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.
150 imaging directors/managers of hospitals completed the 3-minute Web survey regarding their perception of medical imaging trends for the fourth quarter of 2016.

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
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 was 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: 9%
- Mountain: 7%
- West South Central: 13%
- Mid-Atlantic: 13%
- South Atlantic: 15%
- East South Central: 8%
- West North Central: 14%
- East North Central: 21%
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>115</td>
<td>High confidence</td>
</tr>
<tr>
<td>Receive adequate reimbursement from Medicare for diagnostic and interventional imaging</td>
<td>72</td>
<td>Low confidence</td>
</tr>
<tr>
<td>Internal operating and staff costs will remain constant</td>
<td>128</td>
<td>High confidence</td>
</tr>
<tr>
<td>Will have access to capital for imaging equipment and IT needs</td>
<td>93</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>106</td>
<td>Neutral</td>
</tr>
</tbody>
</table>

There is concern about receiving adequate reimbursement from Medicare.
Hospitals with **100 to 299 beds** are more confident that **growth in diagnostic / interventional radiology and as a profit center** will occur than hospitals with fewer than 100 beds.

<table>
<thead>
<tr>
<th>Topic</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>100</td>
<td><strong>129</strong></td>
<td>122</td>
</tr>
<tr>
<td>Receive adequate reimbursement from Medicare for diagnostic and interventional imaging</td>
<td>73</td>
<td>69</td>
<td>78</td>
</tr>
<tr>
<td>Internal operating and staff costs will remain constant</td>
<td>130</td>
<td>134</td>
<td>110</td>
</tr>
<tr>
<td>Will have access to capital for imaging equipment and IT needs</td>
<td>90</td>
<td>95</td>
<td>99</td>
</tr>
<tr>
<td><strong>Will maintain/grow as a profit center</strong></td>
<td><strong>117</strong></td>
<td><strong>144</strong></td>
<td>130</td>
</tr>
<tr>
<td>Composite score across all areas</td>
<td><strong>101</strong></td>
<td><strong>112</strong></td>
<td>107</td>
</tr>
</tbody>
</table>
Regional differences: While none of the differences are statistically significant

Mountain has **very high confidence** in the growth of diagnostic and interventional radiology.

East/West North Central and West South Central regions have **very high confidence** that internal operating and staff costs will remain constant.

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

The Mid-Atlantic, South Atlantic, and East South Central regions have **very low confidence**; while the East North Central, West North/South Central, and Pacific regions have **low confidence** about receiving adequate reimbursement from Medicare.

South Atlantic, East/West South Central, and Pacific regions have **low confidence** in access to capital for equipment.

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<tr>
<td>Will grow monthly in diagnostic and interventional radiology</td>
<td>102 126 113 108 101 124 132 113</td>
</tr>
<tr>
<td>Receive adequate reimbursement from Medicare for diagnostic and interventional imaging</td>
<td>57  68  77  82  65  73  90  70</td>
</tr>
<tr>
<td>Internal operating and staff costs will remain constant</td>
<td>105 127 134 144 130 138 110 118</td>
</tr>
<tr>
<td>Will have access to capital for imaging equipment and IT needs</td>
<td>99  87 113  95  73  86 100  72</td>
</tr>
<tr>
<td>Will maintain/grow as a profit center</td>
<td>115 128 140 126 107 137 150 126</td>
</tr>
<tr>
<td>Composite score across all areas</td>
<td>96  105 115 109  93 109 115  97</td>
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</table>
Summary

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

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

3. Hospitals with 100 to 299 beds are more confident in growth of diagnostic / interventional radiology and in growing as a profit center than hospitals with fewer than 100 beds.

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

5. The Mid-Atlantic, South Atlantic, and East South Central regions have very low confidence; while the East North Central, West North/South Central, and Pacific regions have low confidence about receiving adequate reimbursement from Medicare. The South Atlantic, East/West South Central, and Pacific regions have low confidence in access to capital for equipment.
Q4-2016 select comments

- New referral source for biopsies is creating a more positive outlook for interventional this next quarter
- Lower reimbursement is hampering capital purchasing. Continued bundling of Interventional Radiology exacerbates this issue
- Exams/reimbursement down!
- Starting a construction project to bring in MRI, new CT space and additional DR imaging
- The next quarter is usually high volume months for radiology and I am moderately optimistic that our diagnostic volumes will respond accordingly. As a critical access hospital, our reimbursement should increase with volumes.
- Volume remains flat.
- We have been adding services which has helped us to grow rather than dwindle.
- The economy is still challenged. healthcare insurance is still not adequate with large co-pays. our payor mix is largely Medicare. we are in need of physicians for this area.
- Overall patient volume still seems to be slightly declining however the amount of free care seems to be increasing. I think the changes in health insurance benefits is primarily to blame for an increase in "no pay" situations. Even though some of these no pay patients have insurance, the yearly deductibles are so high that they do not go to the doctor's office - they come to the hospital ER instead
- Our volumes are down 15% across the board. New State mandates have caused us to retrofit the department instead of obtaining needed equipment upgrades.
- Reimbursement continues to seriously lag - this stymies investment and expansion. Facilities are cutting staff / services to maintain financial viability.
- Available cash is not an issue with our facility. We are able to maintain technology. Growth of volume is limited in a rural environment. Stability of volume is more critical. I believe we have a stable volume.
- I think the closer we get to a managed care environment and the closer that utilization, and radiation safety.... volume will eventually stabilize if not decrease
- So far the 4th quarter is looking much stronger
Q4-2016 select comments

- Typically starting into the fall exams increase due to cooler weather. Also in the fall more people are working outside so accidents happen. Medicare has cut CT reimbursement so bad it really makes nothing when you perform an exam on a Medicare patient.

- Radiology continues to be a profit center for hospitals, and this trend should continue, however, with the government actions, reimbursements will continue to trend lower.

- With the increase in Co Pay due to Obama Care is causing patient to shop price and not necessarily quality since not all studies are equal in spite of CPT codes.

- In our current regulatory environment, focus is being placed on freestanding outpatient services versus OP services provided in a hospital setting. Capital equipment and other resources are being funneled into this market to ensure our organization can remain competitive.

- Volume is strong and outlook is bright.

- Our imaging volume including IR continue to grow. However, I am fearful that fee for service model changes that could effect our volume based business.

- Our biopsy volume is growing tremendously (including para's and thora's), with our volume up 66% over last quarter. This is because our patient acuity is getting higher. We are in the process of purchasing breast tomosynthesis, a new MRI, and just hired a new spine physician. We believe that this will increase our volume tremendously.

- Low reimbursements and the continuance to try and lower them makes things tough.

- We are finding that our patients are going to be asked at time of service for their deductible which might hurt the growth or maintain our business volumes that we currently have prior to this initiative.

- I believe there will be no big changes in three months, as the time frame is short.
Year-to-year analysis review Q1-2015 through Q4-2016

**Results** are now shown for Q1 2015 through Q4 2016.

- 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.
# Year-to-year analysis review
## Q3-2016 through Q4-2016

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<td><strong>118</strong></td>
<td><strong>129</strong></td>
<td></td>
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<tr>
<td><strong>Composite score across all areas</strong></td>
<td><strong>105</strong></td>
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Growth as a profit center have higher confidence in Q4 2016 compared to Q3 2016.
Year-to-year analysis review
Q1-2015 through Q4-2016

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 have higher confidence in Q4 2016 compared to Q3 2016. Access to capital for equipment have lower confidence in Q4 2016 compared to Q2 2016.

Margin of error: ±8 percentage points
Year-to-year analysis review
Q1-2016 through Q4-2016

- Grow monthly
- Receive adequate reimbursement
- Costs remain constant
- Access to capital
- Maintain/grow as a profit center

Average MICI Scores

Margin of error: ±8 percentage points

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

**Overall:**
Higher confidence to *grow as a profit center*

In aggregate, there is **higher confidence** in Q4 2016 compared to Q3 2016.

**Under 100 beds:**
Higher confidence in *grow as a profit center*

**Higher confidence** in Q4 2016 compared to Q3 2016.

**100 to 299 beds:**
Higher confidence to *grow in volume and profit*, but lower confidence in *access to capital*

Growth of diagnostic and interventional radiology and as a profit center have **higher confidence** in Q4 2016 compared to Q3 2016. Access to capital for equipment have **lower confidence** in Q4 2016 compared to Q2 2016.

**300 or more beds:**
*No change* in confidence

**No changes** in MICI between Q4 2016 and Q1 2015.
Study & report have been conducted & brought to you courtesy of:

MEDICAL IMAGING CONFIDENCE INDEX

T H E  M A R K E T E C H  G R O U P

ahra
the association for medical imaging management
Appendix: October to December 2016 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:
October to December 2016 results

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:
Q1-2015 through Q4-2016 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: Q1-2015 through Q4-2016 results

**Hospital bed size: Under 100 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

Under 100 beds: Growth as a profit center have higher confidence in Q4 2016 compared to Q3 2016. No changes in MICI between Q4 2016 compared to Q1 2015.
Appendix: Q1-2015 through Q4-2016 results

100 to 299 beds: Growth of diagnostic and interventional radiology and as a profit center have higher confidence in Q4 2016 compared to Q3 2016. Access to capital for equipment have lower confidence in Q4 2016 compared to Q2 2016. No changes in MICI between Q4 2016 compared to Q1 2015.
Appendix: Q1-2015 through Q4-2016 results

**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

**300 or more beds:** No changes in MICI between Q4 2016 and Q3 2016. No changes in MICI between Q4 2016 compared to Q1 2015.
Appendix:
Q1-2015 through Q4-2016 results

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

Quarter
1st quarter 2nd quarter 3rd quarter 4th quarter
Under 100 beds 125 120 115 110
100 to 299 beds 120 115 110 105
300 or more beds 110 105 100 95

Back to Hospital bed size summary
Appendix: Q1-2015 through Q4-2016 results

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

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

Year
2015
1st quarter
3rd quarter
2nd quarter

2016
1st quarter
3rd quarter
2nd quarter

Quarter
1st quarter
2nd quarter
3rd quarter
4th quarter
50
75
100
125
150
175

Back to Hospital bed size summary
Appendix: Q1-2015 through Q4-2016 results

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: Q1-2015 through Q4-2016 results

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

Quarter
1st quarter | 2nd quarter | 3rd quarter | 4th quarter
2015
Under 100 beds
100 to 299 beds
300 or more beds

Quarter
1st quarter | 2nd quarter | 3rd quarter | 4th quarter
2016

Back to Hospital bed size summary
Appendix: Q1-2015 through Q4-2016 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