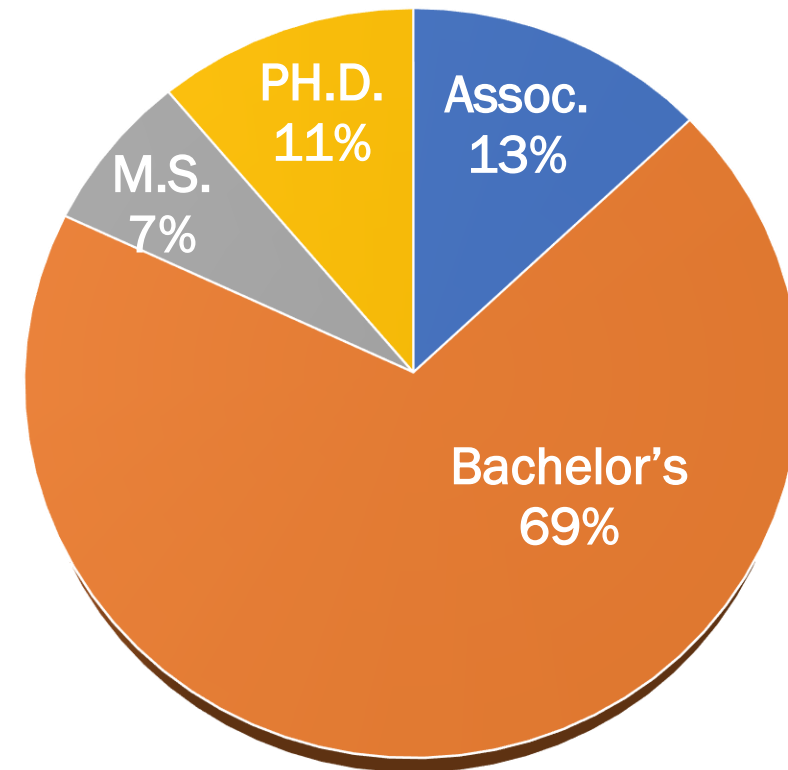
MONTHLY JOB LISTINGS

FOUR-YEAR DEGREE = FOOT IN THE DOOR

ALL STEM/TECHNICAL OPENINGS



ENTRY LEVEL STEM/TECHNICAL OPENINGS



NEEDED: SOME EXPERIENCE

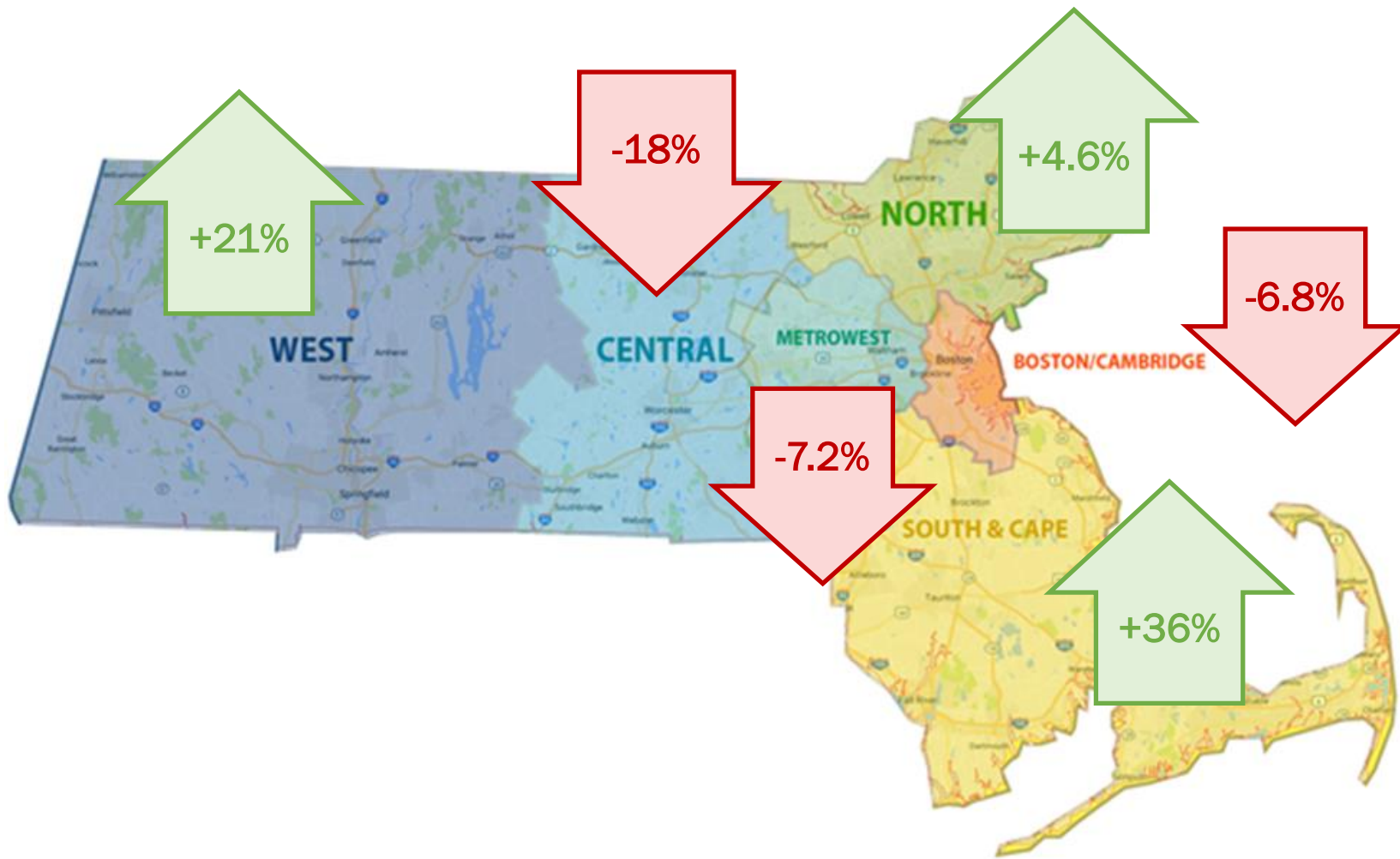


TOP STEM JOB OPENINGS

Occupation Type	2017 Openings	Annual Change
Medical Scientist	2,410	+5%
Researcher / Research Associate	1,755	-16%
Clinical Research Coordinator / Manager	1,072	+13%
Biologist	807	-22%
Chemist	754	-2%
Chemical / Process Engineer	593	-7%
Biological Technician	513	+3%
Quality Control Analyst	447	-1%
Project Manager	436	+1%
Medical Director	431	+6%
Biostatistician	413	-7%
Software Developer / Engineer	383	-2%
Laboratory Technician	361	-26%
Compliance Manager	321	-2%
Science Research Manager	318	-8%

Many of the top STEM openings in 2017 decreased from their 2016 levels

BIG declines in *Lab Technician, Research Associate, and Biologist* openings



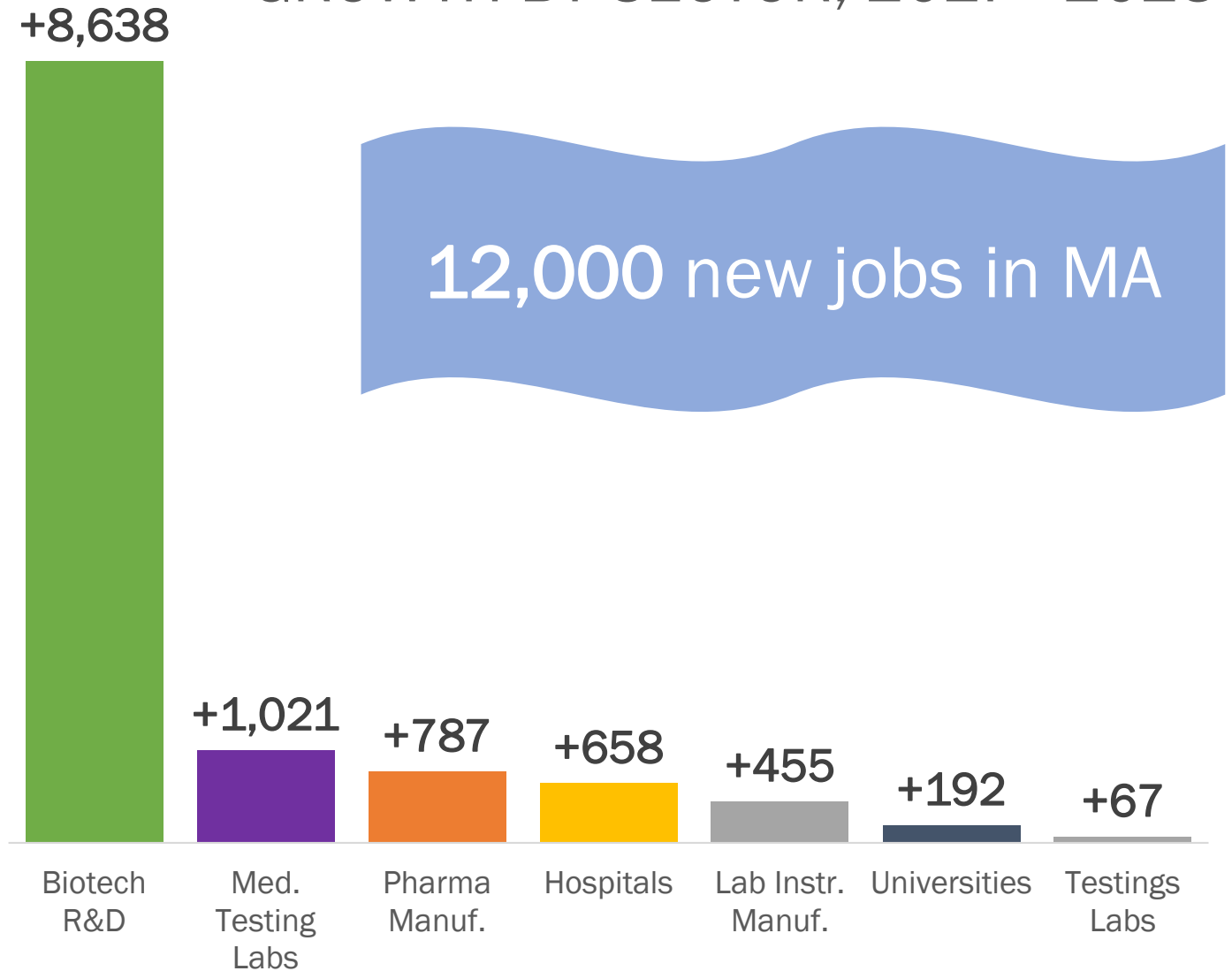
- *Boston/Cambridge*: ~60% of job openings the since 2015
- *North and Metrowest* together: almost 30%
- *North* is only region to expand 3 years running

Job Listings by Region

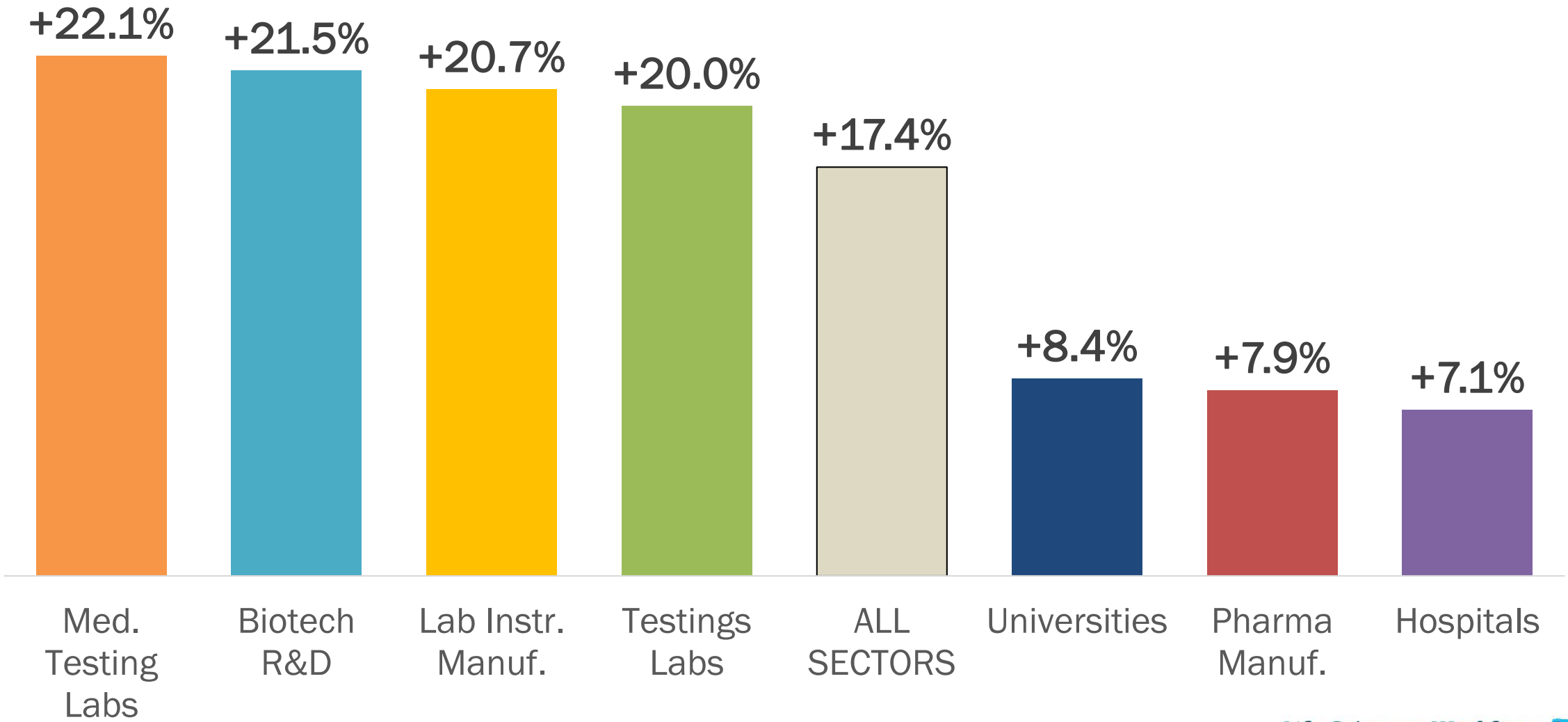
(It's not just Boston & Cambridge)

CONTINUED GROWTH THROUGH 2023

PROJECTED EMPLOYMENT GROWTH BY SECTOR, 2017 - 2023



FORECAST GROWTH RATES – BY SECTOR



PROJECTIONS

Fastest Growing Job Types

- Legal (+28%)
- Computer-related (+27%)
- Sales (+27%)
- Life Sciences (+27%)

Most New Jobs

- Medical Scientists (+1,235)
- Biochemists (+757)
- Bio. Technicians (+665)
- Research Managers (+359)

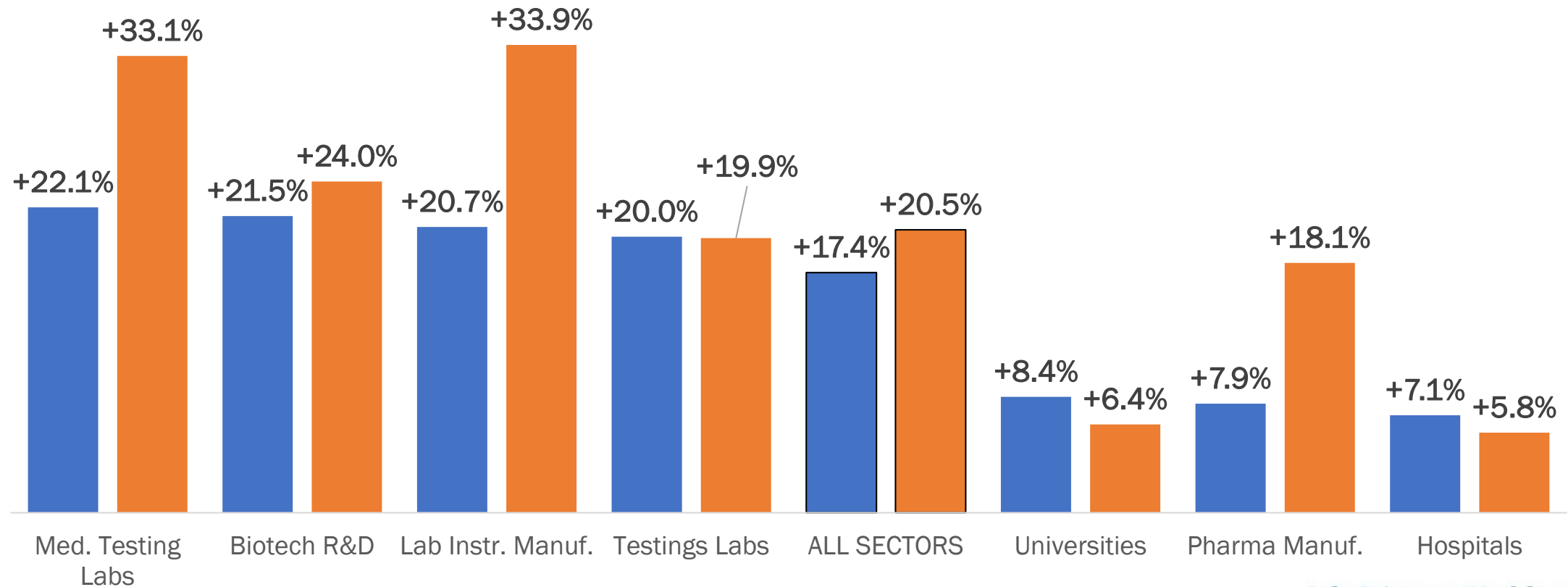


OTHER FAST-GROWING JOBS

- PR Specialists, +39%
- Chemical Engineers, +31%
- Statisticians, +29%
- Lawyers, +28%
- Market Research Analysts, +25%
- Management Analysts, +25%
- Training & Development Specialists, +23%

FAST, JUST NOT AS FAST

PROJECTED GROWTH RATES vs. 2011-2017 ACTUAL GROWTH RATES



PAY GROWTH – UP, UP, AND AWAY

For Entry Level STEM/Technical Jobs:

+7.9% Growth

Midlevel:

+9.1% Growth

Senior level:

+10.1% Growth



2018 Industry Survey

83% of respondents
report plans to expand
employment in the next
12 months

2018 Industry Survey

65% report average
times to fill openings
exceeding **2 ½ months**

The national average is **1
month**

2018 Industry Survey

30% of companies reported even longer waits – of **3 months or longer**.

\$500 – estimated cost to employers each day an opening is left unfilled

2018 Industry Survey

These Functional Areas...

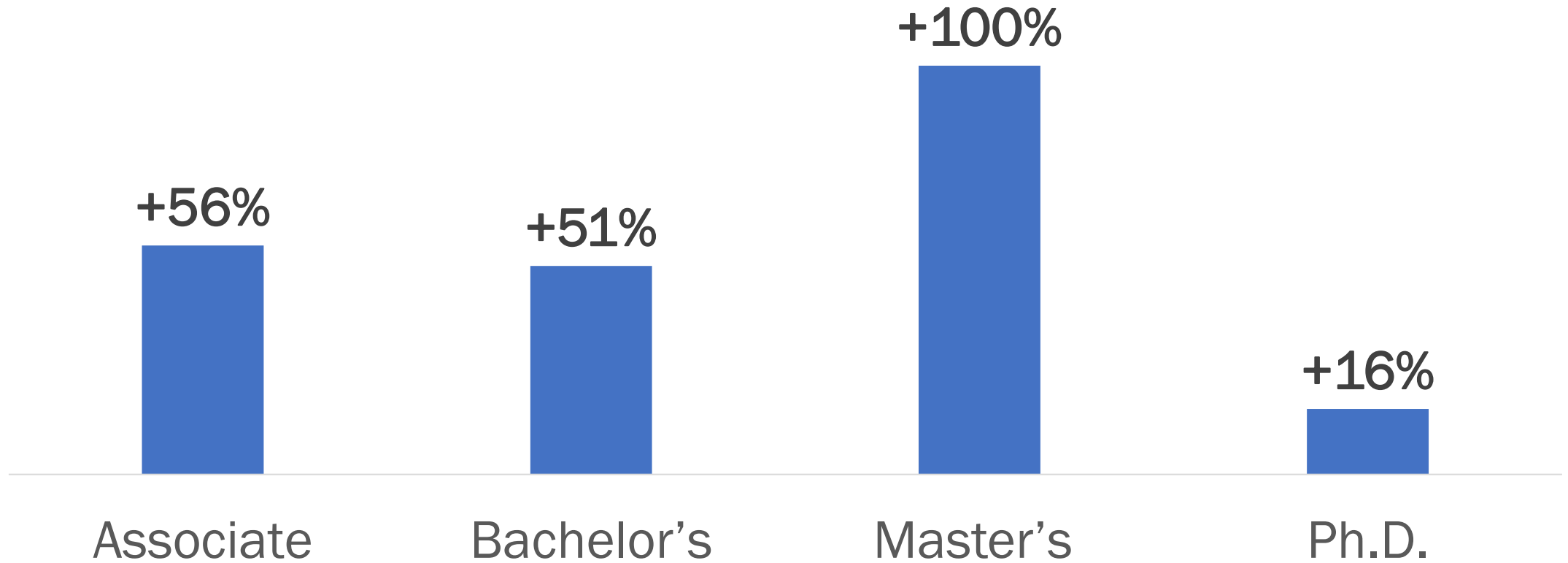
1. Research & Development
2. Clinical Research
3. Quality
4. Regulatory Affairs

...could present pressure
points in 2018

Most Detrimental to the Bottom Line

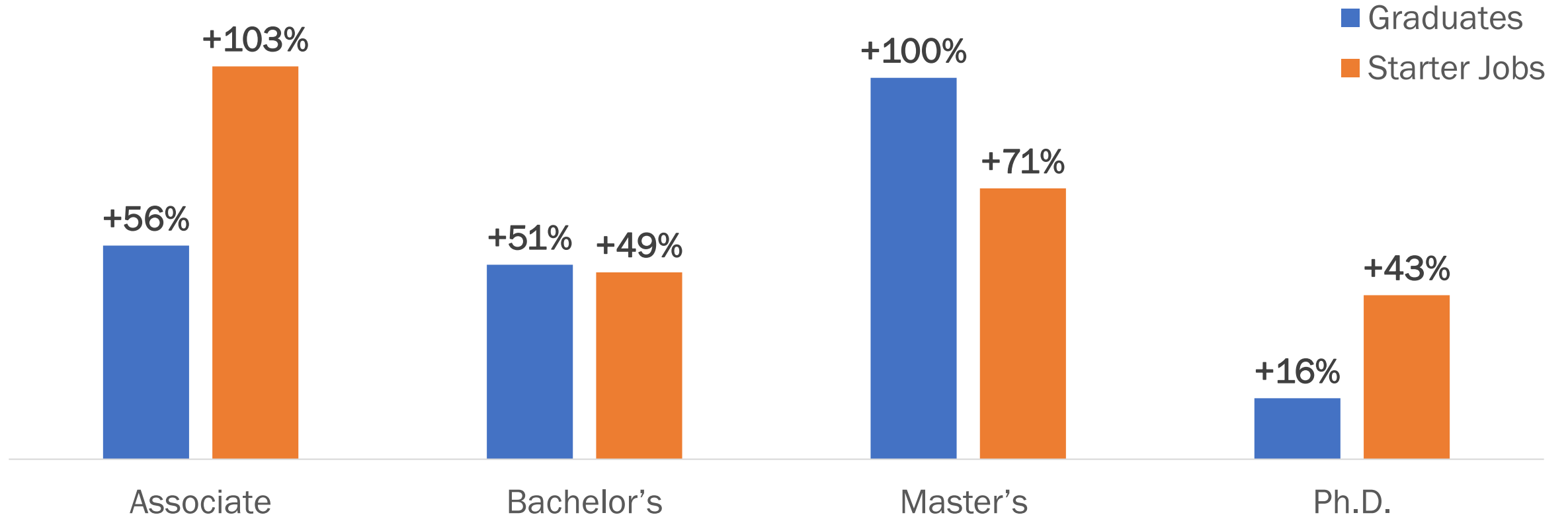
1. Time-to-Fill for Openings, **33%**
2. Worker Turnover, **25%**
3. Training/Onboarding Costs, **20%**
4. Experienced Workers' Compensation, **18%**
5. Incumbent worker training, **5%**

GROWTH IN CONFERRALS BY LEVEL, SINCE 2010



NEW GRADS

GROWTH IN GRADS VS. ENTRY LEVEL JOBS, ANNUALLY, 2017 VS. 2010

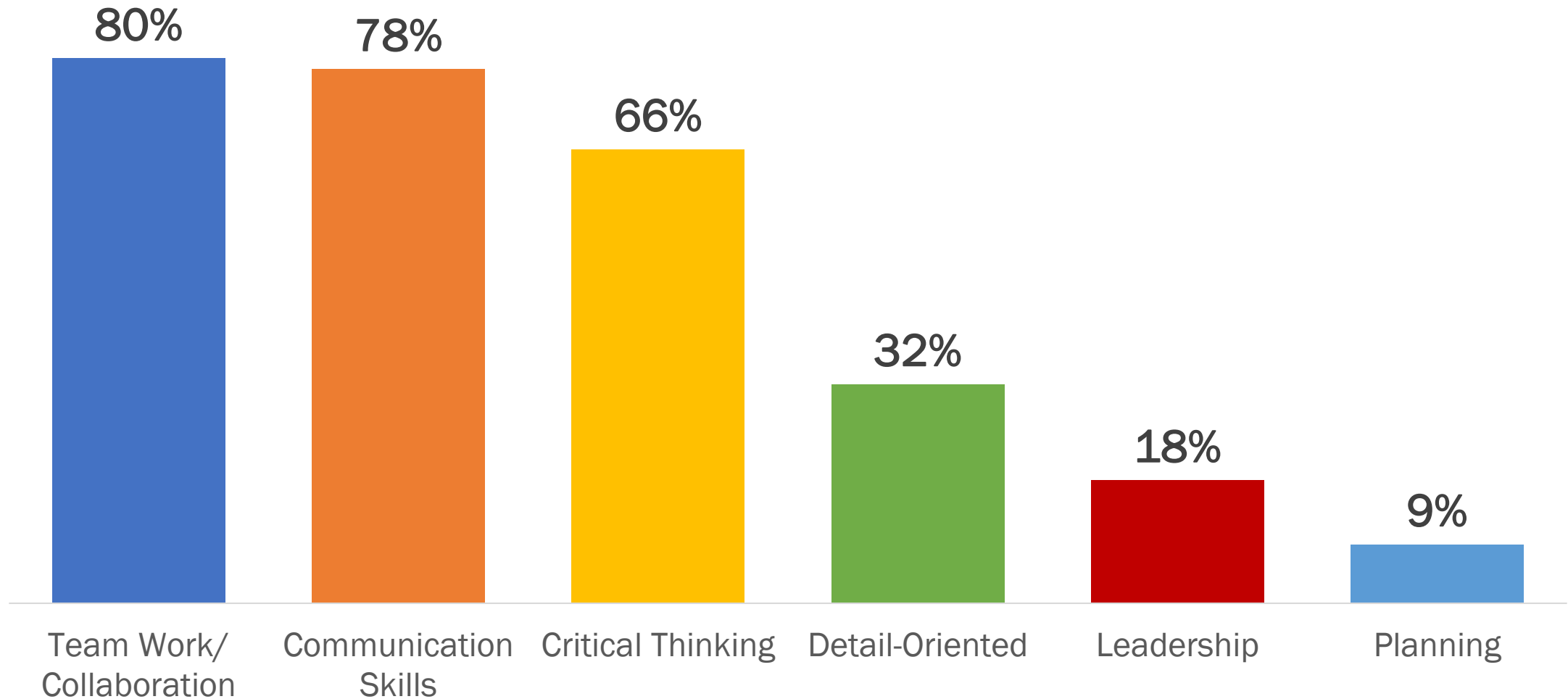


NEW GRADS VS. STARTER JOBS

GRAD TRENDS

- Bachelor's:
 - Chemical Engineering (+78%)
 - Bioengineering (+102%)
- Ph.D:
 - Biology, Biochemistry, & Chemistry up 6%
 - Drug Dev. jobs up 43%

TOP-RATED “SOFT” SKILLS



DIVERSITY

~30% have formal initiatives at management
and contributor level...

17% at the board level

60% didn't have a formal initiative

2018 JOB TRENDS FORECAST

*Life Sciences Industry
Massachusetts*


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FULL REPORT

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Life Sciences Workforce 2018
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