Decision Support Tools in Clinical Practice: From Theory to Concrete Application

Nándor Ákos Nagy MD

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GE HealthCare

Introduction

Objective:

- Help Cardiology allied professionals (physicians, cardiac nurses, electrophysiologists) manage atrial fibrillation with evidence-based therapies

Key Points:

- Quick rundown on our application and guideline implementation
- Reflections on Part 1 of the plenary meeting and our solutions
- Importance of software-based solutions in overcoming guideline implementation barriers
- Highlighting the role of structured data and AI tools

Brief Introduction to Our Application

Design:

- Used across care pathways from ED to Cath Lab
- Review patient history, manage care plans, and disease progression

Data Optimization:

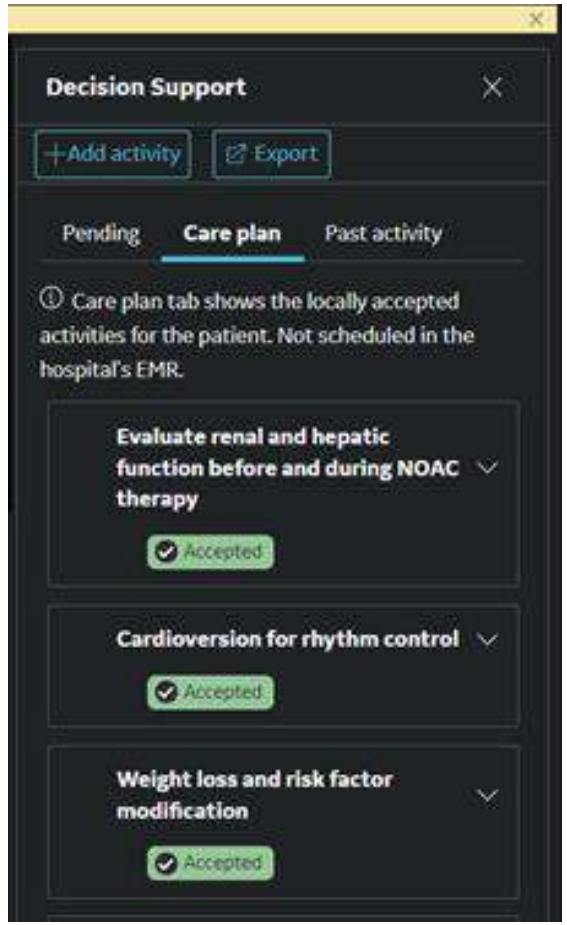
- Well-structured data for optimized AF treatment
- Multidisciplinary approach
- Filters AFib-related data for clarity

Guideline Codification:

- Criteria Designer tool for automatic recommendations
- Supports ACC, ESC, and NICE guidelines

EMR Integration:

- Addon for EMR systems using FHIR data structure



Summative Usability Test

Conducted Test:

- Summative usability test with selective users

Participant Mix:

- Gender, age, professional experience, time treating AF patients
- 15 participants: Cardiologists, Electrophysiologists, Cardiac Nurses/Nurse Practitioners

Study Design:

- Simulated-use workflows with 17 clinical scenarios
- Evaluated safety, complexity reduction, and digital environment improvement

Reflecting on Statements Made in Part 1

Focus of Previous Meeting:

- Barriers to widespread adoption of ESC Guidelines

Our Approach:

- Insights and solutions to tackle these challenges

Three A's

Main Barriers Identified:

- Availability
- Affordability
- Access

Resolution:

- Solutions provided to address these barriers

Barriers for Implementation: Guideline

Complexity of Guidelines:

- Our software evaluates relevant triggers automatically

Time Constraints:

- Users can adhere to guidelines without extensive reading

Too many Recommendations:

- Holistic approach when creating guideline recommendations
- Recommendations sorted based on examination, general, lifestyle, prescription, procedure

Barriers for Implementation: Healthcare Systems

Cost of Education and Training:

- Users gain knowledge intuitively through the software

Non-Physician Delivery:

- Targeting doctors, nurses, electrophysiologists, expanding to patients

Reimbursement for Quality:

- Software acts as a checklist to improve quality

National Guidelines Harmonization:

- Each region can choose applicable guidelines

Implementation Time:

- Immediate updates for ESC/ACC/NICE guidelines

Complex Decision Making:

- Focused on AFib, streamlined interdepartmental interactions

Standardized Care:

- Software-based solutions ensure consistent care

Barriers for Implementation: Physician, Patient

Multidisciplinary Collaboration:

- Useful for non-experts in Afib care, supports other departments

Patient Perspective:

- NICE guidelines implemented, expanding to include patients

Web-Based App Usefulness:

- Enhances user engagement, clarity, and patient outcomes

Barriers for Implementation: Financial Barriers and Incentives

Economic Impact:

- Evidence-based care leads to financial returns
- Monitoring reduced readmissions, increased lifespan, and health

Process Improvement:

- Focus on avoiding hospital visits and costs

EMR Systems Structured Data Relation with Artificial Intelligence

Current Use of EHR:

- Used for administration and coding
- Potential for quality improvement and research

Structured Data:

- Use structured data (FHIR) instead of free text
- NLP possibilities for handling free text
- Example: Epic usage

Thank you for your attention!

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