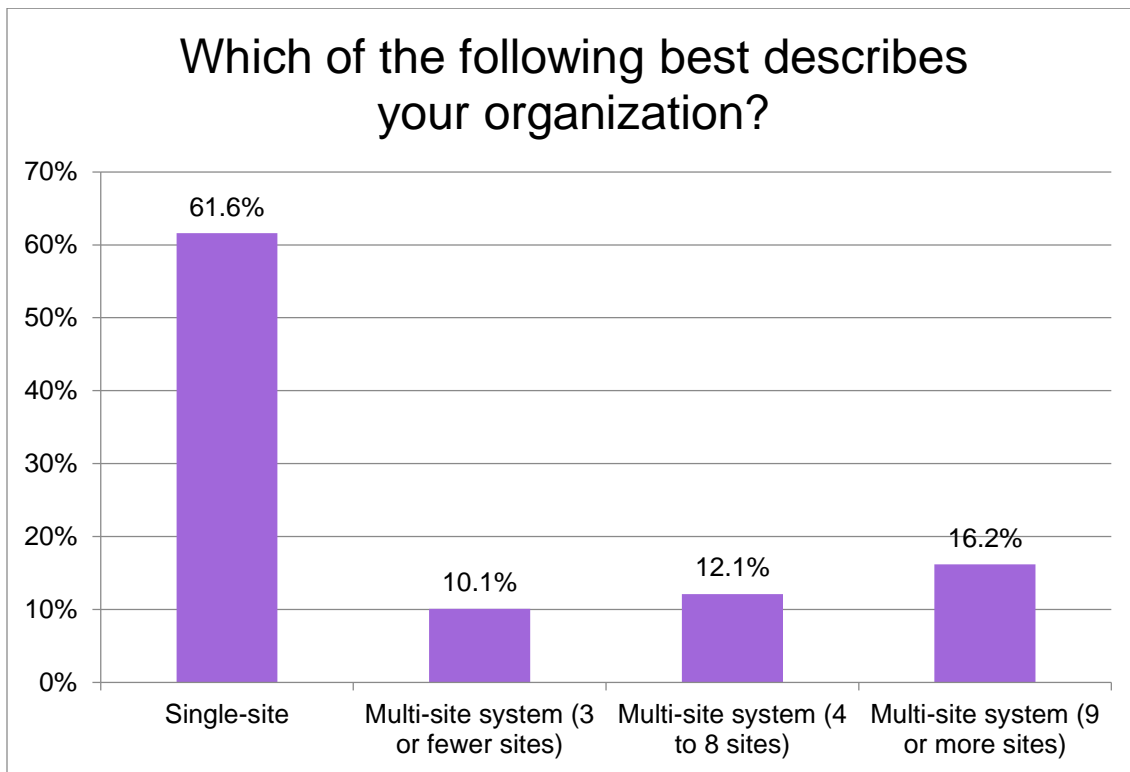


TECHNOLOGY SPENDING

ZIEGLER CFO HOTLINESM

In December 2018, a *Ziegler CFO HotlineSM* survey gathered feedback on technology spending among senior living organizations. This particular study, conducted with input from LeadingAge CAST, revisits polls from 2016, 2014 and 2012 devoted to the same topic.

Exactly 100 Chief Financial Officers (CFOs) and financial professionals participated in this year’s survey, with a larger proportion of single-site organizations than multi-sites. Specifically, 62% were from single-site organizations and 38% of respondents represented multi-site providers. It should be noted that the actual number of respondents varied for each survey category.



The initial section of the survey listed a variety of different technologies that are applicable to senior living providers and related healthcare organizations. Respondents were asked to identify which of the technologies they invested in over the past 12 months, as well as whether they planned to invest in them in the next 12 months.

The technology that most providers invested in over the past year was ICT Infrastructures (wireless, etc.). Nearly three quarters (74.0%) of providers reported investing in ICT in the past 12 months. More than 40% of the respondents invested in the following technologies in the past year:

- Electronic Health/Medical Records (53.0%)
- Workforce/Staffing Scheduling Systems (48.0%)

- Resident/Client Access to the Internet and Social Networking Sites (43.0%)
- Electronic Point of Care/Point of Service Documentation (42.0%)

Organizations were least likely to have invested in Health Information Exchange Solutions (13.0%), Activity Monitoring (13.0%), Automatic Fall Detectors (10.0%), and Shared Care Planning Tools (5.0%).

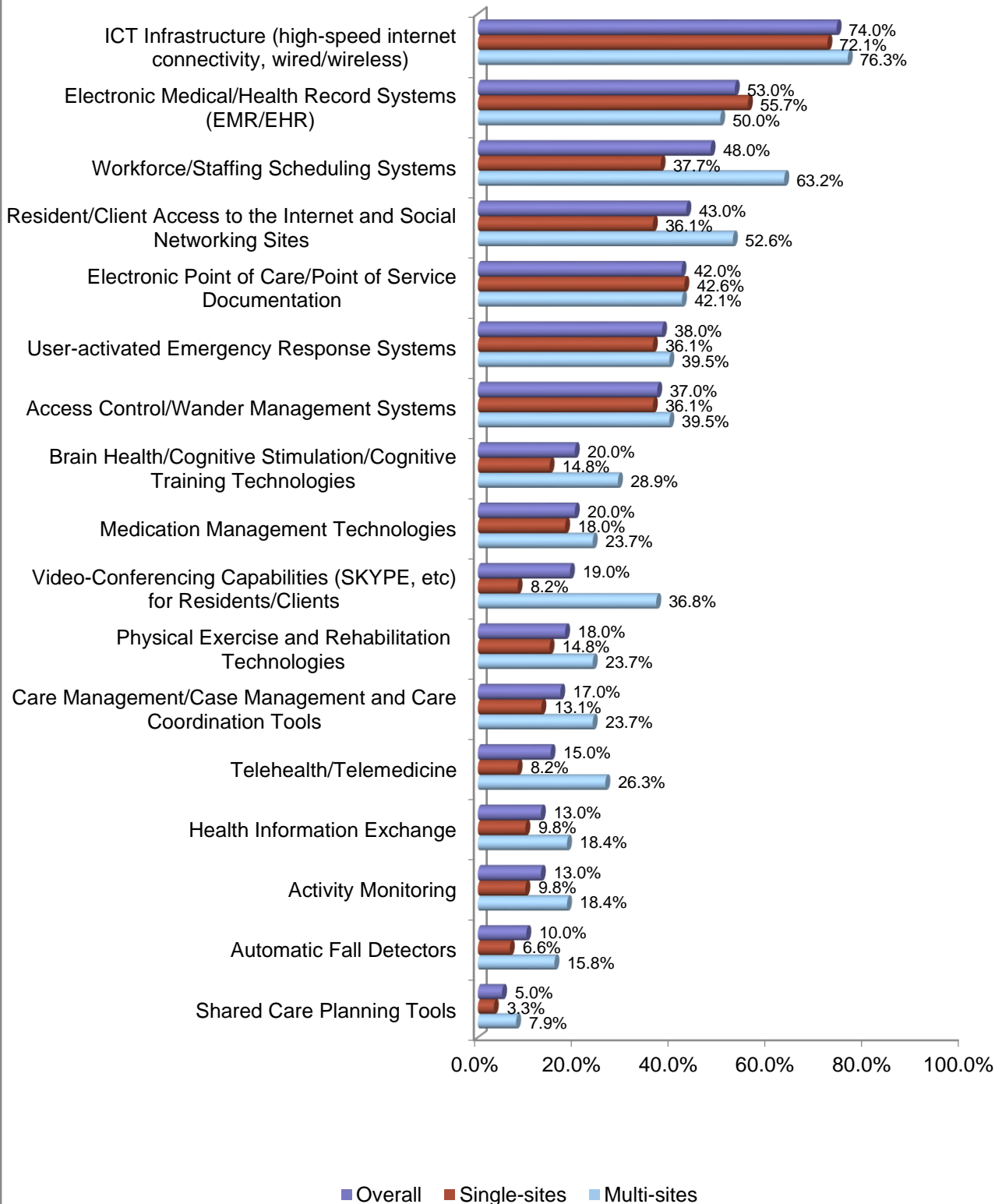
The results also show that in all but two cases (EMR/EHR and Electronic Point of Care/Service Documentation), the multi-site organizations were more likely to have invested in a particular technology in the past year compared to single-site organizations. In some cases multi-site organizations were as much as three times more likely (or more) than single sites to have invested in a particular technology, such as Brain Health/Cognitive Stimulation/Cognitive Training Technologies, Video-Conferencing Capabilities for Residents, and Telehealth/Telemedicine.

Fifteen percent of respondents mentioned spending or planning to spend on other technologies, outside of the pre-defined categories on the survey. Responses included:

- Resident Engagement portal
- Electronic Communication Platform
- New payroll software; looking at changing EMR/EHR system
- EarlySense Biometric & bed exit; CHF Vest
- Upgrade in Dining Platform utilizing Micros for front of the house and GEM living for back office.
- Upgraded Server and Desktop OS; New Microsoft Office suite.
- Accounting; Census/billing
- Moving all staff to Office 365. Adding new SD WAN for redundancy.
- Document management and contract and policy management.
- TV and Phone infrastructure; Security cameras and emergency alerting (i.e. fire detection); Operational excellence (work order management)
- Human Resources Information System
- Phishing/virus attack expanded protection
- Telephony

The graph below shows the overall responses for spending in the past 12 months, as well as a breakout by type of organization.

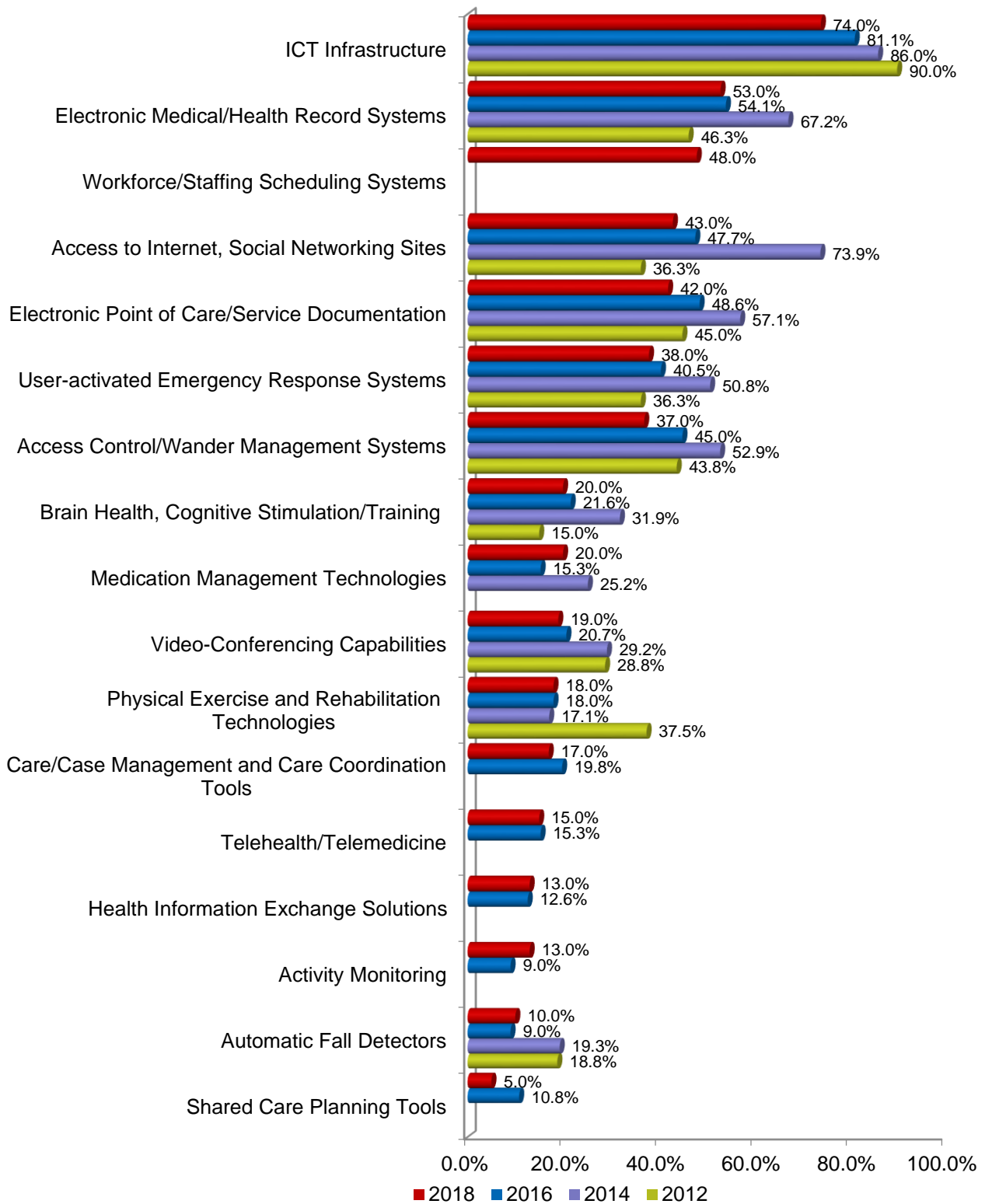
Investments in Technologies in Past 12 Months



The graph below shows comparisons to the 2016, 2014 and 2012 *Ziegler CFO HotlineSM* studies on technology spending. New to the current year's survey is Workforce/Staffing Scheduling Systems, thus no comparative data is available; in 2016 new categories were Activity Monitoring, Telehealth/Telemedicine, Shared Care Planning Tools, Care Management/Case Management and Care Coordination Tools, and Health Information Exchange Solutions; Medication Management Technologies was new in 2014.

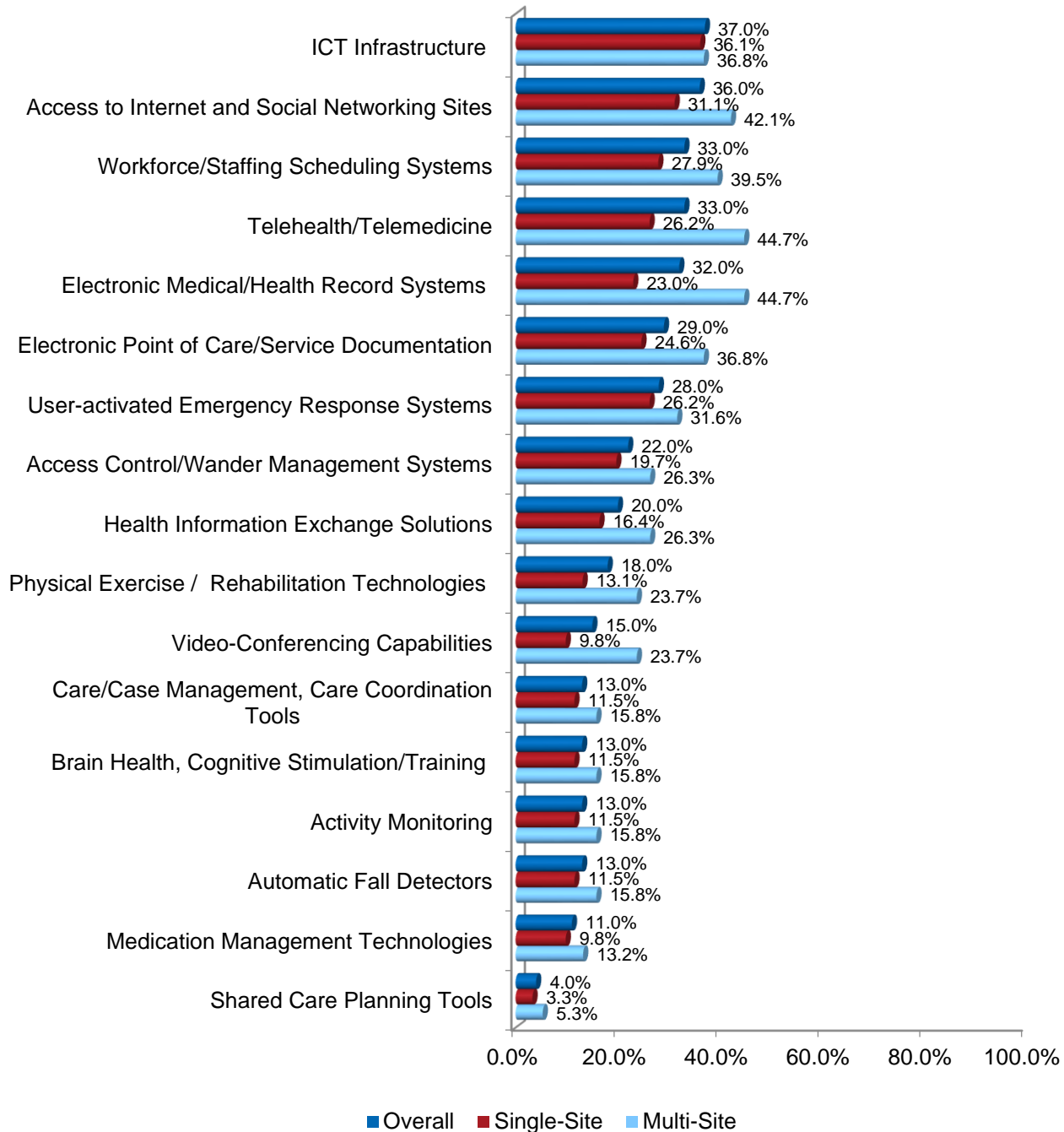
The percentages associated with the technologies have varied, and categories have been added since our original 2012 Survey. However, many technologies have retained steady rankings through the years, with ICT Infrastructure topping all four surveys, and Electronic Medical/Health Record Systems (EMR/EHR), and Electronic Point of Care/Point of Service consistently in the top five. Automatic Fall Detectors, on the other hand, has ranked at or near the bottom since 2012.

Investments in Technologies in Past 12 Months



The survey also asked about future spending. Specifically, the respondents were asked to specify whether they plan to invest in various technologies in the year ahead. The graph below details the responses, including breakouts for multi-site and single-site data.

Investments in Technologies in Next 12 Months



Survey respondents were asked to identify what percentage of their capital and operating budgets were devoted to these technologies in the past 12 months. The table below shows the average and median figures for the capital and operating budgets, respectively. In general, providers are budgeting about 3% to 3.5% in their total operating budgets, with single-sites budgeting a higher percentage than multi-site providers.

	Percentage of total <u>Capital</u> Budget devoted to technologies			Percentage of total <u>Operating</u> Budget devoted to technologies		
	2018	2016	2014	2018	2016	2014
Average percent (TOTAL)	10.0%	11.8%	12.2%	3.2%	2.5%	2.7%
Median percent (TOTAL)	7.0%	7.0%	9.5%	2.0%	2.0%	2.0%
Average percent (Single-sites)	10.4%	11.7%	12.1%	3.5%	2.4%	2.5%
Median percent (Single-sites)	7.0%	7.0%	10.0%	2.0%	2.0%	2.0%
Average percent (Multi-sites)	9.7%	11.8%	12.2%	2.8%	2.6%	2.9%
Median percent (Multi-sites)	5.0%	7.0%	8.0%	2.0%	2.0%	2.0%

A similar set of questions were asked of those who reported offering home and community-based services. The table below displays the results from those questions, along with comparisons to 2016 and 2014; 2016 figures are slightly above 2014 for HCBS spending. Due to the lower number of respondents, the results are not broken out by multi-site and single-site providers. The median at zero percent in 2014 reveals that a large proportion of organizations who offer home and community-based services did not budget any funds for technology investments in the past 12 months.

	Percentage of total <u>Capital</u> Budget devoted to technologies for HCBS			Percentage of total <u>Operating</u> Budget devoted to technologies for HCBS		
	2018	2016	2014	2018	2016	2014
Average percent (TOTAL)	2.0%	2.4%	1.6%	2.9%	1.5%	1.2%
Median percent (TOTAL)	1%	1.0%	0%	1%	1.0%	0%

Those who did invest funds in technologies for home and community-based services were more likely to invest in an upgrade for or expansion of an existing operation or program.

A similar set of questions were asked regarding technological investments in bricks and mortar assets (buildings, etc.).

	Percentage of total <u>Capital</u> Budget devoted to campus/building/facilities			Percentage of total <u>Operating</u> Budget devoted to campus/building/facilities		
	2018	2016 ¹	2014	2018	2016	2014

Average percent (TOTAL)	12.0%	6.9%	13.4%	4.5%	2.1%	3.8%
Median percent (TOTAL)	6.0%	5.0%	7.0%	2.0%	2.0%	1.8%

Lastly, the survey allowed for open-ended comments to be made. Below is a sampling of those comments:

- *We invested heavily in previous years. Now it's more a matter of maintaining and best utilizing what we have, replacing/upgrading where necessary.*
- *Emphasis in 2019 planned to implement electronic chart, ADL capture, and upgrade desktop devices from Citrix/thin clients to full PC's to access web-based technologies.*
- *Expansion is through partnerships, not additional spending.*
- *Increase in Business Analytics and Pilot Programs*
- *Spend about 3% of operating expenses (excludes int.) on all technologies.*
- *Constant challenge to keep with the latest technology. Once a new device or software is introduced, then we have to budget for future replacements and upgrades.*
- *We will be updating our server on the cloud in the next 12 months. Built into monthly fee. Also, we will be replacing network switch hardware in next 12 months*
- *Our capital and operating technology spending is increasing year by year.*
- *Our HCBS IT is included in our overall facility*
- *The need to meet compliance with regulations has driven an increase in spending but has impacted funding that would have traditionally been prioritized for innovation and satisfaction.*
- *We are very small with no Medicare or Medicaid programs*

The senior living organizations' responses included in this report have been collated without verification of the accuracy of the data/comments therein. The results provided do not express an opinion of nor can they be guaranteed by Ziegler.

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