MICI Overview

Why was MICI created?

The MarkeTech Group and AHRA collaborated on the creation of MICI based on the belief that measuring the confidence of US medical imaging administrators on a regular basis would provide a valuable index for those having an interest in this industry.

The MICI panel consists of a select group of imagePRO™ panel members from around the U.S. representing different hospital sizes and geographic locations to capture a true “industry outlook”: how imaging administrators see the future of medical imaging in regard to revenues, costs, purchasing, and growth.

This exciting initiative captures the “mood” of imaging administrators on a quarterly basis regarding the state of medical imaging in the U.S. It also provides a unique statistical index that is likely to attract a lot of attention from those following this industry.

What is imagePRO™ and why is it important?

imagePRO™ was created by The MarkeTech Group to provide a professional community for imaging administrators to participate in studies aimed at advancing the development of medical imaging technology.

The imagePRO™ panel is a true community of industry professionals and is the leading opt-in panel of this industry. Members are subjected to strict enrollment requirements to represent the voice of their peers and to be part of a group of professionals whose knowledge and input is important.
166 imaging directors/managers of hospitals completed the 3-minute Web survey regarding their perception of medical imaging trends for the second quarter of 2018.

Scores measure the level of confidence, and range between 0 to 200. The score interpretation follows:
- Below 50 is extremely low confidence
- 50 to 69 is very low confidence
- 70 to 89 is low confidence
- 90 to 110 reflect an ambivalent score (Neutral)
- 111 to 130 is high confidence
- 131 to 150 is very high confidence
- Anything above 150 is extremely high confidence

Hospital bed size:
- 45% Under 100
- 36% 100-299
- 19% 300 or more
Index Methodology

**Results**
are reflective of national trends because of the manner in which participants were invited to participate.

- Participants were recruited by region and number of beds to reflect known AHA incidence.

- Once the final counts were confirmed there were some statistical adjustment—weighting—to ensure the index reflects the U.S. hospital imaging market. This type of adjustment is common when estimating overall market share, trends, and attitudes.

**Recruitment**
accounts for about 90% of correct hospitals and regions to reflect the U.S. hospital market.

- While relatively minor in magnitude, the weighting accounts for the final 10% to refine the estimates and ensure they represent the U.S. hospital market.

- This refinement is necessary to create an index that truly represents how radiology departments view the economic outlook for the current quarter and will ensure that subsequent MICI results are valid.
Index Methodology

Regions

- Pacific: 10%
- Mountain: 5%
- West South Central: 13%
- Mid-Atlantic: 13%
- South Atlantic: 14%
- East South Central: 6%
- East North Central: 22%
- West North Central: 17%
Results for Q2 2018
Staff costs to remain constant, growth in volume and profit

<table>
<thead>
<tr>
<th>Topic</th>
<th>Score Mean</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Will grow monthly in diagnostic and interventional radiology</td>
<td>120</td>
<td>High confidence</td>
</tr>
<tr>
<td>Receive adequate reimbursement from Medicare for diagnostic and interventional imaging</td>
<td>81</td>
<td>Low confidence</td>
</tr>
<tr>
<td>Internal operating and staff costs will remain constant</td>
<td>131</td>
<td>Very high confidence</td>
</tr>
<tr>
<td>Will have access to capital for imaging equipment and IT needs</td>
<td>102</td>
<td>Neutral</td>
</tr>
<tr>
<td>Will maintain/grow as a profit center</td>
<td>129</td>
<td>High confidence</td>
</tr>
<tr>
<td>Composite score across all areas</td>
<td>112</td>
<td>Neutral</td>
</tr>
</tbody>
</table>

There is concern about receiving adequate reimbursement from Medicare.
Hospitals with **100 or more beds are more confident** that growth in diagnostic / interventional radiology and as a profit center will occur.

<table>
<thead>
<tr>
<th>Topic</th>
<th>Score Mean</th>
<th>Under 100 beds</th>
<th>100 to 299 beds</th>
<th>300 or more beds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Will grow monthly in diagnostic and interventional radiology</td>
<td></td>
<td>109</td>
<td>129</td>
<td>127</td>
</tr>
<tr>
<td>Receive adequate reimbursement from Medicare for diagnostic and interventional imaging</td>
<td></td>
<td>80</td>
<td>83</td>
<td>83</td>
</tr>
<tr>
<td>Internal operating and staff costs will remain constant</td>
<td></td>
<td>140</td>
<td>129</td>
<td>116</td>
</tr>
<tr>
<td>Will have access to capital for imaging equipment and IT needs</td>
<td></td>
<td>96</td>
<td>105</td>
<td>111</td>
</tr>
<tr>
<td>Will maintain/grow as a profit center</td>
<td></td>
<td>116</td>
<td>140</td>
<td>137</td>
</tr>
<tr>
<td>Composite score across all areas</td>
<td></td>
<td>107</td>
<td>116</td>
<td>114</td>
</tr>
</tbody>
</table>
Regional differences: although not statistically different, Mountain seem to be different.

**Mid-Atlantic, North Central, and Mountain regions** have at least **very high confidence** that internal operating and staff costs will remain constant.

**Mountain region** has **very high confidence** in growth in diagnostic / interventional radiology.

**South Atlantic, East North Central, and Mountain regions** have at least **very high confidence** in growing as a profit center.

<table>
<thead>
<tr>
<th>Topic</th>
<th>Score Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mid-Atlantic</td>
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<tr>
<td>Will grow monthly in diagnostic and interventional radiology</td>
<td>117</td>
</tr>
<tr>
<td>Receive adequate reimbursement from Medicare for diagnostic and interventional imaging</td>
<td>68</td>
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<tr>
<td>Internal operating and staff costs will remain constant</td>
<td>134</td>
</tr>
<tr>
<td>Will have access to capital for imaging equipment and IT needs</td>
<td>107</td>
</tr>
<tr>
<td>Will maintain/grow as a profit center</td>
<td>120</td>
</tr>
<tr>
<td>Composite score across all areas</td>
<td><strong>109</strong></td>
</tr>
</tbody>
</table>
Summary

1. There is **high confidence** in the growth of diagnostic and interventional radiology, staff costs remaining constant, and facility growing as a profit center.

2. There is **concern** about receiving adequate reimbursement from Medicare.

3. Hospitals with 100 or more beds are **more confident** in growth of diagnostic/interventional radiology and growth as a profit center.

4. Mid-Atlantic, North Central, and Mountain regions have at least **very high confidence** that internal operating and staff costs will remain constant. South Atlantic, East North Central, and Mountain regions have at least **very high confidence** in growing as a profit center. Mountain region has **very high confidence** in growth in diagnostic/interventional radiology.

5. Mid-Atlantic, Mountain, and Pacific regions have **very low confidence**; while the South Atlantic and South Central regions have **low confidence** about receiving adequate reimbursement from Medicare. The West Central and Pacific regions have **low confidence** in access to capital for equipment.
Q2-2018 Member comments about the outlook

Study volume increase / planned growth:
- Current imaging procedures continue to rise for us, I don’t see any big changes in healthcare coming in the next three months.
- We see all positive economic signs and feel that people will start to have more screening exams as well as elective surgeries, which translates to more imaging exams.
- Volumes have increased over the winter, with the flu epidemic. I hope the trend will continue through the spring.
- The imaging volume is exceeding budget YTD for all patient types.
- We are in a growth mode but most of the funds are going into different businesses such as Urgent centers and physicians’ practices. As those businesses grab patients our imaging and lab should expand to meet the added demand.
- Expect staffing and operational cost to increase. Interventional radiology will be expanding but not until late August. Significant investment in imaging IT is being made at this time.

Uncertainty / complaints about healthcare policy and reimbursement:
- Reimbursement is down, while expenses are increasing. I have seen a decline in volume in several modalities that we have never experienced.
- Maryland is a waiver state and the reimbursement is capped--global budget reimbursement.
- The fight with insurance continues to get more difficult for imaging. Preauthorization takes a tremendous amount of resources from the hospital for advanced imaging. We continue to do everything we can to make the process for the ordering physician a path of least resistance. If it becomes an issue ordering physicians will look for alternatives. Very frustrating.
- The uncertainty of what the Federal government will do with health care and the reimbursements in general from private and government sponsored insurances.
- As a strategic and cost savings measure, there will be integration between Cath Lab and Interventional Radiology. This strategy will reduce operating costs, improve resource utilization and provide for multiple operational efficiencies.
- Small rural hospital. Volumes are trending down. Costs are being managed to do the same. We think the higher deductibles are causing people to limit their health care use...over staffing is an issue with several individuals being sent home every day.
- We are seeing some impact from clinical decision support that appears to be shifting some volumes between modalities. Not enough data yet to fully understand, but it may be shifting some higher revenue studies to some lower revenue studies. Will continue to monitor.
- Money is tight, DSH payments are slow coming this year changing the entire perspective on operating income. The California OSHPD related costs significantly inflate the cost to upgrade capital equipment in Imaging and other departments.
Quarter-to-Quarter analysis

Results are now shown for Q3 2016 through Q2 2018.

- Comparisons are presented to show any trending of the data over a one year period.

Analyses are based on between group analysis of variance (ANOVA) where participant’s scores are compared over time to determine if changes occur.
Quarter-to-Quarter analysis
Q1-2018 through Q2-2018

No statistically significant differences in confidence for any of the MICI scores between Q1 2018 and Q2 2018.

<table>
<thead>
<tr>
<th>Topic</th>
<th>Score Mean</th>
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<tr>
<td></td>
<td>Q1 2018</td>
<td>Q2 2018</td>
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<tr>
<td>Will grow monthly in diagnostic and interventional radiology</td>
<td>120</td>
<td>120</td>
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<td>Will have access to capital for imaging equipment and IT needs</td>
<td>102</td>
<td>102</td>
<td></td>
</tr>
<tr>
<td>Will maintain/grow as a profit center</td>
<td>130</td>
<td>129</td>
<td></td>
</tr>
<tr>
<td><strong>Composite score across all areas</strong></td>
<td>113</td>
<td>112</td>
<td></td>
</tr>
</tbody>
</table>
Quarter-to-Quarter analysis
Q3-2016 through Q2-2018

Average MICI Scores

- Will grow monthly in diagnostic and interventional radiology
- Receive adequate reimbursement from Medicare for diagnostic and interventional imaging
- Internal operating and staff costs will remain constant
- Will have access to capital for imaging equipment and IT needs
- Will maintain/grow as a profit center
- Composite score across all areas

TRENDING:
Growth as a profit center has higher confidence in Q2 2018 compared to Q3 2016. No significant differences in all areas from Q1 2018 to Q2 2018.
Quarter-to-Quarter analysis
Q3-2017 through Q2-2018

For details on MICI scores by bed size – please click on underlined links, or go to Appendix B.
Quarter-to-Quarter analysis
Trend Summary

Overall: Higher confidence in growth as a profit center

Under 100 beds: No change in confidence

100 to 299 beds: No change in confidence

300 or more beds: No change in confidence

In aggregate, higher confidence in Q2 2018 compared to Q3 2016.

No changes in MICI between Q2 2018 and Q3 2016.

No changes in MICI between Q2 2018 and Q3 2016.

No changes in MICI between Q2 2018 and Q3 2016.
Appendix
Appendix: April to June 2018 results

APPENDIX A - Questionnaire

**Grow monthly in diagnostic and interventional imaging**
Over the next three months, I am very optimistic that our department:

**S1Q1.** will grow monthly study volumes in Diagnostic imaging modalities (X-ray, Ultrasound, MRI, CT and NM).

**S1Q2.** will grow monthly study volumes in Interventional imaging modalities (biopsy, angio cath lab, etc.).

**Receive adequate reimbursement from Medicare for diagnostic and interventional imaging**
Over the next three months, I am very optimistic that our department:

**S1Q3.** will receive adequate reimbursement from Medicare for Diagnostic imaging studies.

**S1Q4.** will receive adequate reimbursement from Medicare for Interventional imaging procedures.

**Internal operating and staff costs will remain constant**
Over the next three months, I am very optimistic that the imaging department:

**S2Q1.** internal operating expenses (not including staff costs) will remain constant.

**S2Q2.** internal staff costs will remain constant.
APPENDIX A - Questionnaire

**Will have access to capital for imaging equipment and IT needs**
Over the next three months, I am very optimistic that our department:

**S3Q1.** will have access to capital/credit to fund investments in new imaging equipment and the costs associated with Imaging capital projects (e.g. siting & construction costs).

**S3Q2.** will have access to capital/credit to fund investments in areas outside of imaging equipment, such as PACS, RIS, or other imaging-related IT needs.

**S3Q3.** will have access to capital/credit to fund investment in imaging facility expansion, if desired.

**Will grow as a profit center**
Over the next three months, I am very optimistic that our department:

**S4Q1.** will continue to maintain/grow Diagnostic imaging services as a profit center.

**S4Q2.** will continue to maintain/grow Interventional imaging services as a profit center.
Appendix: Q3-2016 through Q2-2018 results

APPENDIX B

Graphs are presented by number of beds to show MICI for all quarters.

Interpretation is by number of beds—any changes across quarters are identified as being significant.

If no changes are identified then differences that might appear are due to random fluctuation in responses over time and should not be considered real.
Appendix: Under 100 beds
Q3-2016 through Q2-2018 results

Under 100 beds: No changes in MICI between MICI Q2 2018 and Q3 2016. No changes between Q2 2018 and Q1 2018.
Appendix: 100 to 299 beds
Q3-2016 through Q2-2018 results

Will grow monthly in diagnostic and interventional radiology
Receive adequate reimbursement from Medicare for diagnostic and interventional imaging
Internal operating and staff costs will remain constant
Will have access to capital for imaging equipment and IT needs
Will maintain/grow as a profit center
Composite score across all areas

100 to 299 beds: No changes in MICI between MICI Q2 2018 and Q3 2016. No changes between Q2 2018 and Q1 2018.
Appendix: 300 or more beds
Q3-2016 through Q2-2018 results

300 or more beds: No changes in MICI between MICI Q2 2018 and Q3 2016. No changes between Q2 2018 and Q1 2018.

Hospital bed size: 300 or more beds

- Will grow monthly in diagnostic and interventional radiology
- Receive adequate reimbursement from Medicare for diagnostic and interventional imaging
- Internal operating and staff costs will remain constant
- Will have access to capital for imaging equipment and IT needs
- Will maintain/grow as a profit center
- Composite score across all areas
Appendix: Growth in diagnostic/interventional cardiology; Q3-2016 through Q2-2018 results

Will grow monthly in diagnostic and interventional radiology: Hospital bed size

Back to Hospital bed size summary
Appendix: Receive adequate reimbursement Q3-2016 through Q2-2018 results

Receive adequate reimbursement from Medicare for diagnostic and interventional imaging: Hospital bed size

<table>
<thead>
<tr>
<th>Quarter</th>
<th>2016</th>
<th>2017</th>
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</thead>
<tbody>
<tr>
<td>Under 100 beds</td>
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<td>100 to 299 beds</td>
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<tr>
<td>300 or more beds</td>
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Back to Hospital bed size summary
Appendix: Operating and staff cost Q3-2016 through Q2-2018 results

<table>
<thead>
<tr>
<th>Quarter</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>3rd Q</td>
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<td>130</td>
<td>125</td>
</tr>
<tr>
<td>4th Q</td>
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<td>135</td>
<td>130</td>
</tr>
<tr>
<td>1st Q</td>
<td>120</td>
<td>125</td>
<td>120</td>
</tr>
<tr>
<td>2nd Q</td>
<td>125</td>
<td>130</td>
<td>125</td>
</tr>
</tbody>
</table>

**Internal operating and staff costs will remain constant: Hospital bed size**

- Under 100 beds
- 100 to 299 beds
- 300 or more beds

Back to Hospital bed size summary
Appendix: Access to capital Q3-2016 through Q2-2018 results

Will have access to capital for imaging equipment and IT needs: Hospital bed size

Quarter
<table>
<thead>
<tr>
<th>Quarter</th>
<th>Under 100 beds</th>
<th>100 to 299 beds</th>
<th>300 or more beds</th>
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</thead>
<tbody>
<tr>
<td>3rd quarter 2016</td>
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<td>1st quarter 2017</td>
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<td>2nd quarter 2017</td>
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<tr>
<td>2nd quarter 2018</td>
<td></td>
<td></td>
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Back to Hospital bed size summary
Appendix: Growth as profit center Q3-2016 through Q2-2018 results

Will maintain/grow as a profit center: Hospital bed size

Quarter
Under 100 beds 100 to 299 beds 300 or more beds

Back to Hospital bed size summary