



American Society of Retina Specialists



Business of Retina Meeting
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ASRS American Society of Retina Specialists

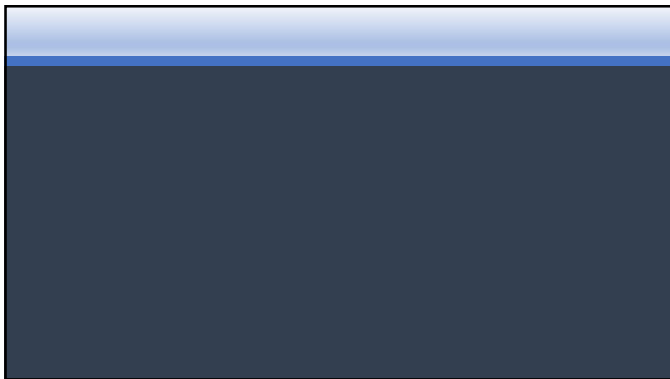
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Virtual and AI Scribing in Retina



Current and Future Trends in
Clinical Documentation for the
Retina Specialist

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Disclosures

SPEAKER	ADVISOR	INVESTIGATOR
Apellis Bausch & Lomb Genentech/Roche Regeneron	4D Molecular Therapeutics, Abbvie/Allergan, Alimera/EyePoint Pharma, Apellis, Astellas/Iveric Bio, Bausch & Lomb, Genentech/Roche, Ideaya Bioscience, Lupin, Novartis, Regeneron	Castle Biosciences/COOG Notal Vision/DRCR EyeBio Ocular Therapeutix RegenexBIO

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Introduction

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Terminology

- Medical Scribing is the process of documenting patient encounters on behalf of a physician or healthcare provider
- A Certified Ophthalmic Scribe (COS) has
 - ✓ Completed a JCAHPO-approved training program, OR has
 - ✓ Documented relevant work experience in ophthalmology, AND has
 - ✓ Passed the COS exam

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Rationale

- Medical scribes may increase provider efficiency by increasing time available for provider-level tasks
 - ✓ Formulating diagnosis and treatment plan
 - ✓ Patient education and counselling
 - ✓ In-office procedures
- Scribes possess specific knowledge of billing requirements and best practices for clinical documentation

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Terminology

- With In-Person Scribing, the scribe is physically present in the exam room, directly observing the encounter
- With Virtual Scribing (VS), the scribe is observing remotely via a secure audio or audiovisual connection

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Advantages of In-Person

- Ease of communication between provider and scribe
- Minimal tech requirements
- Greater sense of connection with the patient
- Able to assist with rooming patients, procedures, and other clinical tasks

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Potential Advantages of VS

- Accommodates people who need to work remotely
- Allows the scribe to focus solely on EHR documentation
- May assist with other telecommunications-based tasks
 - ✓ Tracking down labs/imaging
 - ✓ Patient portal/email communications
 - ✓ Sending letters
 - ✓ Completing electronic forms
- Often more cost-effective
- Patients may feel a greater sense of privacy

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Potential Disadvantages of VS

- Complex tech requirements
 - ✓ Stable internet connectivity
 - ✓ High-fidelity audio
 - ✓ Secure communication systems
 - ✓ Remote access to EHR
- Limited opportunities for in-person training and feedback
- Lack of continuity, especially when outsourcing

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Terminology

- With Synchronous VS, observation and documentation of the patient encounter occurs in real-time
- With Asynchronous VS, documentation occurs **after** the encounter, based on audio or audiovisual recordings

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Advantages of Synchronous VS

- Scribe can interact with provider in real-time to confirm details or seek clarification
- Documentation typically complete at end of visit

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Advantages of Asynchronous VS

- Scribe can speed up or slow down the recording as needed
 - ✓ Skip over dead air
 - ✓ Fast forward through small talk
 - ✓ Focus on the important parts
 - ✓ Replay audio if unable to understand
- Provider can speak quickly and move at their own pace
- Doesn't depend on live uninterrupted connections
- Patients are less aware that someone is listening

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Terminology

- With Active Documentation, the provider dictates structured data and the scribe transcribes verbatim (or adapts it to a pre-formed template)
- With Ambient Documentation, the provider has a natural conversation with the patient, and the scribe intuitively formulates the documentation

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Advantages of Active Documentation

- Accurately reflects provider's own thought process
- Reduces risk of missing important details
- Reduces likelihood of including irrelevant data in EMR
- Requires minimal review by the provider

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Disadvantages of Active Documentation

- Consumes provider time
- May take even longer for the scribe
 - ✓ Difficult to capture active documentation synchronously

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Advantages of Ambient Documentation

- Minimizes workflow disruption for the provider
- May do a better job of capturing the patient's own words and sentiments without filtering them through the provider's mind

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Disadvantages of Ambient Documentation

- More prone to errors and inaccuracies
- May capture irrelevant data
- May lack contextual awareness
- Requires more careful review by the provider

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Terminology

- Artificial intelligence (AI) refers to computer algorithms that can perform tasks that typically require human cognition
 - ✓ Pattern recognition
 - ✓ Decision-making
 - ✓ Language understanding
 - ✓ Problem solving

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Terminology

- Natural language processing (NLP) is the ability of AI to interpret, generate, and respond to human language.
 - ✓ Text analysis
 - ✓ Text generation
 - ✓ Speech recognition
 - ✓ Machine translation
 - ✓ Sentiment analysis
 - ✓ Chatbots and virtual assistants

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Terminology

- Machine Learning (ML) is the ability learn from data without being explicitly programmed, allowing AI algorithms to adapt and improve model performance over time
 - ✓ Identifying data patterns
 - ✓ Forming weighted "neural networks", decision trees, and support vector machines
 - ✓ Supervised learning
 - ✓ Unsupervised learning
 - ✓ Reinforcement learning

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Rationale for AI-based Scribing

- AI can listen and formulate ambient documentation in real time
- A hybrid approach allows ambient tools to passively capture data, while the human scribe ensures precise terminology, structured data entry, and quality control

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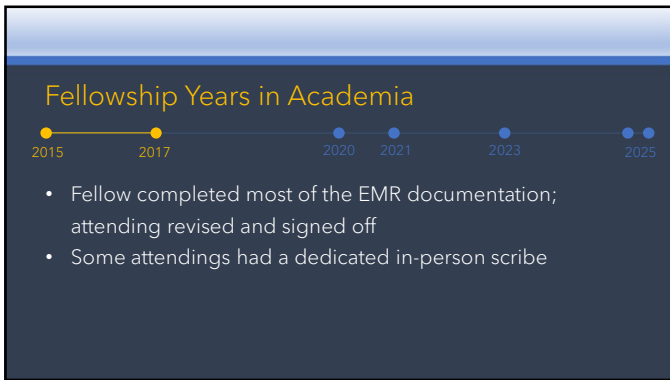
Rationale for AI-based Scribing

- Provider and scribe can "teach"/refine the AI model
 - Tailor the AI model to your specialty by feeding it specialty-specific language
 - Expose the AI model to diverse patient presentations of similar clinical scenarios
 - Actively flag inaccuracies, ambiguities, or misinterpretations in AI-generated notes
 - If there are recurring errors, notify developers to modify model behavior

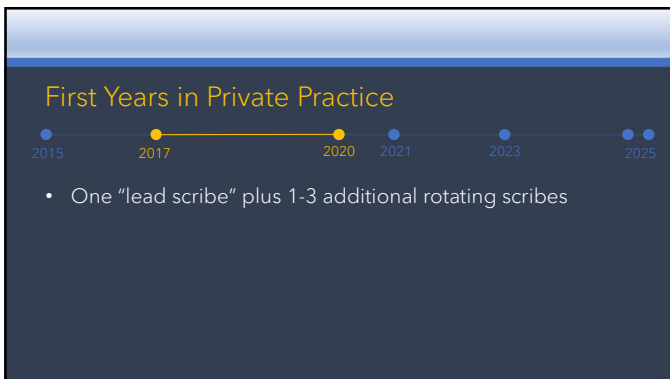
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The Pandemic Hits

- Sudden reduction in patient volume and workforce
- Some initial experiments with virtual medicine
 - ✓ Pre-visit questionnaires
 - ✓ Testing-only visits
 - ✓ Telehealth and hybrid-THVs
 - ✓ Working while quarantined

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Emerging from the Pandemic

- Recovery of patient volume with a sustained reduction in workforce
- Increased pressure to embrace remote work
 - ✓ Many employees with young children
 - ✓ "Great Resignation"
 - ✓ Limited responses to job postings

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Emerging from the Pandemic

- Back to "business as usual"
 - ✓ Practice manager reluctant to allow work-from-home (WFH)
 - ✓ Difficult to monitor productivity when WFH
- Team mentality became more solidified
 - ✓ Smaller, more stable team of employees working with each doctor
 - ✓ Explored new divisions of labor, e.g. "loader", "prepper", "lead", and "float"

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Going Virtual

- A key employee announced plans to relocate
 - ✓ JCAHPO-certified with 15+ years of experience
 - ✓ Consistent high-quality documentation
 - ✓ Tech-savvy
- VS worked "in office" for first 6 mos
 - ✓ Worked out the kinks in terms of tech
 - ✓ Able to assist with lunch breaks, call outs, etc.

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Going Virtual

- VS went "fully remote"
 - ✓ Stable/increased productivity
 - ✓ Able to work outside of normal business hours
 - ✓ In-office team was able to adapt with minimal changes to workflow
- Discovered additional synergies
 - ✓ VS follows up on outstanding items (labs/imaging, provider-to-provider communications) and documents accordingly
 - ✓ VS identifies gaps and omissions, and places reminders in the chart

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Going Virtual: Advantages

- Notes are more detailed, accurate, and consistent
 - ✓ Able to bill a higher proportion of level 4-5 E/M, comprehensive visits, and EOs
 - ✓ Charting has passed both internal and external audits
 - ✓ Documentation for each encounter is highly unique
- Provider spends less "active time" on documentation
 - ✓ Most routine office visits completed with ambient documentation
 - ✓ New and improved templates developed by provider and VS
 - ✓ VS authorized to close charts and send letters without provider review

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Going Virtual: Challenges and Limitations

- Some encounters require active documentation +/- review
 - ✓ New patients
 - ✓ Level 5 office visits
 - ✓ Referral letters
- Growing backlog of charts
 - ✓ Currently 400+ incomplete notes
 - ✓ Occasionally patients return before last note has been finished
- Other employees less efficient/confident in charting

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Exploring AI-based Scribing

- Recently completed a free trial of Freed
 - ✓ HIPPA-compliant web-based platform
 - ✓ Currently utilized by >17,000 US clinicians
- Capable of producing instantaneous documentation
 - ✓ Active: Creates a verbatim transcript of the patient encounter
 - ✓ Ambient: Summarizes each encounter with a one-liner, visit summary, "SOAP" note, and patient handout

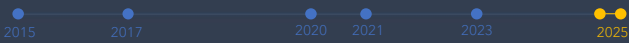
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Exploring AI-based Scribing

- Model evaluation and fine-tuning
 - ✓ Remove extraneous information
 - ✓ Reorganize information
 - ✓ "Magic edit" functionality
- Feedback from VS
 - ✓ Worth continuing, but needs careful review
 - ✓ Allows her to multitask

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Exploring AI-based Scribing



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Current Perspectives on VS/AI



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