Eye Care Reimagined

Reshaping Clinical Practice Over the Next Decade

Total Time: 2 hours

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Description

The future of eye care isn't coming – it's here. This course is your definitive roadmap for navigating the new landscape of technology, showing you how to harness the power of AI to elevate every aspect of your practice, from the exam room to the front desk. Learn to leverage these cutting-edge tools to become a "super optometrist," enhancing your expertise, streamlining your workflow, and providing an unparalleled level of patient care.

Learning Objectives

1. Experience how AI is revolutionizing diagnostic capabilities with concrete examples
2. Demonstrate the profound impact of AI-driven early detection on patient outcomes
3. Explore how AI transforms telehealth beyond simple video consultations
4. Show how AI tools empower patients to be more active participants in their eye health journey
5. Illustrate how AI streamlines the internal operations of an eye care practice
6. Understand the core message: AI enhances, rather than replaces, human capabilities

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Part 1: The Current State of Eye Care Delivery

1. A transparent look at today's systems: the powerful tools we have and the friction points we must overcome so we can establish a common understanding of the current system's benefits and limitations, setting the stage for AI as the solution.
   1.1. The current State of Clinical Intake
   - 1.1.1. Audience Poll **(DG)**
     - *1.1.1.1. "How many of you feel your intake process takes longer than it should?"*
     - *1.1.1.2. "What percentage of the information you collect is duplicated elsewhere?"*
     - *1.1.1.3. "What intake task would you eliminate first if you could?"*
   - 1.1.2. Discussion **(SM)**

1.1.2.1. Insurance eligibility is instant for some major carriers. Patient health history is centralized in the EHR.
1.1.2.2. Challenges Summary:
1.1.2.2.1. Redundant history taking that is static and linear
1.1.2.2.2. Insurance complexity
1.1.2.2.3. Fragmentation of patient information
1.1.2.2.4. Patients unsure what data matters
1.1.2.3. Where technology helps:
1.1.2.3.1. EHR centralizes documentation
1.1.2.3.2. Automated eligibility tools
1.1.2.3.3. Online scheduling & reminders
1.1.2.4. Where technology hinders:
1.1.2.4.1. Poor interoperability
1.1.2.4.2. Multiple plug-ins and portals
1.1.2.4.3. Data quality inconsistencies
1.1.3. DEMONSTRATION
1.1.3.1. Scheduling
1.1.3.2. History taking
1.1.3.2.1. **(EA)** describes frustration repeating information). Staff time is heavily weighted toward clerical tasks rather than patient care.
1.1.3.2.2. Linear and Static often missing crucial details but centralized in that one EHR
1.1.3.3. Insurance verification
1.1.3.3.1. **(BR)** manually checks 3 different portals
1.1.3.4. Pre-testing
1.1.3.5. The summary: Where is most of the staff time spent: clerical tasks-not clinical care

1.2. Clinical Care: Examination, diagnosis, co-management, patient education

1.2.1. Audience Poll **(DG)**
1.2.1.1. "How confident are you that your current systems allow for truly seamless co-management with other specialists?"
1.2.1.2. "How many systems do you use during a single exam?"
1.2.1.3. "Has documentation ever taken time away from patient connection?"
1.2.2. DEMO
1.2.2.1. Show a typical exam flow with disconnected data sources.
1.2.2.2. **(BR)** demonstrates rapid chart review). Patient education relies heavily on provider memory/time, leading to variation in care
1.2.2.3. **(EA)** feels overwhelmed by complex medical terms).
1.2.3. Discussion **(SM)**
1.2.3.1. Positives:
1.2.3.1.1. High-resolution imaging (OCT, wide-field) offers unparalleled diagnostic detail. Standardization of documentation improves billing and compliance.
1.2.3.1.2. High clinical expertise
1.2.3.1.3. Excellent diagnostic tools
1.2.3.2. Challenges
1.2.3.2.1. Data fragmentation (images are often separate from the chart).
1.2.3.2.2. Cognitive load on the provider is high—they must search for, synthesize, and interpret all data during the exam * Tech Impact: EHR prevents sharing clinical data across global systems, limiting insights.

1.2.3.2.3. Data silos between instruments
1.2.3.2.4. Limited decision support
1.2.3.2.5. Time pressure (documentation, coding, compliance

1.3. Retail Eyewear & Contact Lenses

1.3.1. Audience Poll **(DG)**
1.3.1.1. "If you could instantly solve one issue in your optical dispensary, what would it be?"
1.3.1.2. "What percentage of your patients buys eyewear elsewhere?"
1.3.1.3. "How do you educate patients on lens technologies today?"
1.3.2. DEMO
1.3.2.1. Demonstrators show current purchasing journey.
1.3.2.2. 'why' (P4 admits feeling pressured to pick quickly).
1.3.3. Discussion **(SM)**
1.3.3.1. Positives:
1.3.3.1.1. Diverse product offerings and advanced lens technologies (free-form).
1.3.3.1.2. E-commerce options provide convenience for established CL users.
1.3.3.1.3. Personalized in-office dispensing
1.3.3.1.4. Ability to guide product decisions
1.3.3.2. Challenges:
1.3.3.2.1. Inventory complexity and obsolescence (P3 discusses ordering cycles).
1.3.3.2.2. Passive consumer behavior—patients rely solely on the staff's recommendation without understanding the
1.3.3.2.3. Optical staff spend significant time on repetitive, low-value tasks like tracing frames.
1.3.3.2.4. Tech Impact: Basic POS systems don't leverage clinical data for personalized product recommendations.
1.3.3.2.5. Price competition
1.3.3.2.6. Consumers arriving pre-shopped
1.3.3.2.7. Limited integration between clinical data & product selection
1.3.3.2.8. Inventory management burdens

1.4. Operational Management

1.4.1. Audience Poll **(DG)**
1.4.1.1. "Does your current data system let you truly benchmark against other practices globally? Why or why not?"
1.4.1.2. How many dashboards do you consult to understand your business?"
1.4.1.3. Where do you see the biggest administrative bottleneck?"
1.4.2. DEMO
1.4.2.1.1. **(BR)** discusses sending mass mailers
1.4.3. Discussion **(SM)**
1.4.3.1. Positives:
1.4.3.1.1. Standardized billing and coding practices.
1.4.3.1.2. Basic practice metrics (patient volume, gross revenue) are available.
1.4.3.1.3. Digital marketing tools and analytics
1.4.3.2. Challenges:
1.4.3.2.1. Data is descriptive, not predictive. Difficulty aggregating data outside the practice walls (EHR silo effect). Marketing is reactive/general
1.4.3.2.2. Inefficient HR (time wasted on recruitment for high-turnover administrative roles).

1.4.3.2.3. Tech Impact: Requires many third-party plug-ins to extract meaningful, shareable data.
1.4.3.2.4. HR workload, onboarding complexity
1.4.3.2.5. Poor data visibility across the practice
1.4.3.2.6. Limited predictive analytics
1.4.3.2.7. Fragmented systems for scheduling, communication, financial reporting

1.4.4. Summary: We have great diagnostic power, but administrative friction and data silos limit our efficiency and impact.

1.5. Transition/Recap of Solved Problems

1.5.1. List of Problems: Siloed Data, Manual Intake, Long Wait Times, Inventory Guesswork, Documentation Burden.

Part 2: The AI-Augmented Practice in 2031

2. An optimistic, in-office view: AI breaks down silos, transforms efficiency, and elevates the human experience while keeping care delivery in the traditional office setting. "By 2031, AI isn't replacing clinicians—it's removing friction, elevating expertise, and expanding connection."

2.1. Clinical Intake

2.1.1. Audience: **(DG)**

2.1.1.1. "What does the term 'Pre-emptive Delivery of Information' mean to your staff in the morning?"

2.1.1.2. "What would it mean if your intake time dropped by 50–70%?"

2.1.2. Discussion Points **(SM)**

2.1.2.1. AI Solution: AI-driven pre-appointment digital intake, predictive insurance verification, automated smart scheduling. Changes: Staff are re-tasked from data entry to patient navigation.

2.1.2.2. Efficiency improves as patients arrive pre-vetted and pre-qualified.

2.1.3. Demo:

2.1.3.1. **(EA)** completes an adaptive digital intake via their Personal Health Assistant (PHA), which uses natural language processing (NLP) to ask highly relevant follow-up questions, creating a nuanced, complete history.

2.1.3.2. AI-enabled pre-visit intake completed at home or en route.

2.1.3.3. Automatic eligibility checks

2.1.3.4. Intelligent history summaries delivered to the provider.

2.1.3.5. Real-time data verification (medications, systemic history)

2.1.3.6. Conversational intake agents improve completeness.

2.2. Clinical Care with a PHA and an APHIS system

2.2.1. Audience **(DG)**

2.2.1.1. "What clinical decisions do you wish were supported by real-time evidence?"

2.2.1.2. "How would an automated assistant that reduces your documentation time by 50% change your chair time?"

2.2.2. Discussion Points **(SM)**

2.2.2.1. AI Solution: Personal Health Assistants (PHA) and Adaptive Personal Health Information Systems (APHIS).

2.2.2.2. Knowledge delivery shifts from search to pre-emptive delivery.

2.2.2.3. Effectiveness of Care improves through integrated, evidence-based medicine.

2.2.2.4. Shift from search to pre-emptive delivery of knowledge.

2.2.2.5. Move from static EHRs to adaptive, interconnected global personal health information systems.

2.2.3. Demo: APHIS is globally interconnected, secure, and dynamic.

2.2.3.1. **(BR)** receives real-time, evidence-based alerts and diagnostic support from APHIS based on the patient's data, augmenting their knowledge.

2.2.3.2. **(EA)** receives PHA-driven education (e.g., a personalized video on managing glaucoma) instead of a generic pamphlet.

2.2.3.3. **(BR)** spends more time on empathy and connection—the human element AI cannot replace.

2.2.3.4. Introduction of AI Personal Health Assistants (PHAs)

2.2.3.4.1. For providers: real-time evidence synthesis, coding support, risk scoring

2.2.3.4.2. For staff: workflow guidance

2.2.3.4.3. For patients: pre-emptive education, reminders, disease explanations

2.3. Retail Eyewear and contact lens.

2.3.1. Audience **(DG)**

2.3.1.1. "Do you believe AI could make your patient a better, more confident consumer?"

2.3.1.2. "What if every patient arrived already understanding lens options?"

2.3.1.3. "How would retail performance change if conversions increased 20–40%?"

2.3.2. Discussion Points **(SM)**

2.3.2.1. AI Personal Shoppers, virtual try-on with instant optimization

2.3.2.2. P4 walks knowing their top 3 recommended products.

2.3.2.3. The AI instantly predicts P3's inventory needs, reducing waste and increasing stock availability.

2.3.2.4. Consumers move from a passive shopper to an educated consumer.

2.3.2.5. Revenue increases due to higher conversion rates and fewer returns.

2.3.2.6. Value improves as products are perfectly matched to needs.

2.3.2.7. Consumer behavior shifts from passive browsing to data-augmented decision-making.

2.3.2.8. Inventory becomes predictive.

2.3.3. Demo:

2.3.3.1. **(EA)** uses a "Personal Shopper" AI that analyzes their face shape, visual needs, and fashion history (from APHIS) along with clinical, fashion, and lifestyle data to recommend top 3 frames.

2.3.3.2. **(BR)** optical staff is instantly aware of the patient's pre-selection.

2.4. Operational Management

2.4.1. Audience **(DG)**

2.4.1.1. "What insights would help you run your business more confidently?"

2.4.1.2. "If repetitive admin tasks disappeared, what would you reallocate that time to?"

2.4.2. Discussion **(SM)**

2.4.2.1. Global APHIS network

2.4.2.2. Predictive marketing

2.4.2.3. AI HR assistant

2.4.2.4. Predictive HR tools (forecast hiring needs)

2.4.2.5. Automated marketing personalization

2.4.2.6. Practice intelligence dashboards with integrated data.

2.4.2.7. AI-enhanced compliance, billing, and financial analysis

2.4.2.8. Marketing becomes hyper-targeted and proactive.

2.4.2.9. Human Resources uses AI to match skill sets to patient needs, improving Productivity.

2.4.3. Demo:

2.4.3.1. Management reviews a dashboard showing AI-driven predictive insights (e.g., patient attrition risk, staffing needs, marketing campaign ROI).

2.5. Transition/Recap of Solved Problems

2.5.1. List of Solved Problems

2.5.1.1. Interoperability → adaptive, globally connected systems.
2.5.1.2. Documentation burden → automated summaries
2.5.1.3. Retail competition → smarter, personalized retail
2.5.1.4. Operational complexity → predictive, automated management
2.5.1.5. Patient confusion → proactive education and guidance
2.5.1.6. No more siloed Data
2.5.1.7. No more manual intake
2.5.1.8. Decreased wait times.
2.5.1.9. Eliminate Inventory guesswork.
2.5.1.10. Remove documentation Burdens.

Part 3: The Integrated, Extended Future

3. Shifting the location of care: A distributed model of history, diagnostics, virtual consultation, and retail to show how the solutions from Part 2 are enhanced in a fully integrated, remote-capable model, while emphasizing the human need for trust.

3.1. The Virtual Patient Journey

3.1.1. Audience **(DG)**

3.1.1.1. "In the future, will you spend more time looking at a patient's eyes, or more time looking at their data?"

3.1.2. Discussion **(SM)**

3.1.2.1. Diagnostics (dedicated Testing Center), Professional Interaction (Telemedicine Portal).
3.1.2.2. History, eligibility, and biometric pre-screening captured at home via PHA
3.1.2.3. Continuous health monitoring from wearables
3.1.2.4. AI curates the relevant clinical narrative
3.1.2.5. Regional diagnostic testing centers
3.1.2.6. Technicians aided by AI quality control
3.1.2.7. Providers conduct virtual consultations through immersive portals
3.1.2.8. Clinicians receive enhanced, structured test interpretations

3.1.3. Demo:

3.1.3.1. **(BR)** is now a diagnostic consultant and trust architect, having received all necessary data before the call. The in-office challenges of Part 1 are completely solved; Part 2's advantages are enhanced via specialization.
3.1.3.2. **(EA)** interacts with P3 via a virtual portal.
3.1.3.3. P1 introduces the Hybrid Model (a mix of Part 2 in-office connection and Part 3 remote efficiency) as the likely outcome, preserving the essential human-to-human element of trust.

3.2. The Virtual Retail Experience

3.2.1. Audience **(DG)**

3.2.1.1. "What is the difference between a patient buying an eye product and a patient buying a high-tech solution?"

3.2.2. Discussion **(SM)**

3.2.2.1. Retail becomes Virtual/Experiential, moving from a traditional optical store to an electronics store model.

3.2.2.2. Retail centers resemble modern electronics stores

3.2.2.3. Personalized, data-driven product experiences

3.2.2.4. AI assistants ensure accuracy in lens and frame recommendations

3.2.3. DEMO/Discuss: Acknowledging the need for human connection,

3.3. Data as an engine of evolution

3.3.1. Audience **(DG)**

3.3.1.1. "If your practice's data could launch one new product for the industry, what would it be?"

3.3.1.2. "Which parts of your care model could move outside the office today?"

3.3.1.3. "Where is human connection irreplaceable in your practice?"

3.3.2. Discussion **(SM)**

3.3.2.1. Aggregated and federated data improves:

3.3.2.1.1. Disease algorithms

3.3.2.1.2. Product R&D

3.3.2.1.3. Device optimization

3.3.2.1.4. Personalized medicine

3.3.3. Demo/Discuss:

3.3.3.1. Product Development (lens designs, smart contact lenses),

3.3.3.2. Pharmaceutical Research (new drug targets)

3.3.3.3. Care Delivery Models (predicting public health needs). The data created by the system itself becomes the industry's most valuable asset, driving continuous improvement and patient value.

3.3.3.4. Hybrid Model Introduced: "Technology delivers efficiency. Human connection delivers trust. The future blends both."

Part 4: Preparing for the Inevitable Future

4. A clear roadmap for practice transformation: mindset, game plan, and education To provide the audience with actionable steps for integrating AI into their practices and adapting their mindset and skill sets.

4.1. The Mindset Shift & Self-Analysis

4.1.1. Audience **(DG)**

4.1.1.1. "What's the one skill you or your staff needs to unlearn to embrace this future?"

4.1.1.2. "Where is your biggest workflow inefficiency today?"

4.1.1.3. "Which new skill would give your team the greatest advantage?"

4.1.2. Discussion **(SM)**

4.1.2.1. Performing a SWOT analysis on their practice.

4.1.2.1.1. Strengths (clinical expertise, patient loyalty)

4.1.2.1.2. Weaknesses (workflow friction, tech gaps)

4.1.2.1.3. Opportunities (AI efficiency, new revenue streams)

4.1.2.1.4. Threats (competition, slow adaptation)

4.1.2.2. Skills needed:

4.1.2.2.1. Data literacy

4.1.2.2.2. AI tool competency
4.1.2.2.3. Workflow design
4.1.2.3. Mapping current workflow to identify bottlenecks
4.1.2.4. Mindset shift:
4.1.2.5. From “protecting old processes” → “optimizing for value”
4.1.3. Demo:
4.1.3.1. **(BR)** discusses the shift in the provider mindset: from a data collector to a data interpreter and a trust builder.
4.1.3.2. **(EA)** discusses the necessary staff skill shift: from clerical to patient navigator/tech expert. Action: Map out current workflow. Skills: Highlight the shift needed: P3 discusses moving from a data collector to a data interpreter (the high-value skill). P4 discusses training staff in empathy, technology navigation, and advocacy. * Tool: Basic understanding of how to map out their current workflow process to identify friction points for AI solutions.

4.2. The Five-Year Game Plan

4.2.1. Audience **(DG)**
4.2.1.1. If you could only afford one AI-driven upgrade this year, where would you invest your money?"
4.2.1.2. “What technology is due for replacement in your practice next?”
4.2.1.3. “How do you evaluate whether a new tool enhances patient experience?”
4.2.2. Discussion **(SM)**
4.2.2.1. Technology acquisition roadmap, workflow evaluation, budgeting.
4.2.2.2. How to prioritize technology investments
4.2.2.3. Evaluating ROI and workflow impact
4.2.2.4. Steps for adopting future-ready systems
4.2.2.5. Change management strategies
4.2.3. Demo:
4.2.3.1. **(BR)** presents a sample 5-year plan: Year 1-2 (Interoperable Intake/Admin AI), Year 3-4 (Advanced Diagnostic AI), Year 5 (Telehealth & APHIS integration).
4.2.3.1.1. Action: Evaluate how the new tech will change their current workflow.
4.2.3.1.2. Action: A phased plan for technology acquisition and replacement.
4.2.3.2. **(BR)** outlines a sample roadmap:
4.2.3.2.1. Year 1-2 (Focus on foundational, AI-powered Intake/Billing solutions),
4.2.3.2.2. Year 3-4 (Integration of Diagnostic AI),
4.2.3.2.3. Year 5 (Exploration of APHIS connectivity and Telehealth).

4.3. Evolving Education & Training

4.3.1. Audience **(DG)**
4.3.1.1. "How can our current CE systems better prepare you for the AI changes coming next year?"
4.3.1.2. “What skills would you like your staff to learn in the next year?”
4.3.1.3. “How should professional programs adapt to prepare tomorrow’s clinicians?”
4.3.2. Discussion **(SM)**
4.3.2.1. Changes in professional and continuing education
4.3.2.2. Professional schools evolve:
4.3.2.2.1. AI literacy
4.3.2.2.2. Data-enabled diagnostics
4.3.2.2.3. Communication skills enhanced by technology
4.3.2.3. Continuing education shifts to:

4.3.2.3.1. Adaptive learning systems
4.3.2.3.2. Micro-credentialing in AI tools
4.3.2.3.3. Team-based skill development

4.3.2.4. Continuing Education (CE): CE must shift from primarily disease-based to system-based training, focusing on integrating new workflows, ensuring data security, and maintaining the patient-provider trust in a technology-rich environment. The goal is to ensure the patient-provider engagement remains human-centered, only improved by technology.

4.3.3. Demo:

4.3.3.1. **(BR)** discusses how professional schools must teach Human-AI collaboration and data science.

4.3.3.2. **(EA)** discusses how Continuing Education (CE) must evolve to focus on integrating new workflows and trust-building in a virtual environment, not just disease.

4.3.3.3. **(BR)** details the necessary changes: integrating Human-AI collaboration courses, Data Science fundamentals, and Interprofessional Communication in virtual settings.

5. <u>Final Thoughts & Audience Q&A</u>