

In December 2016, 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 2014 and 2012 devoted to the same topic.

Nearly 115 Chief Financial Officers (CFOs) participated in this year's survey, with a larger proportion of single-site organizations than multi-sites. Specifically, 65% were CFOs from single-site organizations and 35% 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.). Eighty-one percent (81%) of providers reported investing in ICT in the past 12 months. At least 40% of the respondents invested in the following technologies in the past year:

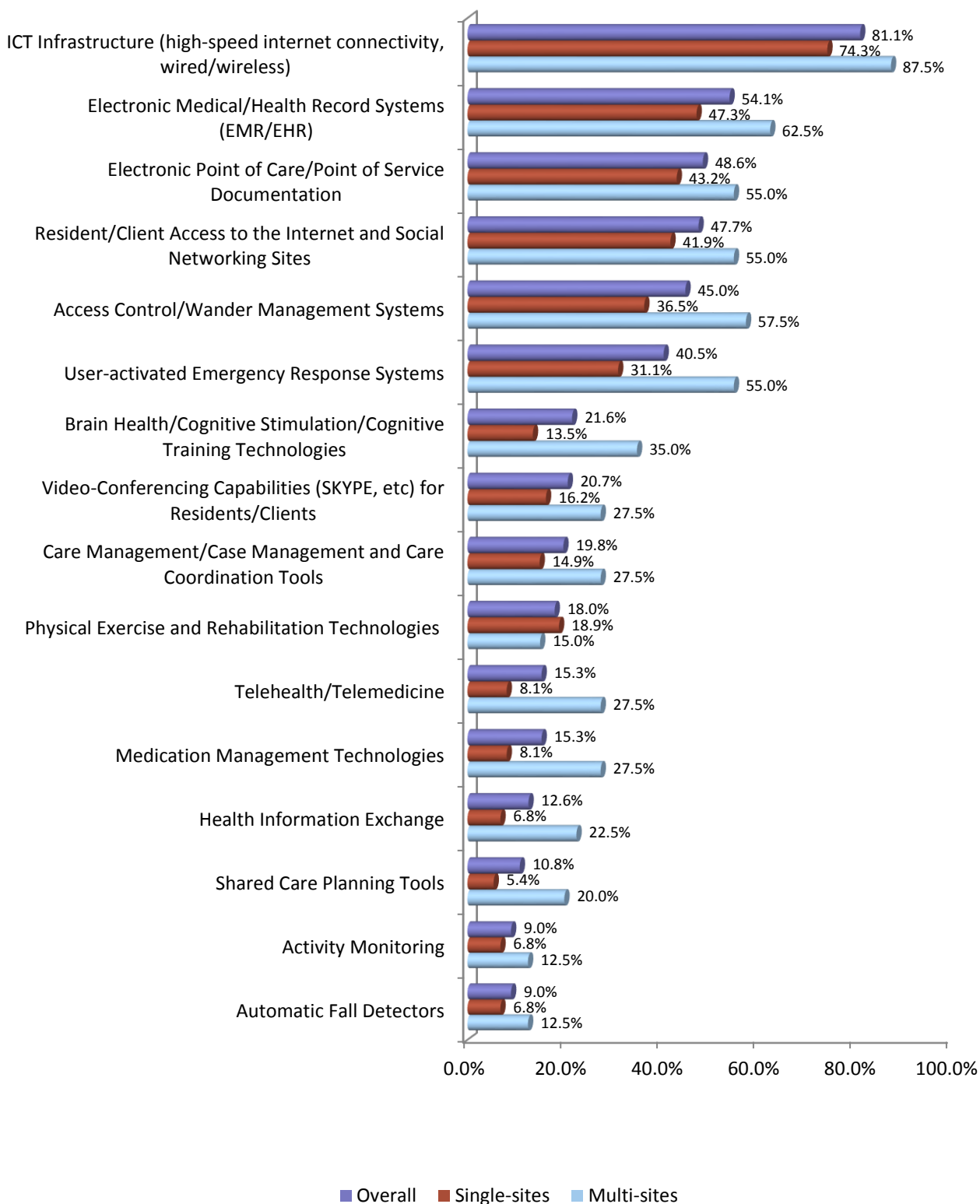
- Electronic Health/Medical Records (54.1%)
- Electronic Point of Care/Point of Service Technologies (48.6%)
- Resident/Client Access to the Internet (47.7%)
- Access Control/Wander Management Systems (45.0%)
- User-Activated Emergency Response Systems (40.5%)

Organizations were least likely to have purchased Activity Monitoring Technologies (9%), Automatic Fall Detectors (9%), and Shared Care Planning Tools (10.8%).

The results also show that in all but one case (Physical Exercise and Rehabilitation Technologies), 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 Health Information Exchange, Shared Care Planning Tools, Telehealth/Telemedicine, and Medication Management Technologies.

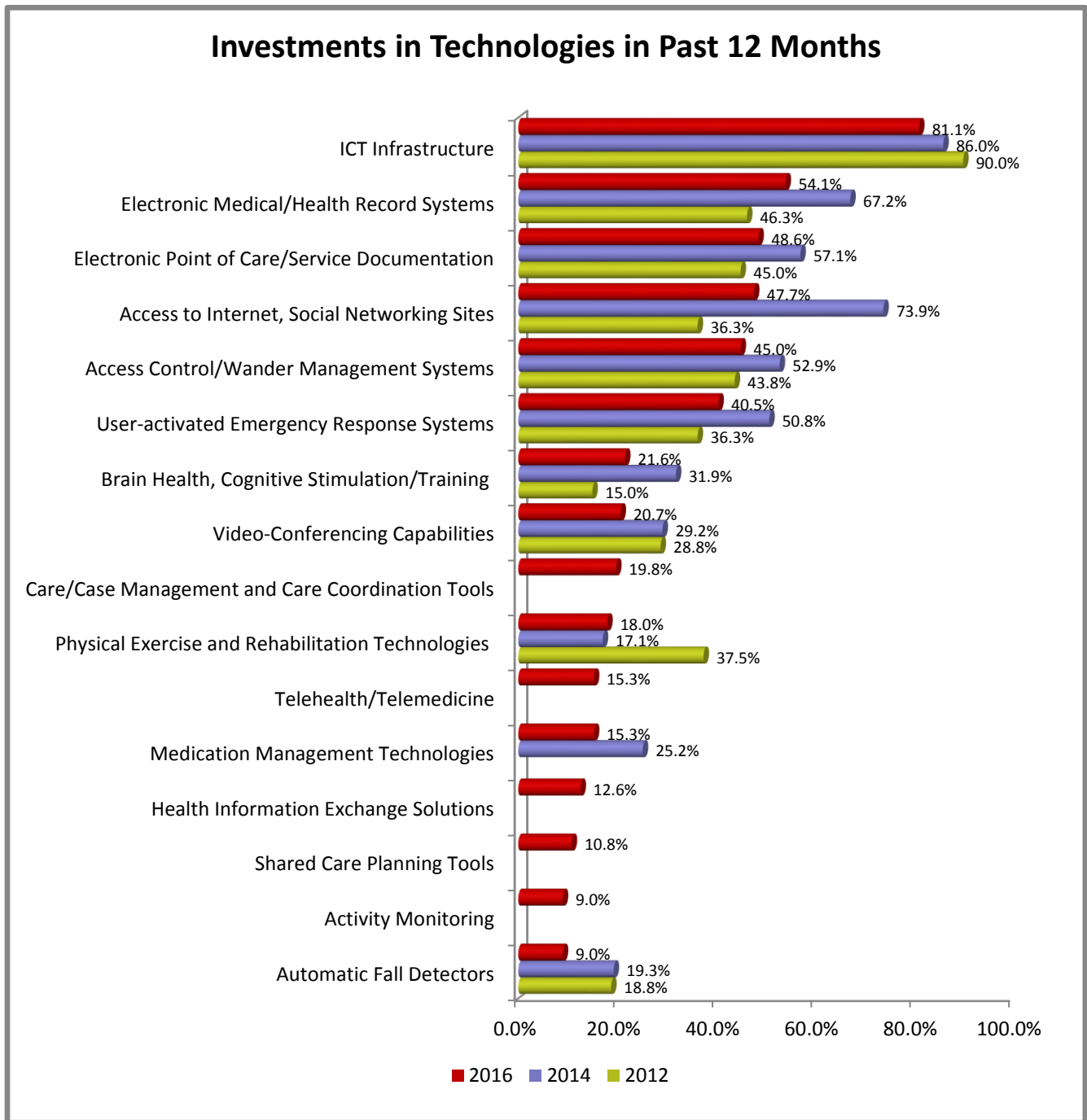
The graph below shows the overall responses for spending in the past 12 months, as well as a breakout by type of organization.

Investments in Technologies in Past 12 Months



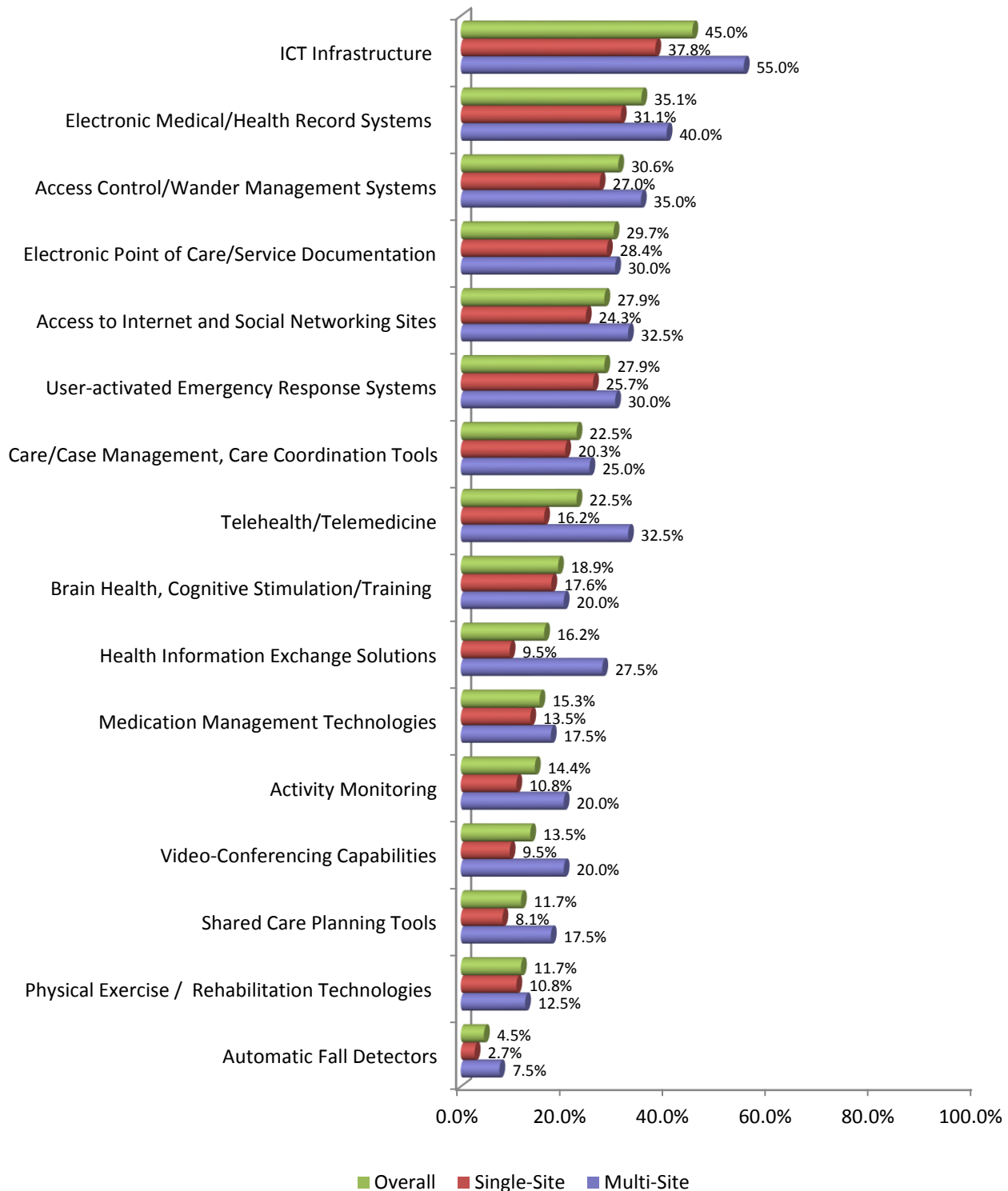
The graph below shows comparisons to the 2014 and 2012 *Ziegler CFO Hotline*SM studies on technology spending. New this year are Activity Monitoring, Telehealth/Telemedicine, Shared Care Planning Tools, Care Management/Case Management and Care Coordination Tools, and Health Information Exchange Solutions so no comparative data is available; 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 three surveys, and Electronic Medical/Health Record Systems (EMR/EHR), Electronic Point of Care/Point of Service, and Access Control/Wander Management consistently in the top five. Automatic Fall Detectors, on the other hand, has ranked at or near the bottom since 2012.



The first question 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 between 2%-3% in their total operating budgets, with multi-sites budgeting a slightly higher percentage than single-site providers.

	Percentage of total <u>Capital</u> Budget devoted to technologies		Percentage of total <u>Operating</u> Budget devoted to technologies	
	<u>2016</u>	<u>2014</u>	<u>2016</u>	<u>2014</u>
Average percent (TOTAL)	11.8%	12.2%	2.5%	2.7%
Median percent (TOTAL)	7.0%	9.5%	2.0%	2.0%
Average percent (Single-sites)	11.7%	12.1%	2.4%	2.5%
Median percent (Single-sites)	7.0%	10.0%	2.0%	2.0%
Average percent (Multi-sites)	11.8%	12.2%	2.6%	2.9%
Median percent (Multi-sites)	7.0%	8.0%	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 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	
	<u>2016</u>	<u>2014</u>	<u>2016</u>	<u>2014</u>
Average percent (TOTAL)	2.4%	1.6%	1.5%	1.2%
Median percent (TOTAL)	1.0%	0%	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 an existing operation or program.

A similar set of questions were asked regarding technological investments in bricks and mortar assets (buildings, etc.). The table below displays the results from those questions. Again, the results were not broken out by provider type due to a lower response set.

	Percentage of total <u>Capital</u> Budget devoted to campus/building/facilities		Percentage of total <u>Operating</u> Budget devoted to campus/building/facilities	
	<u>2016*</u>	<u>2014</u>	<u>2016*</u>	<u>2014</u>
Average percent (TOTAL)	6.9%	13.4%	2.1%	3.8%

* Responses to this question included a number of outliers. Outliers were removed prior to calculating percentages to increase the reliability of the data, but this reduced the number of valid responses. Data is based on 75 responses.

Median percent (<i>TOTAL</i>)	5.0%	7.0%	2.0%	1.8%
---------------------------------	------	------	------	------

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

- *We have made great strides over the past two years in investing in infrastructure improvements in order to get ourselves to a place where we can consider implementing some of the other health technologies. It is an area that was not given priority in the past and now is very much an area we are strategically planning around.*
- *We are planning to make significant capital and operating investments in our basic infrastructure during the next three years, bringing in-house all IT functions.*
- *A lot of our capital investment in technology is done at the level of our total integrated Health System that includes the full continuum of care. Expenses are allocated to each program as overhead with depreciation spreading capital costs over time--so included in operating budgets.*
- *Our facility has invested in almost all of the technology discussed in the survey, however, we did so over 12 months ago. Two years ago 85%+ of our capital budget was spent on technology upgrades.*
- *Wireless and data infrastructure largely complete. Campus/Building/Facilities investment almost entirely capitalized; staff comprising largest portion of operational costs related to Technology.*
- *Many of our heavy capital investment was done in the past. Now we're focusing on recurring operating costs and costs such as HIPAA penetration testing and things that may be done every few years.*
- *Installing campus wide WiFi in the next 12 months, installing a new emergency response call light system in the next 12 months as well as an e-script module in our EHR software as per NYS regulation. 35% is high for our organization, however, the nurse call system technology is a major undertaking. An average capital spend will typically be below 10%.*
- *The past 24 months has seen a dramatic increase in technology investment. From a capital perspective this is not likely to continue however from an operating perspective it is anticipated to increase over the next 24 months and beyond.*
- *We plan to build 45 bed Assisted Living 2 facility in the next 12 months and plan for it to be state of the art from a technology viewpoint. A real chance to be cutting edge in our market space.*

If you have a question, comment, or suggestion for the Ziegler CFO HotlineSM, or if there is a particular response above for which you would be interested in having additional information, please let us know using the contact info below.

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.

PREPARED BY:

LISA MCCRACKEN

Senior Vice President
Senior Living Research & Development
Ziegler
Investment Banking | Senior Living
Direct: 312.705.7253
Toll free: 800.366.8899 e-mail address: lmccracken@ziegler.com