Appropriateness of MRI in Austria:

Identification of overuse

Congress: Preventing overdiagnosis
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structure

- Why this topic
- How we approach it
- What we found/ find
- Next steps/ way forward
WHY this topic:

Austria Nr 1 in number of MRI exams per 1,000 population.

In 2011, the OECD average: 55.5 exams per 1,000 pop.

Austria 119 MRI per 1,000 pop (2012).

Source: Opportunities and strategies to drive appropriate use of MRI in Austria, 2014, http://eprints.hta.lbg.ac.at/1043/1/HTA-Projektbericht_Nr.80.pdf
How we approach it: since 2014

Multimethod-approach

- Screening of “disinvestment” databases & recommendations from “appropriate radiology guidelines” → comparison to the Austrian “Orientation Guideline for Radiology” (OGR) -2014
- Literature Review: Tools and strategies for utilisation management of MRI -2014
- Semi-structured interviews with stakeholders- 2014
- Analysis of Evidence Based Clinical Diagnostic Pathways in selected indications - 2015
- Literature Review on methods to identify MRI overuse – 2016/ongoing
- Correlation Analysis between N-MRI to N-elective interventions – 2016/ongoing
- Data analysis: practice variation (MRI, elective interventions, etc.) – 2016/ planned
Background – What is inappropriate?

Inappropriate procedures:

… are unlikely to be indicated in specific clinical settings, or the risk-benefit ratio for patients is likely to be unfavorable\(^2\).

The chief causes of the wasteful use of radiology are\(^3\):

- Repeating investigations which have already been done
- Investigation when results are unlikely to affect patient management
- Investigating too often
- Doing the wrong investigation
- Failing to provide appropriate clinical information and questions that the imaging investigation should answer
- Over-investigating
Recommendations against MRI

- Databases: Choosing Wisely etc.
- ACR (American College of Radiology) Appropriateness Criteria® (AC)
- American College of Cardiology Foundation (ACCF)-Appropriate Use Criteria (AUC) – including imaging
- CAR Diagnostic Imaging Referral Guidelines

= A total of 293 recommendations have been identified. 253 recom relating to the inappropriate use of MRI and advanced medical imaging.

➢ National Recommendations (Orientierungshilfe Radiologie: match in large parts, differences in 10 conditions (only)).
Literature Review: Tools and strategies

- **Educational interventions**: Referrers (Development, dissemination and implementation of referral guidelines; Decision support tools (electronic)); Addressing Patient demand.

- **Structural and organisational interventions**: Revision of professional roles (Shift from “Radiologist production model” to “Radiologist professional model”; Clinical multidisciplinary teams; Communication and case discussion by distance; Changes in medical record systems; Quality monitoring)

- **Financial and regulatory intervention**: Fixed payment schemes; Pay per performance; Radiology Benefits management.

Stakeholder Interviews: Tools and strategies

- See above
What we found 3/4

Focus “High Frequency indications”: Clinical Diagnostic Pathways for chronic back-pain, knee, shoulder, hip, head, ankle

- Recommendations from AWMF-S3-Guidelines (if available)
- Evidence tables, narrative and rating table from ACR Appropriateness Criteria
- Diagnostic algorithm from Western Australia Diagnostic Imaging Pathways (or similar)

= Recommendations for pre-conditions and diagnostic work-up
Example: Non-traumatic Knee

2nd line!
What we find 4/4
2016/ ongoing

Literature Review on methods to identify MRI overuse
– Regional Variances
– Comparison guidelines – actual utilization of MRI
– Patient pathways
– Analysis of predictors (e.g. private insurance)
– Case analyses (surgical outcomes, diagnostic information etc.)

Multiple Regression
• n MRI scans : n elective interventions - hip, knee; OECD-data
Next steps/ way forward

Data analysis (2016+):

- Practice variation in Austria in regions (MRI, elective interventions, correlation, etc.)
- Patients’ pathways in 1 region (1st line, 2nd line; interventions)
- Publicity – Media, referrers, patients
Questions

• Further ideas?
• Similar projects in your country?
• Collaboration??
Thank you!

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