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.
151 imaging directors/managers of hospitals completed the 3-minute Web survey regarding their perception of medical imaging trends for all quarters of 2017.

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
- 37% 100-299
- 18% 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 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.
Regions

- Pacific: 11%
- Mountain: 5%
- West North Central: 15%
- East North Central: 23%
- Mid-Atlantic: 14%
- South Atlantic: 14%
- East South Central: 7%
- West South Central: 11%
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>116</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>100</td>
<td>Neutral</td>
</tr>
<tr>
<td>Will maintain/grow as a profit center</td>
<td>124</td>
<td>High confidence</td>
</tr>
<tr>
<td>Composite score across all areas</td>
<td>110</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** 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>101</td>
<td>127</td>
<td><strong>131</strong></td>
</tr>
<tr>
<td>Receive adequate reimbursement from Medicare for diagnostic and interventional imaging</td>
<td></td>
<td>81</td>
<td>77</td>
<td>88</td>
</tr>
<tr>
<td>Internal operating and staff costs will remain constant</td>
<td></td>
<td>140</td>
<td>124</td>
<td>124</td>
</tr>
<tr>
<td>Will have access to capital for imaging equipment and IT needs</td>
<td></td>
<td>98</td>
<td>101</td>
<td>106</td>
</tr>
<tr>
<td>Will maintain/grow as a profit center</td>
<td></td>
<td>115</td>
<td>135</td>
<td>126</td>
</tr>
<tr>
<td>Composite score across all areas</td>
<td></td>
<td><strong>106</strong></td>
<td><strong>112</strong></td>
<td><strong>114</strong></td>
</tr>
</tbody>
</table>
Regional differences: While none of the differences are statistically significant...

South Atlantic, North Central, and South central regions have very high confidence that internal operating and staff costs will remain constant.

South Atlantic region has very high confidence in growth in diagnostic / interventional radiology and growing as a profit center.

The East South Central region has extremely low confidence and the West South Central region has very low confidence; while the Atlantic, West North Central, Mountain, and Pacific regions have low confidence about receiving adequate reimbursement from Medicare.

North Central and Mountain regions have low confidence in access to capital for equipment.

<table>
<thead>
<tr>
<th>Topic</th>
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<tbody>
<tr>
<td>Will grow monthly in diagnostic and interventional radiology</td>
<td>115 134 115 111 102 114 110 121</td>
</tr>
<tr>
<td>Receive adequate reimbursement from Medicare for diagnostic and interventional imaging</td>
<td>84 91 95 84 47 63 75 75</td>
</tr>
<tr>
<td>Internal operating and staff costs will remain constant</td>
<td>112 132 139 147 162 139 86 107</td>
</tr>
<tr>
<td>Will have access to capital for imaging equipment and IT needs</td>
<td>97 109 121 81 74 94 89 106</td>
</tr>
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<td>Will maintain/grow as a profit center</td>
<td>126 141 130 112 92 125 119 128</td>
</tr>
<tr>
<td>Composite score across all areas</td>
<td>106 120 120 105 93 106 95 107</td>
</tr>
</tbody>
</table>
There is **high confidence** in the growing of diagnostic and interventional radiology, staff costs will remaining constant, and growing as a profit center.

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

Hospitals with 100 or more beds are **more confident** in growth of diagnostic / interventional radiology.

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

The East South Central region has **extremely low confidence** and the West South Central region has **very low confidence**; while the Atlantic, West North Central, Mountain, and Pacific regions have **low confidence** about receiving adequate reimbursement from Medicare. The North Central and Mountain regions have **low confidence** in access to capital for equipment.
Q4-2017 Member comments on healthcare policy and reimbursement

Uncertainty / Concerns about insurance provider policy and healthcare politics:
- I think many things are in flux and what is happening at the State Level and then Federal, as well as in system.
- I think with the Anthem and Humana changes with paying for Outpatient CT/MRI studies in the hospital setting the outlook is more uncertain than it was during the first quarter and in 2016.
- Uncertainty in the healthcare market right now due to questionable reimbursement.
- Anthem is driving my concerns for reimbursement and volume.
- It is my expectation that insurance providers are actively trying to shift high cost procedures such as MRI and CT away from the hospitals and to free standing clinics. This will impact our volumes but also take away the better paying patients as opposed to Medicare.

Complaints about declining reimbursement:
- Our volumes have been strong in 2017. The reimbursement, however, has significantly declined.
- Reimbursements are declining each quarter. Although we have maintained and grown our volume in almost every modality, many competitors are struggling greatly. If reimbursements are not addressed legislatively, the availability of care will diminish as hospitals and health systems downsize.
- We will continue to create access to our organization, maximize opportunities for additional capacity utilizing the same resources. Reimbursement will continue to be a struggle.
- Productivity is rising, but not sufficient to out-pace both increased costs and decreased reimbursements. Operating in the red is becoming a norm and staff / service cuts are being evaluated and implemented to compensate - which then in turn lowers productivity. A poor cycle outlook for healthcare as a whole.
- Bundling of procedures in Interventional Radiology is resulting is decreased reimbursement.
- The industry is being driven by the payers, particularly federally funded insurances, with continuous pressure to reduce the costs. The volume cannot increase if there isn't enough revenue to cover the costs to perform the procedure - regardless of the need in the community, i.e., infusion services...
Q4-2017 Member comments on service and facility growth

Service and facility growth:

- We are focused on growing our department and have already purchased equipment in order to achieve this. Plus in our IR department we have added the services of a vascular surgeon who has already started to bring new patients and exams to us.
- Remodeling and adding a new DR room. Just added 3D mammography with stereotactic and have seen an increase in procedures already.
- We just received board approval for new bi-plane interventional lab.
- IR lab is currently under construction slated to be completed January
- We are developing outside Imaging facilities to continue to help us grow and to become stronger
- Expecting staff reductions. Funding increases for replacement RIS and expansion of interventional radiology
Other general comments:
- We still are in need of recruiting new physicians. especially specialist. we are trying to set up oncology services, and begin a joint program internally.
- Things are looking better finally!
- We will be replacing our HIS throughout the system at a rough cost of 250 million . It will be interesting to see how this will affect budgets next year.
- New physicians ordering more procedures
- As we are faced with losing a key physician provider and having another go to a part-time status at our facility, we will lose a great deal of imaging exam volume. This will have a negative impact on our facility as well as our imaging department.
- As more patients attempt to manage increasing out of pocket costs for health care throughout the year there are fewer who have maxed out and therefore we expect to miss out on the typical end of year imaging bonanza.
- Capital $$’s on hold until 2018. Operating costs challenged by budget short-fall that need to improve 4th quarter.
- We are in a situation that is becoming much more competitive. Volume retention is a top priority.
- Tight with staff and all resources!
- Our numbers of inpatients is declining and physicians are not ordering as many exams
- Just completed quarterly budget and no capital funds allocated to imaging.
- There was an imaging center close to us and the nuclear med. just closed so we are seeing increase in volume.
- Increasing competition in our area and our response to it will determine future growth.
- Capital funds are frozen currently at my facility.
Other general comments:

- I am optimistic about growth for the upcoming quarter, but I expect to see some softening of volumes in CT, for example, as clinical decision support becomes more widely utilized in the industry. While the loss of CT volume may transition to other modalities, that remains to be seen. The concern is that volumes will transition to lower revenue modalities.

- I am optimistic that levels of imaging will remain solid with soft growth as imaging continues to show its propensity to be a justifiable solution for healthcare.

- Capital $$ not available at this time or in near future.

- We are a rural critical access hospital. This allows us to have different reimbursement levels. It also means we do very basic interventional procedures.

- Volumes have been looking bad due to very low census/ER volumes

- Volumes are remaining constant. We are losing an IR neuro doc

- In Maryland, hospitals are paid via a system called global budget revenue. The more patient volume we see, the less money we make. Imaging Services as a profit center is a thing of the past; even on an outpatient basis.

- Our volumes in diagnostic studies are fairly steady. I hope to see an increase, but am guardedly optimistic. I do not see any increase in interventional procedures.
Quarter-to-Quarter analysis

**Results** are now shown for Q1 2016 through Q4 2017.

- 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
Q3-2017 through Q4-2017

<table>
<thead>
<tr>
<th>Topic</th>
<th>Score Mean</th>
<th>Q3 2017</th>
<th>Q4 2017</th>
</tr>
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<tbody>
<tr>
<td>Will grow monthly in diagnostic and interventional radiology</td>
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<td></td>
<td>100</td>
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<td></td>
<td>129</td>
<td>124</td>
</tr>
<tr>
<td>Composite score across all areas</td>
<td></td>
<td>110</td>
<td>110</td>
</tr>
</tbody>
</table>

No statistically significant differences in confidence for any of the MICI scores between Q3 and Q4 2017.
Quarter-to-Quarter analysis Q1-2016 through Q4-2017

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: No significant differences in all areas from Q3 to Q4 2017.
Quarter-to-Quarter analysis
Q4-2016 through Q4-2017

Average MICI Scores

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

Under 100 beds
100 to 299 beds
300 or more beds

Margin of error: ±8 percentage points

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: No change in confidence

Under 100 beds: No change in confidence

100 to 299 beds: Higher confidence in growth in diagnostic and interventional radiology

300 or more beds: No change in confidence

In aggregate, no changes in MICI between Q4 2017 and Q1 2016.

No changes in MICI between Q4 2017 and Q1 2016.

Higher confidence in Q4 2017 compared to Q1 2017 in growth in diagnostic and interventional radiology.

No changes in MICI between Q4 2017 and Q1 2016.
Study & report have been conducted & brought to you courtesy of:

MEDICAL IMAGING
CONFIDENCE INDEX

THE MARKETECH GROUP

ahra
the association for medical imaging management
Appendix: October to December 2017 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 2017 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:
Q1-2016 through Q4-2017 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: Q1-2016 through Q4-2017 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: No changes in MICI between MICI Q4 2017 and Q1 2016. No changes between Q4 and Q3 2017.
Appendix: Q1-2016 through Q4-2017 results

Hospital bed size: 100 to 299 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

100 to 299 beds: Growth diagnostic and interventional radiology have higher confidence in Q4 2017 compared to Q1 2017. No changes in MICI between MICI Q4 2017 and Q3 2017.
Appendix: 
Q1-2016 through Q4-2017 results

300 or more beds: No changes in MICI between MICI Q4 2017 and Q1 2016. No changes between Q4 and Q3 2017.
Appendix: Q1-2016 through Q4-2017 results

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

Back to Hospital bed size summary
Appendix: Q1-2016 through Q4-2017 results

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

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

Back to Hospital bed size summary
Appendix: Q1-2016 through Q4-2017 results

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

Back to Hospital bed size summary
Appendix: Q1-2016 through Q4-2017 results

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

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

Back to Hospital bed size summary
Appendix: Q1-2016 through Q4-2017 results

Average MICI Scores

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