

PwC Health Research Institute

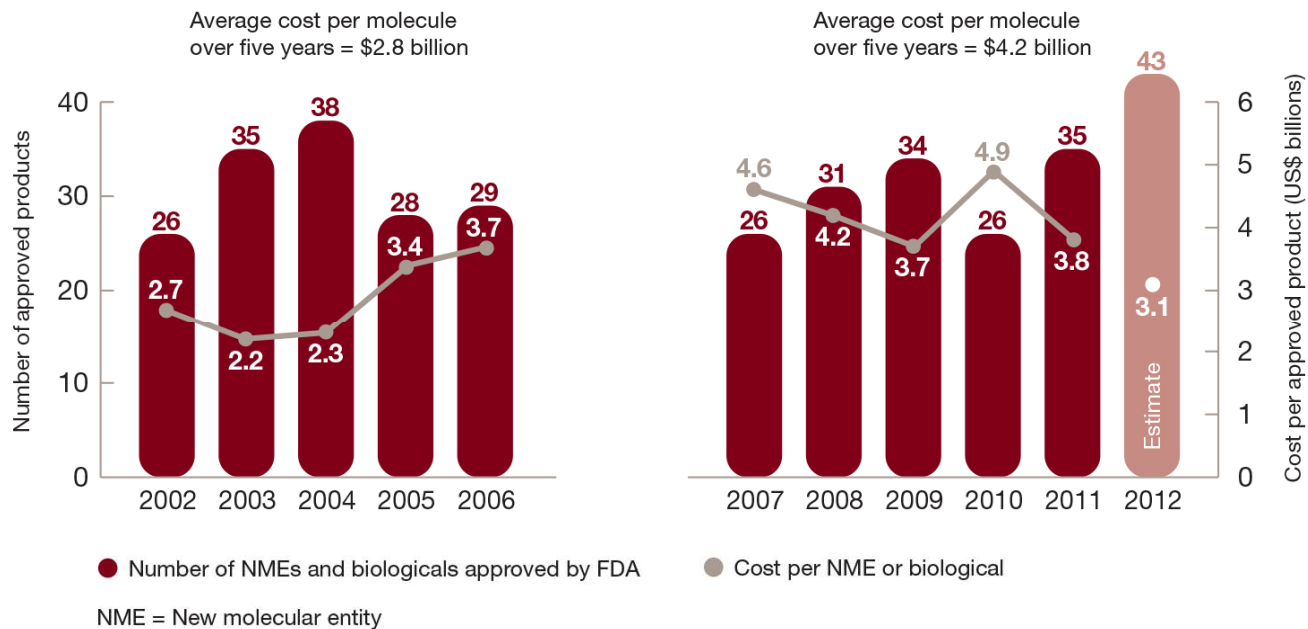
***New chemistry:
Getting the biopharmaceutical
talent formula right***

**Chart Pack
February 2013**

pwc

Although drug approvals peaked in 2012, they have otherwise remained below 40 per year since 2002 even as R&D spending has increased.

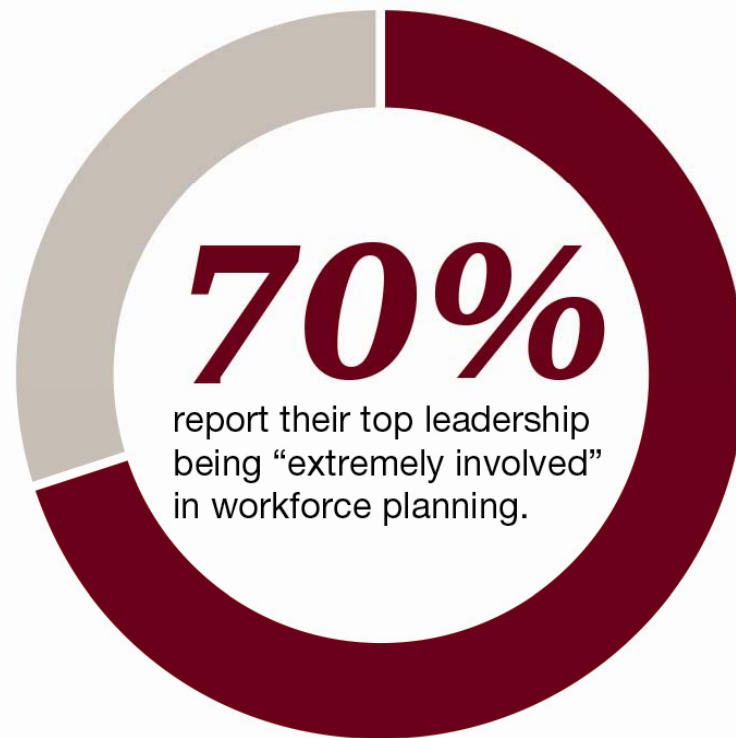
Figure 1: Costs per approved molecule are unsustainably high.



Source: EvaluatePharma and PwC analysis

Notes: (1). R&D expenditure on newly approved medicines is clearly historic, but comparing annual investment with annual output over a 10-year period provides an accurate picture of the direction in which costs are moving. (2). We have not taken account of expenditure on line extensions, which varies significantly from one company to another. (3). Year 2012 cost per NME or biologic is an estimate.

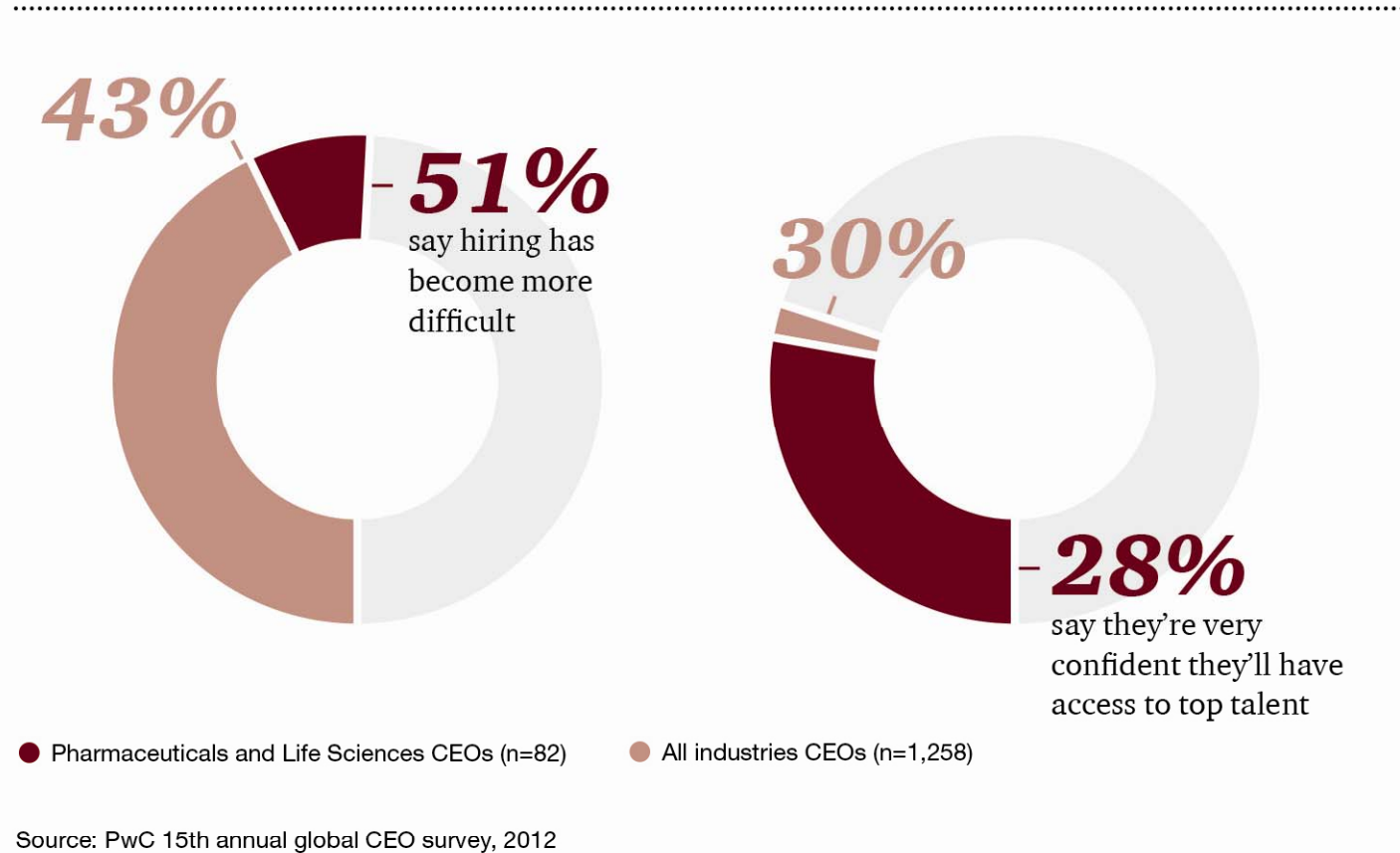
HR must be at the forefront of ensuring their organizations are properly equipped with the right mix of people and talent in R&D.



Source: HRI Survey on human capital in the health industries, 2012

The most valued skills and talent needs are changing.

Fifty-one percent of pharma leaders, the highest of any industry, report that hiring has become more difficult for them with only 28% saying they're very confident they'll have access to top talent.



US chemists and microbiologists are experiencing slow job growth across all industries.

Figure 2: Projected US job growth for biomedical sciences (2010-2020).

Biomedical Engineers

62%

Medical Scientists

36%

Biochemists/Biophysicists

31%

All occupations

14%

Microbiologists

13%

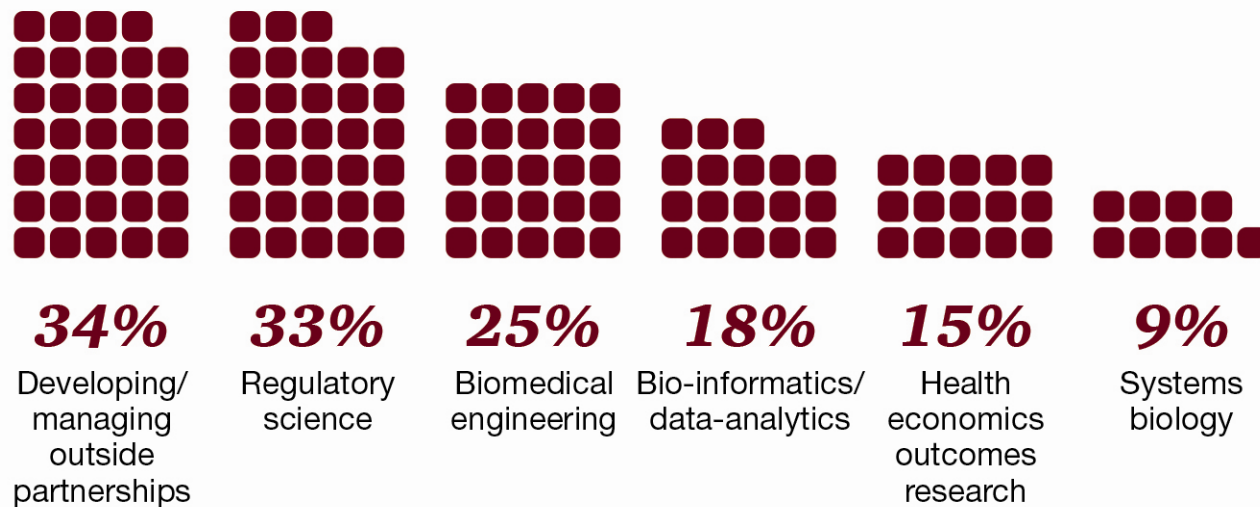
Chemists

4%

Source: Bureau of Labor Statistics

The life sciences industry is looking for new skills among scientists.

Figure 3: Developing and managing outside partnerships is the most important R&D skill sought by HR.

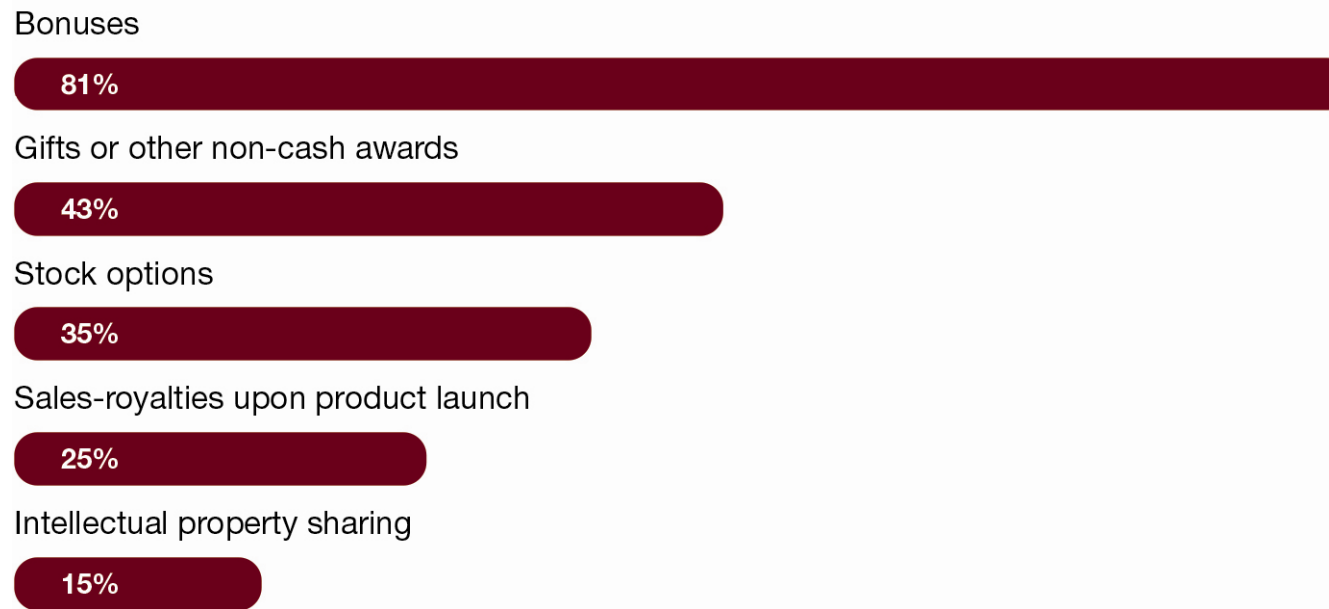


Respondents: ■ Very important

Source: HRI survey on human capital in the health industries, 2012

Few companies offer novel incentives such as intellectual property sharing or sales royalties upon product launch.

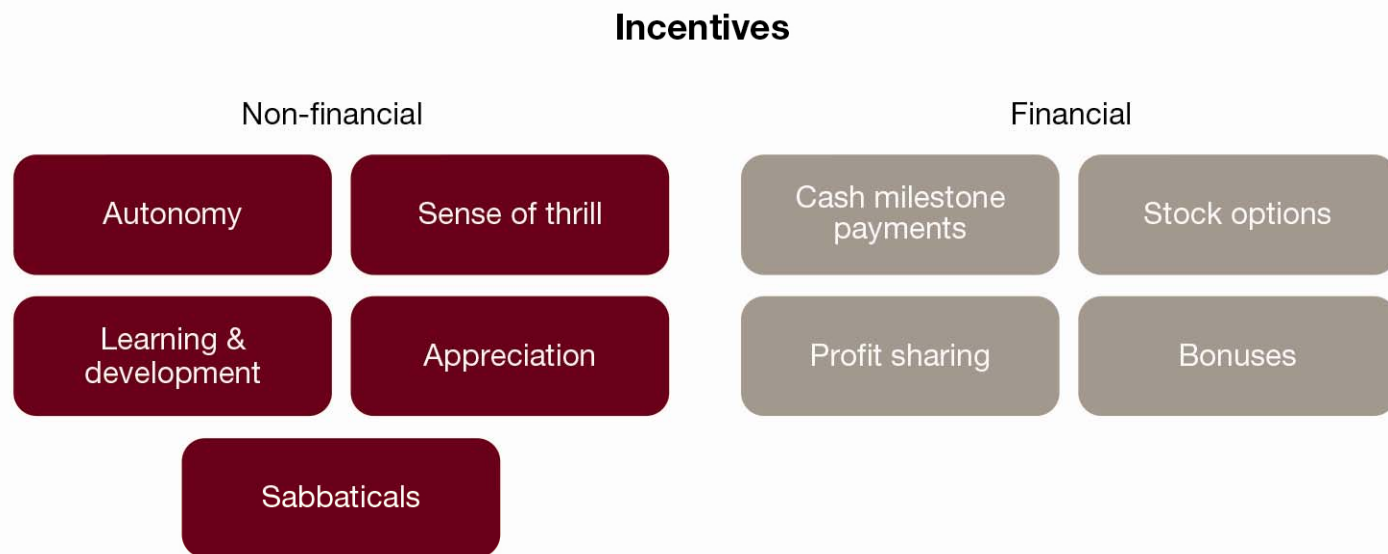
Figure 4: Incentive components of performance compensation schemes offered to life sciences employees (% Yes).



Source: HRI survey on human capital in the health industries, 2012

Some approaches acknowledge scientific achievement through nonfinancial means.

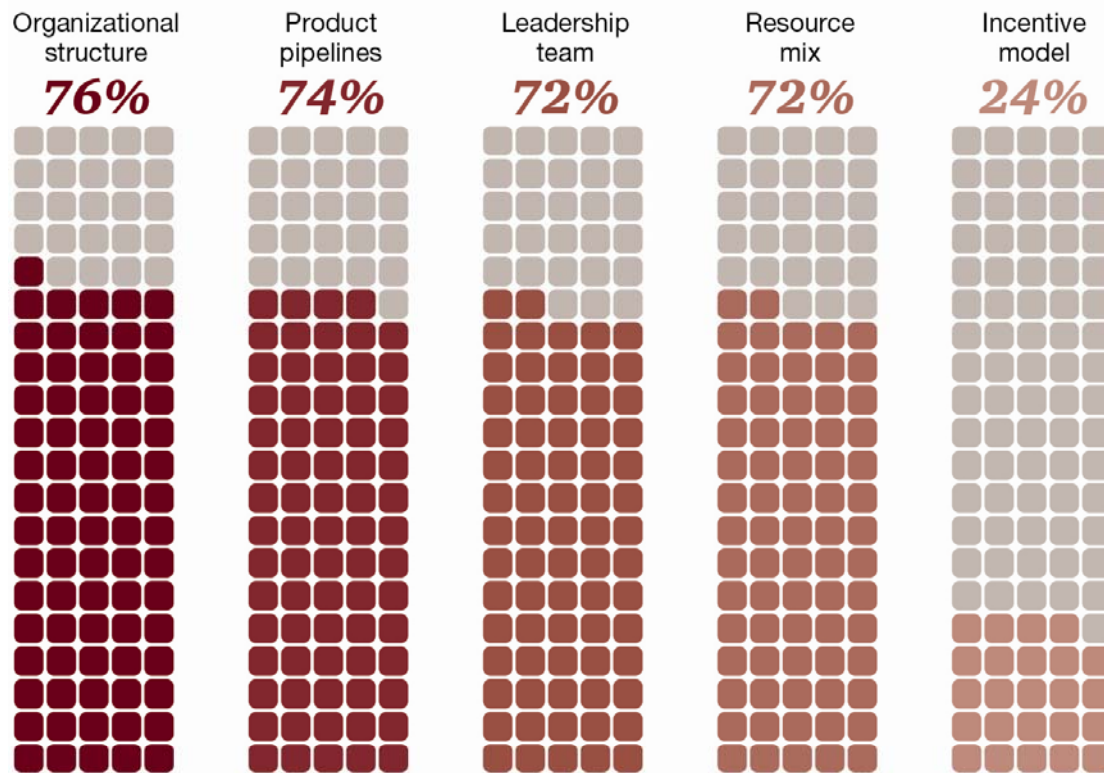
Figure 5: Examples of non-financial and financial incentives for the scientific workforce.



Source: Health Research Institute

Changes to R&D models have major effects on organizational structure, leadership, and other aspects of human capital.

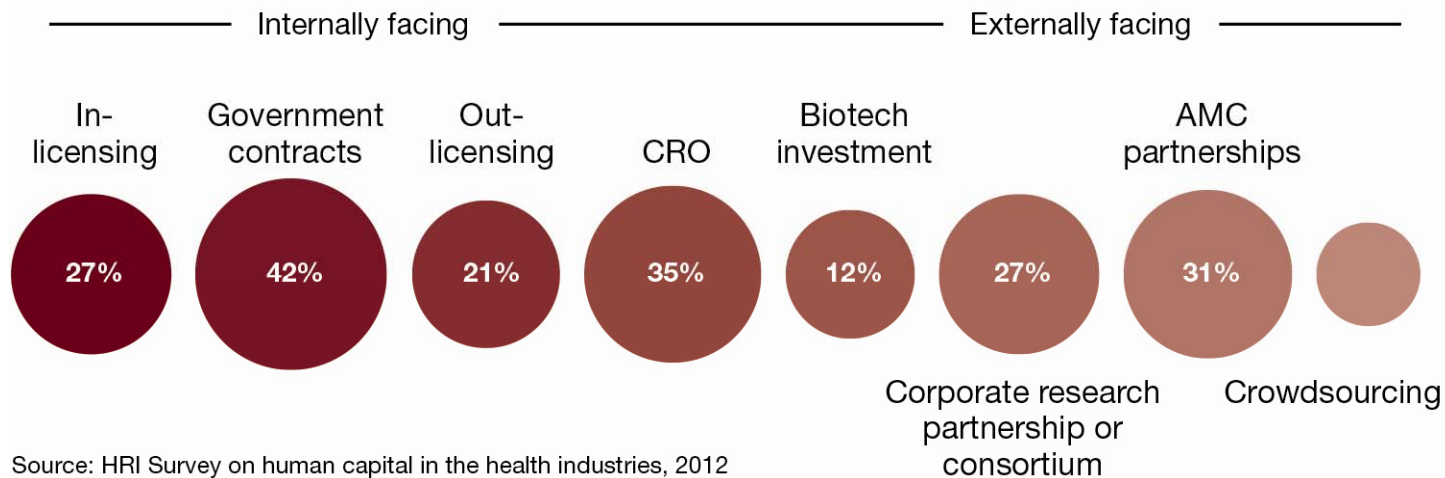
Figure 6: Proportion of leaders saying their company made the following specific changes as a result of a change to their R&D model.



Source: HRI Survey on human capital in the health industries, 2012

Companies are shifting R&D models to be more externally focused with shared costs and risk.

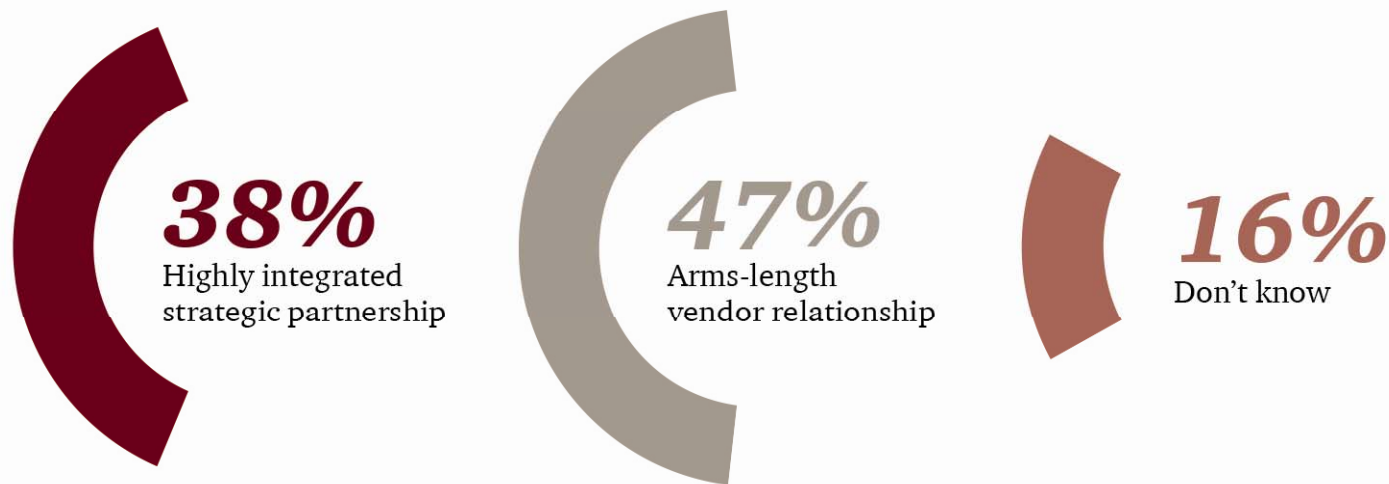
Figure 7: Medical device and biopharmaceutical partnerships, % responding they have one of the following partnerships in place.



Source: HRI Survey on human capital in the health industries, 2012

Today the quality and complexity of CRO work and research capabilities are increasing in response to changes in the industry.

Figure 8: Respondents characterize the relationship they have with CROs in two distinct ways.



Source: HRI Survey on human capital in the health industries, 2012

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