Implementing Genomics in a Direct-To-Consumer World: Opportunities for Education and Communication

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Disclosures

No conflicts to disclose

JAX Education does not aim to increase use of JAX (or non-JAX) commercial products or services

JAX Clinical Education empowers healthcare professionals to integrate genomics into clinical practice through community collaboration
Plan for today

- Discuss evidence-based approaches to designing and developing adult education
- Identify strategies to engage learners effectively
- Discuss lessons learned in disseminating genomics education
Direct-To-Consumer (DTC):
Greater access to health information
Clinical Scenario: Antonio

- 30 years old
- Works in IT
- Married, 2 children
- Family history of cancer and heart disease
- Presents in clinic with DTC genetic testing results for over 50 health conditions

“Can you help me understand this?”
What are the opportunities for Antonio in having this information?
Patient opportunities and challenges

- Increased engagement in health
- Assessing information quality
- Prioritizing information
What are the provider’s greatest challenges in this scenario?
Provider opportunities and challenges

- Opportunity for preventive medicine
- Patient questions motivate learning
- Competing priorities
- Limited time
- Lack of knowledge, confidence, skills
Who has the greatest educational need?
There are plenty of needs to go around
Education can be part of the solution

- Opportunity for preventive medicine
- Assess information quality
- Questions motivates learning
- Knowledge, skills, attitudes
- Limited time
- Competing priorities
- Engagement in health
- Prioritize information
Education can be part of the solution cont.

**Education**
- Knowledge, skills, attitudes
- Prioritize information
- Assess information quality

**System**
- Limited time
- Competing priorities
- ETC…
Maximize effectiveness of education

- Determine appropriate goals
- Use evidence-based approaches
- Plan for dissemination
Analysis: Needs Assessment

- Who is this for?
- What is the goal?
- What gap does this fill?
Scenario: Develop an education program for PCPs about DTC test results

“"We need help with patients who come in with DTC results. We’d like you to provide an education program to help our providers.”"
There are likely a number of “problems” that could be addressed

- Awareness
- Knowledge
- Confidence
- Systems issues
Define problem and overall goal for the learner

Problem: Clinicians say they aren’t sure about which DTC results are reliable and how to incorporate results into medical care.

Goal: Provide appropriate follow-up based on DTC results
Target education to audience’s readiness to learn

awareness agreement adoption adherence

Target education to audience’s readiness to learn cont.

Digital channels

- E-Newsletter
- Social media
- Webinars
- Moderated forums
- Patient education
- EHR reminders

Print materials
- Lectures
- Facilitated workshops
- Academic Detailing
- Audit and Feedback
- Consulting

Physical channels

Practice

Joyce

- Family medicine physician in suburban private practice
- No specific genetics training beyond medical school
- Refers ~5 pts/year to cancer genetics
- Two patients last month came in with DTC results
- Uncertain if her interpretation was correct
Q. Where is Joyce on the awareness-adherence path?
Q. What delivery mechanism would you consider?

A. Social media campaign
B. Lecture
C. Workshop
D. EHR alerts
Analysis Considerations

- Audience characteristics influence uptake
- Educational goal is applicable to job
- Remember that education is not always the solution
Content

- What is most important to include and prioritize?
Scenario: Improve identification of patients for genetics referral

We need to improve our identification of patients who are at increased risk of cancer and need to be referred. We’d like you to provide an education program to help do this.
Q: What topics would you cover?

“We need to improve our identification of patients who are at increased risk of cancer and need to be referred. We’d like you to provide an education program to help do this.”
Break the overarching goal into specific tasks

- Identify patients at increased cancer risk based on family history
- Collect a sufficient family history
- Assess family history for cancer risk
- Identify red flags
- Identify patterns
- Stratify risk
GRACE by JAX
Genetics Risk Assessment Cancer Education

- Collecting sufficient family history
- Identifying red flags and patterns
- Categorizing cancer risk
- Using family history to inform management
- Cancer pretest decisions and counseling
- Genetic testing technology

- Genetic testing process
- Interpreting cancer genetic testing results
- Genetic testing for breast cancer risk
- Genetic testing for colorectal cancer risk
- Identifying and managing Lynch syndrome

www.jax.org/grace
Use learning objectives to focus content

- Collect a family history with sufficient detail
- Analyze a family history to identify patients at increased or high risk of cancer
  - Identify red flags
  - Identify patterns
  - Stratify risk
Need to know vs. Nice to know

**Actionable**

Accurate, not complete

**Expert**

Accurate, complete

Vs.
Teach to the clinical tasks

Q. Is Bethany at average, increased, or high risk for breast cancer?

- A. Average
- B. Increased
- C. High risk

Q. What is your recommendation about next steps?

- A. Refer her to a genetic counselor
- B. Begin ovarian cancer screening
- C. Recommend population screening (annual mammography starting at age 50)
Effective education is situated in a relevant clinical context

Meet Jillian

Reason for visit
Annual exam

Medical hx
46 y/o
Hypothyroidism

Social hx
Married, two sons

Q: What is Jillian’s cancer risk?
A. High
B. Increased
C. Average
Q. What is NEED to know content?

Learning objective
Collect a family history with sufficient detail for risk assessment in primary care

A. Pedigree development
B. What questions to ask
C. What tools are available
D. Factors that increase risk
Content Considerations

- Real-life tasks define what topics are needed
- Focus on the need to know vs. nice to know
- Provide relevant context
Delivery

- What is the best way to present my content?
- What is the ideal delivery mechanism?
- How can I maximize the effectiveness of a set format?
Delivery & Instruction

Delivery mechanism

- Means of overall delivery of education program

Examples
- Grand rounds
- Online course
- Video

Instructional strategy

- Method of teaching educational content

Examples
- Case study
- Feedback
- Self-reflection
Scenario: Implement family history best practices

“Family history screening for colon cancer can save lives, but it is not being done in a systematic way in most clinics. We need a resource to help PCPs collect and interpret family history and detect early on colorectal cancer.”
Toolkit Goal

Develop a system that helps primary care practices:

- Implement a structured family history collection process
- Identify and manage patients at increased/high risk of CRC
- Recognize and rapidly diagnose patients with a presenting CRC
Educational goal should drive instructional strategy

**Goal**
- Implement a structured family history collection process
- Identify and manage patients at increased/high risk of CRC

**Strategy**
- Stepwise instruction: Implementation & clinical skills
- Tools and worksheets
- Curated resources and education
Using different strategies reinforces learning

- Standardized patient
- Case studies
- Audience response
- Small groups
Reinforce learning by touching audience multiple times
Q. What delivery would you use?

Goal
Recognize the benefits of cancer family history risk assessment.

A. Checklist
B. Online course
C. Newsletter
D. Social media
E. Workshop
Q. What delivery would you use?

Goal
Analyze a family history to identify patients at increased or high risk of cancer

A. Checklist
B. Online course
C. Newsletter
D. Social media
E. Workshop
Match delivery to goal

Digital channels
- E-Newsletter
- Social media
- Webinars
- Moderated forums
- Patient education
- EHR reminders
- Lectures
- Facilitated workshops
- Academic Detailing
- Audit and Feedback
- Consulting

Print materials

Physical channels

Delivery Considerations

- Informed by educational goal
- Multiple, sequenced exposures
- Multiple modalities
Evaluation

- What is my goal for evaluation?
- What outcomes are most important?
- How do I assess them?
Scenario: Evaluate diverse program and learners

“We have enduring modules that are taken by diverse learners. We want to assess educational outcomes as well as the impact of the program as a whole.”
Precision Medicine for Your Practice

Topics

- Non-invasive prenatal screening
- Tumor genomics
- Neurogenomics
- Genomic testing in the healthy
- Exome testing for diagnosis
- Cardiogenomics
- Pharmacogenomics
Precision Medicine for Your Practice: Evaluation Plan

- Short term
  - Individual learner
  - Assess learning gains, satisfaction
  - Short pre/post surveys

- Long term
  - Practice or program (with clinical implementation?)
  - Assess changes in knowledge, confidence, behaviors, patient outcomes?
  - Longitudinal surveys
Evaluate different levels of outcomes

- Results
  - Patient outcomes
- Behavior
  - Practice change
- Learning
  - Knowledge, skills, attitudes
- Reaction
  - Satisfaction & usability

Kirkpatrick 1994
Learning assessment should match education

- Assess outcomes of learning objectives
- Fidelity between instructional strategies and assessment items

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<th>Learning objective</th>
<th>Instructional Strategy</th>
<th>Assessment</th>
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<td>Stratify cancer risk to average, increased, and high risk</td>
<td>[Diagram showing stratification of risk]</td>
<td>[Rachelle's risk assessment question]</td>
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Q. Is Bethany at average, increased, or high risk for breast cancer?

- A Average
- B Increased
- C High risk

Rachelle's mother was diagnosed with ovarian cancer at age 43 and her sister was diagnosed with breast cancer at age 55. Is Rachelle at average, increased, or high risk for ovarian cancer?

- High
- Increased
- Average
Consider feasibility of evaluation plan

Evaluation goal: Determine the impact of a blended learning program on clinician knowledge, skills, attitudes, confidence, and practice longitudinally.

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Q. How would you assess?

**Learning objective**
Communicate with patients about DTC test results

**Delivery**
Small group role plays with feedback

A. T/F items
B. Multiple choice items
C. Likert items
D. Standardized patient
Evaluation Considerations

- Methods informed by education
- Consider different kinds of outcomes
- Balance evaluation goals with feasibility
Putting it all together

Analysis

Content

Delivery

Evaluation

grace

Genetics Risk Assessment Cancer Education
Putting it all together

Set parameters:
- Cancer genetics topic
- Online including video

**Audience:** PCPs, early-adopters

**Goals:** Assess risk, manage, and communicate with patients about cancer genetic risk
Putting it all together

- Tasks
- Learning objectives
- Prioritization
- Realistic context
Putting it all together

- Online course
- SHORT modules
- Multiple instructional strategies
  - Video
  - Case studies
  - Topic summaries
  - Tools
Putting it all together

- Identified outcomes
- Identified assessment approach
- Program evaluation every 2 years
FAST EASY FREE

Public health campaign to increase clinician access to evidence-based cancer genetics recommendations

11 modules + 15 minutes

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We built it; will they come?
GOAL: Increase enrollment
There’s no recipe to follow

- Experts don’t agree
- Literature is only helpful so far
- Landscape is changing rapidly
Assess resources

- Email lists
- Subject matter expertise
- Familiarity with target audience
- Extensive experience in developing education
Recognize challenges

- Target audience awareness of JAX
- Limited access to existing marketing infrastructure
- Internal bandwidth and expertise
- $$$

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Genetics Risk Assessment Cancer Education
There are common processes and approaches
Develop plan

Increase clinician engagement

# exposed
# enrolled
Delivery must be feasible

✓ Email
✓ In-person
✓ Facebook
✓ Twitter

TV

✗ LinkedIn
✗ Paid Ads
✗ Google+

? SEO
? Direct mail
? Boosted tweets

Etc...
Define the problem the education will help solve
Messaging

- FREE
- CME/CNE
- Don’t miss at-risk patients
- Can you identify who’s at-risk?
- This state has one of the highest cancer rates
The approach that works is the one you can implement

- Available resources
- Access to channels
- Knowledge about the target audience
- Expertise to evaluate impact
- Ability to sustain efforts
# Multimodal approach

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- Started @JAXClinicalEd twitter feed Feb 2018
Status at 6 months

>10,000 PCPs

+ 

>104 attendees

+ 

144 followers

122 registrants

@JAXClinicalEd
Find your audience

- Know your audience
- Identify who they trust
- Determine needed assets
- Personal outreach
Next steps

● Delivery
  ○ Outreach to professional organization local/regional
  ○ Personal outreach
  ○ Boosted tweets
  ○ Blog

● Value proposition/Content messaging
  ○ Assess trends to maximize impact

● Evaluation: Complex!
Dissemination Considerations

- Define your goals
- Assess your resources
- Focus on the value proposition
- Go to your audience
So...how can we best help Antonio?

“Can you help me understand this?”
Best practices still apply in a DTC world

- Know your audience
- Focus on the skill rather than knowledge gain alone
- Separate need to know from nice to know
- Provide learning in relevant context
- Match delivery to educational goals
- Match evaluation to desired outcome
- Prioritize dissemination
Thank you!

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