X-Plain®
PATIENT EDUCATION

Arabic & English
Patient Education

Table of Contents

www.patient-education.com

What We Do

The Patient Education Institute helps healthcare organizations educate patients through the award-winning X-Plain products. X-Plain:

(1) Captures the patient's attention through interactive programs.

(2) Asks the patient questions to ensure they understand vital health messages.

(3) Documents the educational session in existing health IT systems.

X-Plain offers thousands of evidence-based health education topics in several languages. Each topic is available in different formats – such as videos, tutorials, and illustrated handouts – to suit the patient's individual preferences and learning style.

For the past 24 years, the Patient Education Institute has helped healthcare organizations implement patient engagement systems that satisfy a variety of mission-critical needs. We help our clients:

- Improve outcomes by ensuring patient comprehension and compliance.

- Increase efficiency and save staff time.

- Engage the community with campaigns designed to promote public health and prevent disease.

- Increase patient experience and patient satisfaction scores.

- Manage the expectations of patients and their families to mitigate the risk of medical malpractice complaints and lawsuits.

- Meet regulatory requirements related to informed consent, discharge instructions, and meaningful use.

- Increase traffic on our clients' websites and promote their brand names.

- Standardize health messages across the health system.

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Why X-Plain

Our Approach

We help healthcare providers engage patients and ensure that they understand their treatment options and care instructions. Our solutions are known as X-Plain®.

Studies have shown that many patients do not read the handouts given to them, and when they do, they often don't understand the information. Teach-back is a common way of verifying patient comprehension through face-to-face communication. X-Plain tutorials assist with the teach-back method by asking questions and providing interactive feedback. Our programs use multimedia presentations to support informed consent, provide discharge instructions, help with disease management, and promote public health.

What Is an X-Plain Tutorial?

An X-Plain tutorial is a multimedia presentation that covers a specific health topic. Each slide displays simplified text alongside related illustrations and animations. The text is fully narrated so patients can listen and read at the same time.

The tutorial asks the patient questions during the presentation to verify understanding. If the patient answers correctly, the concept is reinforced. If the patient answers incorrectly, the tutorial explains the concept again.

Each patient can advance through the tutorial at his or her own pace. The programs maintain the patient's attention through multimedia, interactive questions, and a variety of techniques based on adult learning research.

See an X-Plain tutorial in action.

The X-Plain library includes thousands of tutorials in English, Spanish, and Arabic. They span the entire continuum of care, including acute and chronic care, procedures and discharge instructions, informed consent, rehab, and health promotion.

The Patient Education Institute publishes each health topic in 5 other instructional formats: videos, illustrated handouts, text, overviews, and test-your-knowledge quizzes. The variety of educational formats allows patients to select their preferred learning method.

X-Plain offers more than 16,000 patient education items that can be delivered through a client's website, tablets, EMR, patient portal, bedside TV system, and other channels.

Who Writes and Updates the X-Plain Content?

Our Medical Advisory Board writes all of the content, which is trusted by the Who's Who in Medicine and Healthcare. Contact us for detailed information about how we write, revise, and update our content.

Why Do Patients Prefer X-Plain?

Our end-users are patients and health consumers. Since 1995, hundreds of evaluation studies conducted independently by our clients have shown that more than 9 out of 10 patients appreciate X-Plain and wish all their doctors offered it.

Why do patients appreciate X-Plain? Here are the 5 main reasons:

(1) Patients can see and hear the information in multiple modalities at once (text, narration, illustrations, and animations). Research shows this multiple-input approach improves the user's attention, comprehension, and retention of the material.

(2) The user controls the pace of learning – they can proceed at their own pace and return to previous slides for review. They can also turn off the narration to advance more quickly, if desired. If the patient becomes distracted, the presentation stops until he or she touches the screen.

(3) Patients gain confidence when they answer interactive questions correctly. Confident patients are more likely to ask their healthcare team questions and to point out possible medical errors.

(4) Patients feel less intimidated when they answer a question incorrectly in an electronic program than when they give an incorrect response to a nurse or doctor.

(5) Patients can see the health topic in the formats of their choice (video, multimedia tutorial, illustrated text, etc.).

Why Do Nurses, Doctors and Other Healthcare Staff Prefer X-Plain?

Healthcare teams that choose us over the competition often state one or more of the following reasons:

(1) Teach-back is a time-consuming activity. X-Plain makes the process less intimidating for the patient and prepares him or her to communicate effectively with healthcare providers.

(2) X-Plain solutions can be integrated into existing software systems (EMR, patient portal, bedside patient station, etc.), so there is no need to learn new software.

(3) Nurses want their patients to be satisfied, confident, and empowered to ask questions. Surveys affirm that X-Plain consistently helps patients understand their options and engage in their care.

(4) We offer more than 5,200 multimedia programs – more than any of our competitors. These programs span 40 medical specialties across the continuum of care.

(5) We offer a free trial period and surveys so prospective clients can evaluate patient and staff feedback.

Why Do Healthcare Executives Support Staff Who Want to Use X-Plain?

Executives of healthcare organizations face the challenge of improving outcomes while reducing cost. During the past two decades, hundreds of studies have shown that educating and engaging patients can help improve outcomes, reduce costs, and enhance patient satisfaction.

Executives of healthcare institutions who support investing in X-Plain often state one or more of the following reasons:

(1) The Patient Education Institute (PEI) helps our staff implement and evaluate X-Plain. PEI provides metrics on usage and completion of the programs. X-Plain tutorials also report completion and comprehension data.

(2) X-Plain uses existing devices, such as tablets, computers, or bedside TVs. X-Plain programs also run on the patient's own smartphone or tablet.

(3) PEI has a longer track-record in electronic health education than any of its competitors – 24 years of experience developing computer-mediated patient engagement solutions.

(4) PEI can help standardize communication across a health system. We publish each topic in different educational formats (videos, tutorials, illustrated handouts, etc.). Then we update the content and deliver it through various channels (the website, TVs, EMR, patient portal, smartphone apps).

(5) PEI keeps an archive of each X-Plain multimedia program. Should a medico-legal need arise, we can show what a patient has seen years ago.
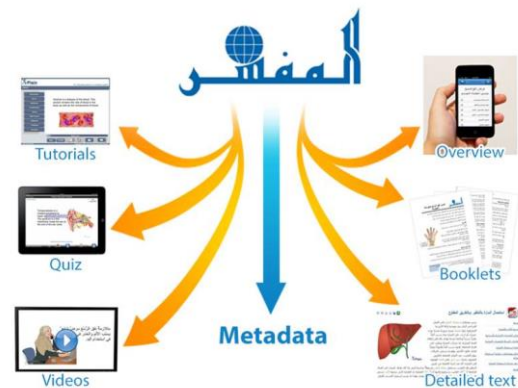
Who & How We Help

Our main clients are health systems, hospitals, outpatient centers, physician groups, payers and other healthcare stakeholders. We partner with healthcare IT vendors that provide healthcare informatics solutions.

Large Hospitals & Health Systems

X-Plain offers several solutions to help hospitals reduce readmission, improve patient satisfaction, save staff time, and support meaningful use. The most common X-Plain solutions for hospitals are:

- To support meaningful use: X-Plain for EMR.

- To engage patients beyond the point of care: X-Plain for Patient Portals.

- To improve patient experience: X-Plain for Bedside.

- To improve community service and market visibility: X-Plain Health Encyclopedia for Websites.

- To provide population health services: X-Plain for Wellness.

- To mitigate malpractice liability: X-Plain Patient Education & Documentation System.

- To engage all patients and reach those with limited literacy skills: X-Plain for Tablets.

Hospitals can subscribe to any of the above solutions. The X-Plain Enterprise Solution allows a hospital to use a combination of the above solutions or all of them. Contact us for a full list.

Outpatient Clinics and Ambulatory Centers

X-Plain offers several solutions to help outpatient clinics save time, improve patient satisfaction, and reduce appointment cancellations. Common X-Plain solutions for ambulatory centers include:

- X-Plain Health Encyclopedia to improve market visibility and provide up-to-date handouts.

- X-Plain Patient Education & Documentation System to mitigate malpractice liability.

- X-Plain for Tablets to save staff time and improve patient experience.

Home Health and Post-Acute Care Facilities

The two most common X-Plain solutions for home health care are:

- X-Plain for Tablets to ensure patient comprehension and compliance.

- X-Plain for Websites to provide illustrated handouts.

Physician Groups

The three most common X-Plain solutions for physician offices are:

- X-Plain for Websites to improve market visibility and provide up-to-date content.

- X-Plain Patient Education & Documentation System to mitigate malpractice liability.

- X-Plain for Tablets to save staff time and improve patient experience.

Payers and Insurers

We work with payers of healthcare services to manage chronic diseases, promote healthy living, implement shared-decision making, reduce medical errors, and promote infectious disease prevention and control. Our clients include health ministries and related government agencies, insurance companies, HMOs, and employers. We have helped the largest HMO in the USA and the Ministries of Health in the Middle East and South America. The following are the most common X-Plain solutions used by payers and insurers:

- [X-Plain Health Encyclopedia](#) to support population health services.

- [X-Plain for Wellness](#) to provide corporate wellness services.

- [X-Plain for EMR](#) to support meaningful use.

- [X-Plain for Patient Portals](#) to engage patients beyond the point of care.

- [X-Plain Patient Education & Documentation System](#) to mitigate malpractice liability.

- [X-Plain for Tablets](#) to engage all patients and reach those with limited literacy skills.

Wellness Companies

A healthy workforce leads to reduced stress levels, increased job satisfaction, and improved productivity. X-Plain for Wellness supports corporate wellness initiatives that aim at reducing healthcare costs and illness-induced absenteeism.

The Patient Education Institute has developed a population health solution to engage health information consumers and thus improve health management, decision making, and outcomes. We offer this solution, [X-Plain XML Database](#), to partners providing wellness products.
Our partners can integrate the X-Plain XML Database into their IT systems. The IT system uses X-Plain webservices to automatically assign topics based on employee health risk assessments or other criteria that the partner determines. The IT system can also track user completion and comprehension, which can be incorporated into an incentives program.
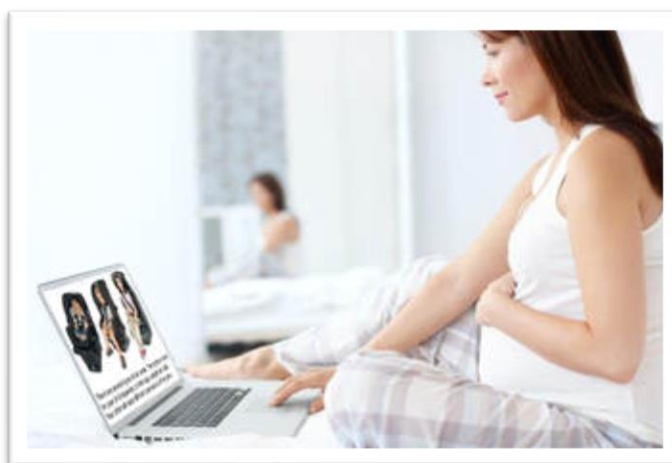
If you need a solution that does not require integration by your IT staff, [X-Plain Health Encyclopedia](#) may be right for you. Contact us for more information.

Health Informatics Partners

We collaborate with healthcare technology vendors to offer their clients comprehensive patient engagement solutions. Our partners are value-added resellers who integrate X-Plain with their existing products and services.

For more than a decade, our partners have included organizations that provide:

- Employee wellness programs.
- Health information kiosks.
- Health website development assistance.
- Hospital bedside patient stations or TVs.
- Hospital CCTVs.
- Population health services.

Evolving industries that we work with include:

- Patient engagement companies and call centers.
- Telehealth.
- Care management.
- Electronic medical records.
- Online medical consultations.
- Patient care.
- Patient portals.
- Point-of-care tablets.

Contact us for more information or refer to the frequently asked questions about our X-Plain XML Database solution for partners.

Other Care Settings

Over the past 24 years, our clients have included a variety of public health stakeholders, such as:

- Community health centers.

- Drug stores.

- Medical device manufacturers.

- Patient-Centered Medical Homes (PCMH).

- Pharmaceutical companies.

- Public Libraries.

- Rehabilitation centers.

- Religious organizations.

- Schools.

- Student health services.

Whether your institution uses a fee-for-service payment model, capitation, Alternative Payments Models (APMs), Bundled Payment Models (BPM), Care Transitions, or Patient-Reported Outcomes (PRO), X-Plain can help you engage patients, verify comprehension, and document patient education. Contact us to learn how.

Products

X-Plain for Tablets

X-Plain for Tablets is a convenient way to offer X-Plain tutorials to patients and their families. This solution for iPad and Android tablets can increase patient satisfaction and optimize staff time.

X-Plain for Tablets is ideal for inpatient settings, outreach clinics, and in-home visits. X-Plain for Tablets can run videos and multimedia programs without Internet access.

Frequently Asked Questions about X-Plain for Tablets

- Where is X-Plain for Tablets used?
  At a hospital or clinic, a member of the healthcare team first selects the desired topic(s) on the tablet. The patient then completes the tutorial at the bedside or in a waiting room, examination room, or patient education room.

  During an in-home visit, the healthcare provider can select a topic and then enter medical and billing information while the patient completes the tutorial on the tablet.

- How long is a tutorial?
  A tutorial takes an average of 14 minutes to complete. Some topics are shorter than others. To speed up the presentation, patients can mute the sound and read faster without listening to the narrator. Patients can also skip sections they already know about, such as the anatomy, symptoms, and diagnosis sections.

- Can I require my patients to watch all sections of a tutorial?
  Yes. Watching all sections is often necessary for informed consent purposes. You can set your tablet so that skipping around is not permitted. Please call us for more details and to discuss your needs.

- Do I need any hardware to use the product?
  You need an iPad or Android tablet.

- What topics are included?
  Clients can select as many titles as they need. Our library consists of 40 medical specialties, with numerous invasive procedure titles. Specialty clinics often select all of the titles within a medical specialty, while hospitals usually license a variety of topics. [Contact us](#) for a full list of titles.

- What format(s) does each topic come in?
  X-Plain for Tablets includes interactive multimedia tutorials, videos, and a hybrid between the tutorial and video. In the tutorial, the patient must touch the screen to advance to the next slide and answer questions to continue. The video proceeds without user input. The hybrid version advances without user input, like a video, and then presents questions at the end of selected sections. The patient must answer these questions to continue watching the hybrid program.

- How often is the content updated?
  We review the content of each topic every two years. We update the content as needed in each educational format and all three languages.

- How do I receive content updates?
  When you enter a Wi-Fi zone, there is an update button in the settings that clients push to receive content updates.

- What is the learning curve for healthcare staff using X-Plain?
  X-Plain for Tablets offers an intuitive, easy-to-use interface with a minimal learning curve. The provider should know which specialties and topics they have licensed so they can choose the appropriate one(s). Providers can also search by keyword or browse the menu to find the topics they need.

- What is the learning curve for patients and caregivers using X-Plain?
  X-Plain tutorials are very easy to use. The patient simply swipes left to move forward and right to move backward. To answer a question, the patient touches the answer. To skip to a different section, the patient touches the name of that section in the menu.

- Does this solution document the educational session?
  X-Plain for Tablets does not document the educational session. If documenting completion and comprehension of X-Plain programs is important to you, consider licensing X-Plain's Patient Education and Documentation System (PEDS).

- Can I customize the content with the name and logo of my healthcare institution?
  Yes, we place the name of the client on each page and the client's logo on the first page.

- Is this solution sold as a subscription?
  Yes, X-Plain for Tablets is sold as an annual subscription. Contact us for a quote. You can cancel the subscription at any time.

- Can I try out the solution before buying it?
  Yes, we offer a 30-day free trial. To see how the app works, you can search for X-Plain in the App Store or in Google Play and then download the app, which comes with 10 pre-selected topics. To request the topics you need, we can give you an online account.

- Can I select a topic on my tablet and push it to the patient's smartphone or tablet?
  Yes, we can give you another app that can do that. This service comes at no additional cost as part of your subscription.

- Can I run the tutorials on more than one tablet at once?
  Yes, you can run the licensed tutorials on up to five tablets. If you need to access the tutorials on more than five tablets, there is a nominal fee. Contact us to let us know how many tablets you have, and we will provide a quote.

- Is there a limit on usage?
  No. There are no limitations on the number of users or sessions.

- Can I develop a custom tutorial using my own original content?
  Yes, we can develop custom tutorials for tablets that use your own content. Our clients use this service to obtain informed consent for clinical trials and to present information about emerging treatments.

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X-Plain Health Encyclopedia

The X-Plain Health Encyclopedia is designed for health websites and patient portals. It includes our full library, covering all medical specialties. For each health topic, the Encyclopedia provides an interactive tutorial, video, overview, full text, and illustrated handout.

Frequently Asked Questions about the X-Plain Health Encyclopedia

- How is the Health Encyclopedia used?
  Our clients put a link on their website that provides the public with access to the Health Encyclopedia. For authenticated access (username and password), see X-Plain for Patient Portals.

- Can the Health Encyclopedia be used in a clinical setting?
  Clients often put the Health Encyclopedia on their website as a service to the public. Many hospitals do choose to assign patient-specific health topics that patients can view on the hospital's website.

  The provider can ask the patient to review the indicated topic on a hospital device, such as a tablet, or the provider can print an illustrated handout. A nurse could alternatively give the patient a card with the Encyclopedia's URL and the name of the condition or treatment to review. The patient can then view the topic at home on his or her smartphone, tablet or computer.
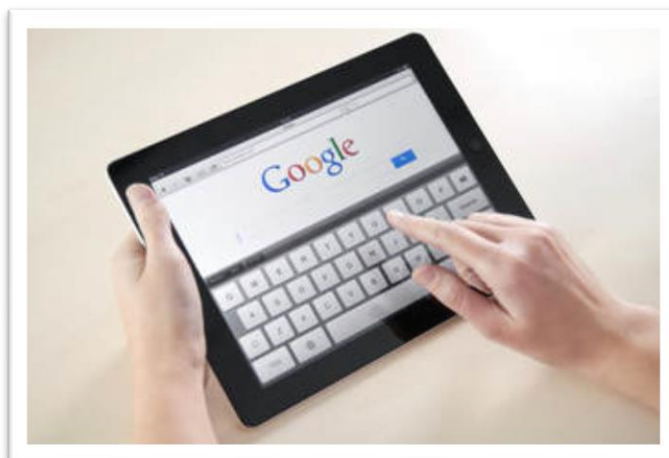
- Do I need any hardware or software?
  You do not need any hardware or software. You only need a website. Simply put a link to the Encyclopedia on your home page or within a main section of your website.

- Which topics are included?
  All X-Plain topics are included. Please contact us for a full list of topics.

- In what format(s) are the educational materials provided?
  We provide each topic in the following educational formats: interactive multimedia tutorials, illustrated handouts, overviews, and full text.

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- What languages are available?
  The topics are available in English, Spanish, and Arabic. Clients can choose the language(s) they need.

- How often is the content updated?
  We review our topics every two years. If the topic requires revision, each educational format is updated in all available languages.

- Where is the content housed and how is it updated?
  All of the content resides on X-Plain servers and is updated automatically. We publish updates daily, and they become available to clients immediately.

- What is the learning curve for healthcare staff?
  If a healthcare provider wants to print handouts from the website, they only need to know the location of the Health Encyclopedia on their website, or they need a bookmarked link. Once in the Encyclopedia, the provider can search alphabetically or by keyword. They can also browse by medical specialty, body system, or organ.

- What is the learning curve for patients and caregivers?
  When a healthcare provider suggests a topic specific to the patient, the patient simply needs to know the web address and topic name. If the patient wants to browse on their own, they can search by keyword, alphabetically, or by medical specialty, body system, or organ of interest.

  When completing an X-Plain tutorial, the patient usually has only two options on the screen, which makes navigation easy. Patients with limited computer proficiency have used X-Plain tutorials without assistance since 1995.

- Can I document completion of the tutorials?
  Patient education completed through the Health Encyclopedia is not documented. If you want to document patient education, see the X-Plain PEDS solution.

- Can I customize the Health Encyclopedia interface with the name and logo of my healthcare institution?
  Yes. You can display your name and logo on each page and in the menu bar. A copyright notice for X-Plain is included in the footer.

- Can I modify the content or functionality of the X-Plain Health Encyclopedia?
  Because the Health Encyclopedia houses our entire library as a package deal for a low price, it is not customizable. If you would like to customize the content or the interface, check out X-Plain for Websites.

- How much does the X-Plain Health Encyclopedia cost?
  We sell the Health Encyclopedia as an annual subscription that comes with free hosting,

automatic updates, and implementation assistance. The price depends on the type and size of the facility. Contact us for a quote.

- Can I cancel the subscription?
  Yes, you can cancel at any time.

- Do you offer a free trial?
  Yes, we offer a 30-day free trial. We provide a 5-item questionnaire to assist you in collecting feedback from your users. Please contact us to set up your free trial.

- How will I know if people are using the Health Encyclopedia?
  We provide metrics to track the website's usage.

- Is there a limit on usage?
  No. You can print, read, or listen to each topic an unlimited number of times. There is also no limit to the number of users.

- I only need a few topics or a single medical specialty. Do I have to purchase the full Encyclopedia?
  The Health Encyclopedia houses our entire library as a package deal for a low price. If you only need a few topics, you're looking for the X-Plain for Websites solution, which allows you to select the educational formats you need.

- Can the X-Plain Health Encyclopedia increase traffic to my website?
  Yes. When the government of Saudi Arabia implemented X-Plain on its website, traffic increased from 10,000 users per month to more than 2 million with the help of one full-time marketing manager. MedlinePlus (of the National Library of Medicine, National Institutes of Health) licensed X-Plain for 15 years and received, on average, an additional 1 million visitors per month using only 150 X-Plain topics.

X-Plain for EMR (Electronic Medical Records)

This product allows your EMR to automatically suggest patient education materials based on diagnostic coding and other metadata, such as keywords, gender, and age group. X-Plain's full library of textual materials and discharge instructions is included to help clients provide patient-specific information during an inpatient, outpatient, or emergency room visit. Once a patient-specific topic is selected, the provider may then print or email the health topic to the patient. They could also push the topic to the patient portal or bedside station.

Frequently Asked Questions about X-Plain for EMR

- How does X-Plain for EMR work?
  When a healthcare provider enters a diagnosis, a scheduled treatment or a procedure into the EMR, it will automatically suggest a list of relevant titles. The provider can select the topic(s) they need and print a handout or push the topic(s) to the patient portal.

- Do I need any hardware or software?
  You need an electronic medical record system or related healthcare IT system to integrate X-Plain.

- What topics are included?
  Our library houses all X-Plain topics, including discharge instructions. In total, more than 1,700 medical conditions and procedures are included.

- What educational formats are included with each topic?
  For each health topic, the following textual formats are included: an illustrated handout, full text, and overview.
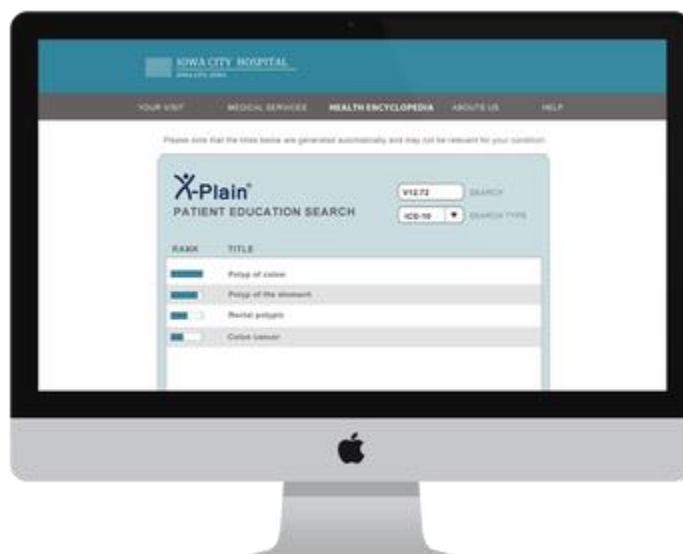
- What languages are available?
  We offer titles in English, Spanish, and Arabic.

- How often is the content updated?
  We review the content of each topic every two years. We update the content as needed in each educational format and all three languages.

- Where is the content hosted and are updates automatic?
  If the content resides on the hospital servers, updates are delivered periodically to the EMR content manager. Alternatively, we can host the content, in which case updates are automatically pushed to clients as they become available.

- What is the learning curve for healthcare staff?
  Providers need to be familiar with the patient education tab within the EMR system and the EMR system as a whole.

- What is the learning curve for patients and caregivers?
  There is no learning curve – patients simply read the content provided. The PDF version of the illustrated handout can narrate the textual content and describe the illustrations.

- How is private health information treated within this solution?
  The EMR documents when an illustrated handout is printed. X-Plain for EMR does not use or store any personally identifiable information (PII) on X-Plain servers. Ask your EMR technician or vendor about the documentation features of your EMR, or contact us for more information.

- Can my healthcare institution place our name and logo on the content?
  Yes. X-Plain for EMR can be branded, but this is usually a function of the EMR. Ask your EMR technician or vendor if you can put your logo on the printed handouts.

- Can I white-label all of the X-Plain content?
  Yes. We only require a copyright notice in the footer.

- Can I modify the textual content?
  You can modify the textual content, but this is usually a function of the EMR. Ask your EMR technician or contact us if you have questions.

- Is this solution sold as a subscription?
  Yes. The subscription is annual, and you can cancel at any time.
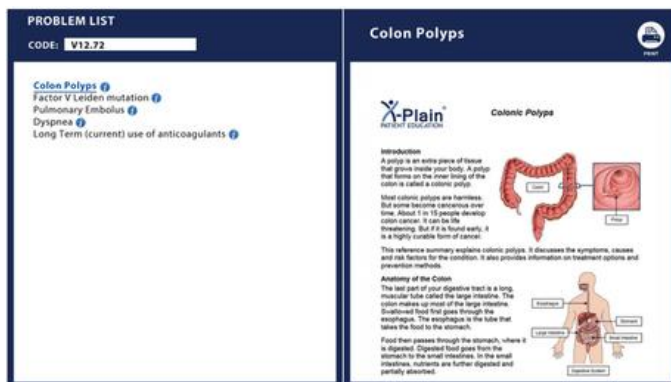
- How much does it cost?
  The price for hospitals in the USA is based on the number of inpatients and outpatients. For international hospitals without published statistics, we offer an alternate pricing structure based on the number of beds or physicians. Contact us for a quote.

- Can you help us implement the solution at our facility?
  Yes, implementation assistance is included with the subscription to X-Plain.

- Can I try out the solution before buying it?
  Yes, we offer a 30-day free trial.

- Do you offer any add-on services?
  We offer medical illustrations. If you developed in-house patient education content that you want to include in your EMR, you can enhance them with X-Plain images and photos.

X-Plain for Patient Portals

X-Plain for Patient Portals gives patients a highly engaging experience within the patient portal. When users log into a patient portal, they gain access to patient-specific programs about their health conditions and any recent or scheduled procedures. Patients can also browse the X-Plain Health Encyclopedia for topics of interest. They can then read about the topic, watch a video, or complete an interactive learning session.

Frequently Asked Questions about X-Plain for Patient Portals

- How is X-Plain for Patient Portals used?
  After the patient logs into the patient portal, they will see a list of their medical conditions, procedures, and medications. To access a list of relevant patient education materials, the patient will click on the Infobutton next to their conditions and procedures. A list of relevant patient education topics will appear. When the patient clicks on one of the topics, the patient then chooses his or her preferred educational format (illustrated text, video, or tutorial) and language. They can then read about the topic, watch the video, or complete the interactive tutorial.

- What if my patient portal does not connect to the EMR?
  The patient portal often uses diagnostic data from the EMR system to pull relevant X-Plain content. If the EMR system and patient portal are connected, the patient's medical coding will automatically bring up the relevant X-Plain topics. If the patient portal does not read the medical record of the patient, users can search the X-Plain Health Encyclopedia embedded in the patient portal.

- What topics are included?
  All X-Plain topics, including discharge instructions, are included in this solution.

- What format(s) does each topic come in?
  Each topic comes in the following educational formats: videos, tutorials, handouts, full text, and overviews. You can select a subset of these formats if you don't need all of them.

- What languages are available?
  We offer topics in English, Spanish, and Arabic.

IOWA CITY HOSPITAL
Welcome, Lindsay

Messaging | Visits | My Medical Record | Billing and Insurance | Preferences

Health Summary

Your Health Summary gives you up-to-date information about your current health issues, medications, allergies, and immunizations. Use the links to jump directly to a section of your Health Summary.

If your health summary needs to be updated, ask your health care team to correct any inaccurate information at your next appointment.
Current Health Issues | Medications | Allergies | Immunizations

Current Health Issues

Health Issue	Date Noted
Colon polyps	06/11/2012
Factor V Leiden mutation	01/09/2014
Pulmonary embolus	10/10/2010
Dyspnea	01/09/2014
Long term (current) use of anticoagulants	01/17/2014

Medications

If you are taking additional medications, or are no longer taking medications that appear on this list, submit an update to your record.

IOWA CITY HOSPITAL
IOWA CITY, IOWA

YOUR VISIT | MEDICAL SERVICES | **HEALTH ENCYCLOPEDIA** | ABOUTS US | HELP

Please note that the titles below are generated automatically and may not be relevant for your condition.

X-Plain®
PATIENT EDUCATION SEARCH

V12.72 | SEARCH
ICD-10 | SEARCH TYPE

RANK	TITLE
	Polyp of colon
	Polyp of the stomach
	Rectal polypic
	Colon cancer

IOWA CITY HOSPITAL
IOWA CITY, IOWA

YOUR VISIT | MEDICAL SERVICES | HEALTH ENCYCLOPEDIA | ABOUTS US | HELP

Colonic Polyps

This program explains colonic polyps. The program includes the following sections: what are colonic polyps, what is the anatomy of the colon, what are symptoms of colonic polyps, what causes colonic polyps, what is screening for colonic polyps, how are colonic polyps diagnosed, what are treatment options for colonic polyps, and how to prevent colonic polyps.

Interactive Tutorial

Illustrated PDF Handout

Full Text

Text by Section

IOWA CITY HOSPITAL
IOWA CITY, IOWA

YOUR VISIT | MEDICAL SERVICES | **HEALTH ENCYCLOPEDIA** | ABOUTS US | HELP

Health Encyclopedia   Español

Browse by first letter of topics:
A B C D E F G H I J K L M
N O P Q R S T U V W X Y Z

Search topics by keyword
V12.72 | Search

Colonic Polyps

Introduction
Anatomy of the Colon
Symptoms
Causes
Diagnosis
Treatment
Prevention
Summary

Overview
A polyp is an extra piece of tissue that grows inside your body. Colonic polyps grow in the large intestine, or colon. Most polyps are not dangerous. But some polyps may turn into cancer or already be cancer.

To be safe, health care providers remove polyps and test them. Polyps can be removed when a doctor examines the inside of the large intestine during a colonoscopy.

Anyone can get polyps, but certain people are more likely than others. You may have a greater chance of getting polyps if you:
- Are over age 50.
- Have had polyps before.

Interactive Tutorial
PDF Handout

- How often is the content updated?
  We review the content of each topic every two years. We update the content as needed in each educational format and all three languages.

- Where is the content hosted and are updates automatic?
  The client decides who should host the content. If the content resides on the hospital servers, updates are delivered periodically to the content manager. If the Patient Education Institute hosts the content, updates become available automatically.

- Is there a learning curve for healthcare staff?
  Healthcare providers just need to inform patients of the availability of the patient portal service.

- What is the learning curve for patients using X-Plain?
  The learning curve for patients is minimal. The most challenging part for many patients is remembering their patient portal login information (username and password). On a smartphone, retinal or fingerprint identification can help with this. Once inside the patient portal, the patient simply clicks on the Infobutton next to each condition or treatment.

  The multimedia programs are also very easy to use. There are usually only two options on-screen, such as advancing to the next slide or reviewing the previous slide.

- What kind of information does X-Plain for Patient Portals document and how is private health information treated?
  X-Plain for Patient Portals can document when a patient watches a video or completes a tutorial. This type of documentation is usually a functionality of the patient portal itself. Ask your patient portal technician or vendor for more information.

- Can I customize the content with the name and logo of my healthcare institution?
  Most patient portal vendors allow us to brand our content with the client's name and logo. Ask your patient portal technician or vendor if this is an option or contact us for more details.

- Can I send reminders to the patient to review their discharge instructions?
  Yes, this is often a functionality of the patient portal itself.

- Can I modify the content to add specific details about my hospital?
  Healthcare providers can modify the textual content within the EMR itself. Many EMR systems

allow providers to modify, save, and send discharge instructions to the patient portal. Ask your EMR technician or vendor or call us for more information.

- Is this solution sold as a subscription?
  Yes, X-Plain for Patient Portals is sold as an annual subscription. Content updates and implementation assistance are included with the subscription fee. You can cancel the subscription at any time.

- Can I try out the solution before buying it?
  Yes, we offer a 30-day free trial. You also need the approval of your patient portal technician or vendor.

- Do you offer any add-on services?
  We also have a library of 10,000 medical illustrations. If you have developed in-house patient education content that you want to include in your patient portal, you can enhance them with X-Plain images and photos.
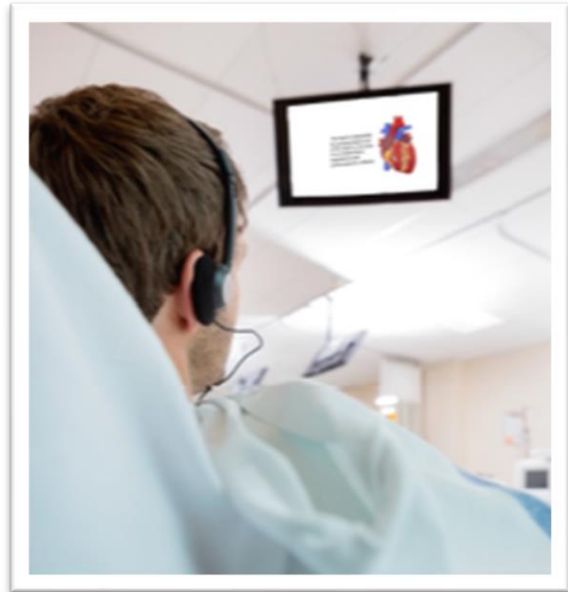
X-Plain Videos

We offer more than 2,500 patient education videos. Users can watch the videos on a DVD player or CCTV system. Please refer to the frequently asked questions below or contact us for more information.

Frequently Asked Questions about X-Plain Videos

- Do I need any hardware to use the product?
  Healthcare facilities will need to upload the video files on a DVD player or TV system.

- What topics are included?
  The client can select as many titles as they need – from as little as one topic to the entire library.

- Do you offer videos in languages other than English?
  Yes, our topics are available in English, Spanish, and Arabic.

- Are your videos live-action or animated?
  X-Plain videos use illustrations and animations to convey key messages. This method has proven to be more educationally effective and engaging then talking-head videos.

- Are captions available?
  Yes, all our videos are open-captioned with the full text of the narration on-screen.

- Do the videos come with handouts?
  Yes, we can give you illustrated PDF handouts that you can email or print as needed.

- I've noticed that some of your solutions include interactive questions. Does the video solution come with questions?
  Videos that are delivered on a DVD do not include questions. If you're looking for a solution with interactive questions and feedback, you may want to consider X-Plain for Tablets.

- What is the pricing model for videos?
  X-Plain videos are sold for a one-time fee and do not come with content updates. If you are interested in receiving updates, consider licensing videos on X-Plain for Tablets.

- Can I get a discount for buying multiple videos?
  Yes, the more videos you purchase, the lower the cost per title.

- Can I try out the solution before buying it?
  If you would like to review the content of the videos or test them with your patients, we will provide online demo links to the videos. Once you determine which titles you need, we will mail or deliver the DVDs.

- Can I make copies of the video and give them to patients to watch from home?
  The video license does not permit clients to make copies of the video and distribute them to patients. If you want patients to review the videos at home, consider X-Plain for Websites.

- Can I use the video on more than one machine?
  Yes, you can use each video on up to five machines. If you need to use the video on more than five machines, we will charge a nominal broadcasting fee.

X-Plain at the Bedside

With X-Plain at the Bedside, your hospital can deliver up to 2,500 videos through your bedside patient stations. This product runs on smart TVs, tablets, and CCTV systems. Many clients use diagnostic and procedural coding to automatically push patient-specific health topics to bedside smart TVs. Bedside systems that support interactivity can also document completion and comprehension of the videos/tutorials.

Frequently Asked Questions about X-Plain at the Bedside

- Where is X-Plain at the Bedside used?
X-Plain at the Bedside runs on patient stations that provide entertainment and education to patients and their caregivers. The most common setting is the hospital's bedside TV or CCTV system.

- How is X-Plain at the Bedside used?
Patient bedside stations can stream videos from a server. The nurse can select patient-specific educational videos for each patient. In more advanced bedside systems, the smart TV or tablet displays content based on the patient's medical record.
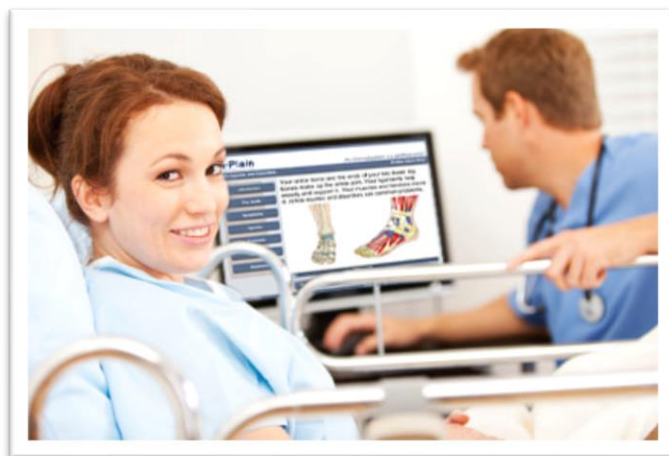
Bedside patient stations often give patients a menu of activities where they can watch television, browse the Internet or review patient education materials. When the patient selects the patient education option, general or patient-specific education appears. The patient can watch a video on the desired topic.

- What hardware or software does this solution require?
This solution requires a patient bedside system. This could be a CCTV, a smart TV, or tablets on a cart. The Patient Education Institute does not sell hardware. A third party usually provides it. If you do not have the necessary TV network and don't want to invest in one, X-Plain for Tablets may be the right solution for you. Our tablet apps offer only patient education and do not include entertainment activities.

- What topics are included?
Clients can select the topics they need. Some clients request a few topics about staying healthy at the hospital and avoiding infections. Others want a library of post-op titles or chronic disease management titles. We also offer more than 100 health promotion titles.

- Do your patient education programs include questions?
  Clients can select videos, tutorials, or both. Tutorials are interactive videos with questions and feedback. Some providers prefer tutorials because they document whether the patient has understood the presentation based on their responses to the questions. Videos require less user input, so patients who are very sick or tired may prefer them. Your bedside vendor can tell you whether your bedside TV system allows interactivity. You can also contact us if you have questions.

- What languages are available?
  The topics are available in English, Spanish, and Arabic.

- How often is the content updated?
  We review the content of each topic every two years. We update the content as needed in each educational format and all three languages.

- Where is the content hosted and are updates automatic?
  The content can reside on hospital servers or on our own servers. Content updates are coordinated with the manager of the hospital bedside system. If the content resides on a hospital server, the manager of the bedside system will receive periodic updates. Clients occasionally want the content to reside on our servers. In this case, we provide automatic content updates.

- Does X-Plain at the Bedside use or store private health information?
  If you want to document that the patient completed and understood the educational programs, our tutorials can do that as long as your bedside system allows interactivity and documentation. Such data resides on the hospital's local servers or within the electronic medical record and not on our servers. Call us or contact your hospital bedside technician or vendor if you have questions about this.

- Can I customize the content with the name and logo of my healthcare institution?
  Yes. We allow branding of X-Plain multimedia programs with the name and logo of the client. This feature depends on the bedside system. Call us or contact your hospital bedside technician or vendor if you have questions about this.

- Can I display textual materials on the bedside TV screen?
  You can, as long as the bedside hardware or menu vendor offers this functionality.

- Is this solution sold as a subscription?
  Yes. Content updates and implementation assistance are included in the subscription. You can license selected topics, one or more medical specialties, or the entire library.

- How long is the contract term?
  The subscription is annual, and you can cancel at any time.

- Can I try out the solution before buying it?
  Yes, we offer a 30-day free trial. Please obtain approval from your hospital bedside technician or vendor before starting the free trial.

- Is there a limit on usage?
  No. There are no limitations on the number of users or sessions.

X-Plain XML Database – Partners

Our entire X-Plain library is available in XML format for our partners to integrate with their own solutions. Our partners include vendors of hardware and software for healthcare IT purposes. The X-Plain XML Database provides extensive metadata on each health topic.

The Patient Education Institute has more than two decades of experience providing solutions that:

- Document patient education electronically.

- Support informed consent.

- Help users manage chronic diseases.

- Provide evidence-based content for health websites.

- Improve patient experience at the bedside.

- Promote wellness in corporate settings.

```xml
<?xml version="1.0" encoding="UTF-8"?>
- <encyclopedia>
   - <item object_id="ge010103">
        <source>PEI</source>
        <type>tutorial</type>
        <path>gastro/ge010103/</path>
        <version>3</version>
     - <bodyparts>
        <part SPID="194">Digestive System</part>
        <part SPID="232">Esophagus</part>
        <part SPID="248">Nasal Cavity</part>
        <part SPID="250">Nose</part>
```

Frequently Asked Questions about the X-Plain XML Database

- How is the X-Plain XML Database used?
  The X-Plain XML Database is for partners who develop websites, healthcare IT systems, telemedicine services, call centers, and other innovative healthcare solutions. We provide the textual and multimedia content of X-Plain in a standard database format, XML, for use within partners' applications and hardware.

  Where and when the patient uses X-Plain is up to the partner and their solutions.

- What content is included in the database?
  The database houses all of our textual content, multimedia elements and metadata. Each topic contains keywords, synonyms, and medical coding.

- What topics are included in the database?
  The database contains the full X-Plain library of topics. However, we can limit the selection to a subset of topics in the language the partner needs.

- What format(s) does each topic come in?
  We offer five educational formats: overviews, full text, illustrated handouts, videos, and tutorials. If a partner wants just one or a few of the formats, we can limit the database as needed.

- What languages are available?
  The topics are available in English, Spanish, and Arabic.

- How often is the content updated?
  We review the content of each topic every two years. We update the content as needed in each educational format and all three languages.

- Where is the content hosted and are updates automatic?
  Partners often decide to host the content on X-Plain servers but store documentation information on their own servers. In this scenario, content updates happen automatically when changes are made to a topic.

  If the partner decides to host the content on their own servers instead, there are several options for delivering updates. One approach is to automatically pull the updates from X-Plain's servers. Another approach involves using FTP (file transfer protocol) to deliver the updates. Call us to discuss integration details.

- Is there a learning curve for the developers?
  Many programmers and developers are comfortable using XML. If our partners need assistance, we can show them how to pull the content and store documentation data.

- Can I purchase only the textual materials without the multimedia elements?
  Yes. You can sublicense just the textual materials.

- Can a partner white-label the content?
  Yes. Partners can enhance the content with their name and logo, as well as the name and logo of the client. We do require an X-Plain copyright notice in the footer or on the credits page.

- What is the pricing model for this solution?
  Partners who sublicense our content to their clients pay us royalties, while clients pay a subscription fee.

  The pricing model is based on the X-Plain product needed. The price for website content depends on how many medical libraries are needed. For a bedside solution, it is per bed. Corporate wellness companies pay per member. Please call us to discuss your market so we can provide a quote.

- How can we evaluate usage and patient satisfaction?
  X-Plain tutorials can provide data about how many patients have completed and understood the tutorial. You can use this data as first level indicator of success. Additionally, we can provide you with patient satisfaction questionnaires along with structured research and evaluation methods.

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- If the partner agreement is terminated, can I keep providing X-Plain to my current clients?
  Yes, you can keep serving your clients for a liberal grace period after terminating the agreement. Please contact us for a copy of our partner agreement.

X-Plain for Websites

X-Plain for Websites provides credible illustrated handouts and engaging multimedia tutorials for healthcare websites. Clients can choose the topic(s) they need or license the full library of 1,750 health topics in several languages.

Frequently Asked Questions about X-Plain for Websites

- Who uses X-Plain for Websites?
  We provide educational resources for health websites. Our clients include hospitals, clinics, ambulatory centers, health libraries, pharmaceutical firms, and government health agencies. We also serve non-profit organizations with health promotion as their mission.

- What is the difference between the X-Plain Health Encyclopedia and X-Plain for Websites?
  The Health Encyclopedia houses all of our content in each educational format, including tutorials, videos, illustrated handouts, and overviews. X-Plain for websites allows clients to choose only the topics and educational formats they need.

- Is the content available to the public, or does it require users to log in?
  In this solution, the health education content is available on the web without user authentication, so the public can access it freely. If you are interested in authenticated access, see X-Plain for Patient Portals.

- Do I need any hardware or software?
  No, you only need a website.

- What topics are included?
  Each client chooses the topics they need. Some clients choose a single title, while others choose every topic within a given medical specialty. If you need all of our topics, consider licensing the X-Plain Health Encyclopedia.

- What educational formats are included with each topic?
  The client determines whether they need textual or multimedia content. By default, we include the tutorial and illustrated handout with each title.

- What languages are available?
  The topics are available in English, Spanish, and Arabic. The client can decide which languages they need.

- How often is the content updated?
  We review the content of each topic every two years. We update the content as needed in each educational format and all three languages.

- Where is the content hosted and are updates automatic?
  The content of X-Plain for Websites often resides on X-Plain servers, in which case updates are automatic.

  For large portals, the client can host the content. In these cases, we deliver content updates in the most convenient way for the client, which is often through FTP (file transfer protocol).

- Does X-Plain for Websites use or store private health information?
  X-Plain for Websites does not solicit or store any personally identifiable information (PII) about the user. If you are interested in a solution that documents user completion, please see our X-Plain XML Database.

- Can I put the name and logo of my healthcare institution on the content?
  Yes, you can place the name and logo of your organization at the top of each multimedia page.

- Can I white-label the content?
  Yes, the banner and main area are for the client's logo. We do require an X-Plain copyright notice in the footer or on the credits page.

- What is the pricing model for X-Plain for Websites?
  X-Plain for Websites is sold as a subscription. The subscription includes content updates, hosting, and implementation assistance.

- How long does the subscription last?
  The subscription is annual, and you can cancel at any time.

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- Can I try out the solution before buying it?
  Yes, we offer a 30-day free trial.

- How can we evaluate the success of this solution?
  We can provide metrics about this solution's usage on your website.

- Is there a limit on usage?
  No. There are no limitations on the number of users or sessions.

X-Plain for Wellness – Partners

The Patient Education Institute has developed a corporate health education program, X-Plain for Wellness, to engage employees and their families.

We offer X-Plain for Wellness to institutions that provide wellness services to their clients. This solution helps clients improve health management, health decision making, and health outcomes.

Frequently Asked Questions about X-Plain for Wellness

- Who uses X-Plain for Wellness?
  X-Plain for Wellness is for partners that provide population health and corporate wellness solutions. Our partners develop innovative healthcare IT solutions that engage employees and their families, particularly those with chronic health conditions. These partners can decide when and where users access X-Plain. We have 15 years of experience assisting wellness companies that serve corporations and international health systems.

- What content is included in the solution?
  Our wellness partners often purchase the entire X-Plain library. Other partners select only health promotion and chronic disease titles.

  Each topic comes with text, multimedia, and extensive metadata. Metadata tags include keywords, synonyms, and medical coding.

- What educational formats are included with each topic?
  The partner selects the needed educational formats. We publish each health topic in the following formats: tutorials, videos, illustrated handouts, overviews, and quizzes. Our wellness partners often choose the tutorials because they can document that a user has completed and understood the material.

- What languages are available?
  The topics are available in English, Spanish, and Arabic.

- How often is the content updated?
  We review the content of each topic every two years. We update the content as needed in each educational format and all three languages.

- Where is the content hosted and are updates automatic?
  We allow our partners to choose who hosts the content. We often host the content on X-Plain servers, and the partner stores the documentation data on their servers. In this case, updates are automatic and immediate. When the content resides on the partner's servers, several approaches are available for updates. The partner can pull updates from our servers, or we can deliver the updates through FTP (file transfer protocol).

- Is there a learning curve for the developers?
  We can provide a ready-made interface, or we can provide the content in XML format (see X-Plain XML Database for more details). XML format is a standard language that many programmers and developers are comfortable with. We offer a software developer kit to show partners how to pull the content and save the completion and comprehension data. Contact us to discuss the technical solutions in more detail.

- Can I license the textual materials only?
  Yes.

- Can a partner white-label the content?
  Yes. Partners can enhance the X-Plain content with their name and logo, as well as the name and logo of the client. We do require an X-Plain copyright notice in the footer.

- How is this solution sold?
  Partners pay royalties when they sublicense our content to their clients. Their clients pay a subscription fee. The royalty amount is based on the number of employees that the solution covers. If you would like to partner with us, but you don't charge per member, please contact us to discuss your needs.

- What type of agreement does the partner sign?
  Partners sign an annual agreement. They can cancel at any time after the term expires. This does not limit them from providing other patient engagement materials along with X-Plain.

- How can we evaluate usage and patient satisfaction?
  X-Plain can provide data to your facility about how many patients have completed and understood the tutorial. You can use this data as a first level indicator of success. Additionally, we can provide you with patient satisfaction questionnaires as well as structured research and evaluation methods.

- Can the partner choose to only pay a royalty when they sell X-Plain?
  Yes. Please call us to discuss the royalty payment terms.

- If the partner agreement is terminated, can I keep providing X-Plain to my current clients?
  Yes, you can keep serving your clients for a liberal grace period after terminating the agreement. Please contact us to review our partner agreement.

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X-Plain Patient Education & Documentation System (PEDS)

X-Plain Patient Education & Documentation System (PEDS) electronically documents data about the completion and comprehension of our patient education programs on our own servers. We provide this service when clients cannot document patient education in their own EMR or on their servers.

Frequently Asked Questions about X-Plain Patient Education & Documentation System

- I do not want to document the educational session, but I want an authenticated website so that only my patients can access the content. Is that possible?

  Yes. X-Plain PEDS is an array of solutions developed over 18 years to meet the specific needs of varied healthcare institutions. Contact us to discuss your particular needs. You may also want to read about X-Plain for Patient Portals.
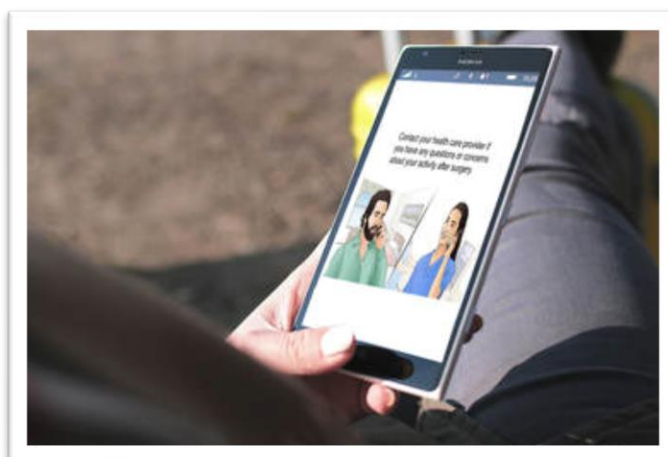
- Do I need any hardware or software?

  A computer is required in office or hospital settings. If the patient completes the educational session at home, the patient will need a home computer, laptop, tablet, or smartphone to access the materials.

- What topics are included?

  By default, the full X-Plain library is included. If the client needs a subset of topics – certain medical specialties or languages, for example – we can restrict the license to include only the requested topics.

- What educational formats are available?

  We publish each health topic in the following formats: tutorial, video, illustrated handout, overview, or quiz. Clients choose the formats they need. Often clients license the tutorials with the illustrated handouts.
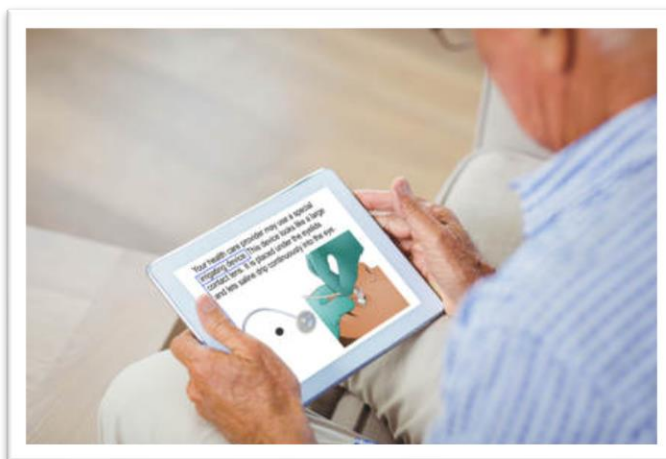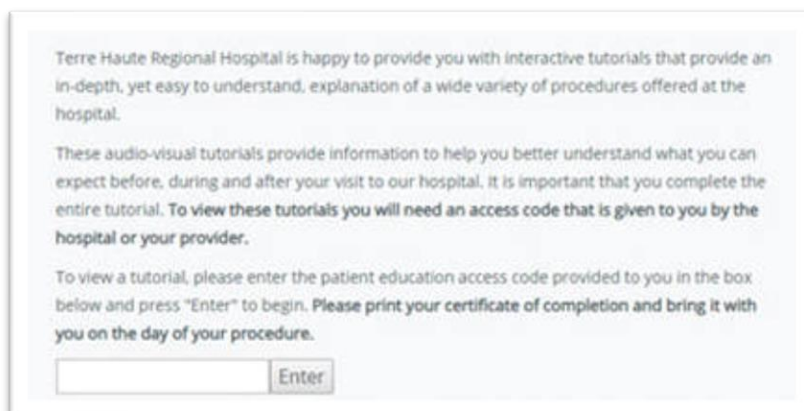
- What languages are available?

  The topics are available in English, Spanish, and Arabic.

- How often is the content updated?

  We review the content of each topic every

two years. We update the content as needed in each educational format and all three languages.

- Where is the content hosted and are updates automatic?
  The content resides on our company's servers, and updates are automatic.

- Does the healthcare provider need training to use PEDS?
  In a clinical or hospital setting, the healthcare provider needs to be familiar with the interface and the process of selecting a title for each patient.

Terre Haute Regional Hospital is happy to provide you with interactive tutorials that provide an in-depth, yet easy to understand, explanation of a wide variety of procedures offered at the hospital.

These audio-visual tutorials provide information to help you better understand what you can expect before, during and after your visit to our hospital. It is important that you complete the entire tutorial. To view these tutorials you will need an access code that is given to you by the hospital or your provider.

To view a tutorial, please enter the patient education access code provided to you in the box below and press "Enter" to begin. Please print your certificate of completion and bring it with you on the day of your procedure.

[ ] Enter

If the patient completes the educational program at home, the healthcare provider must give the patient the topic's code. The provider will write the code and website address on a piece of paper. When the patient enters the code into the client's website, the patient-specific multimedia program will come up. The name and logo of the client will appear on the tutorial. Contact us for more details.

- Is there a learning curve for the patient or caregiver?
  There is a minimal learning curve with this solution. When accessing the content in a healthcare setting, the patient will follow simple prompts in the tutorial, such as "press the right arrow to move to the next slide," "press the left arrow to move to the previous slides," or "press the button to answer the question."

- Can I put the name and logo of my healthcare institution on the content?
  Yes, you can place the name and logo of your organization on the tutorial.

- How is private health information treated within this solution?
  The client can decide what information they would like to track. This could include the patient's name or patient ID. Many clients choose not to solicit personally identifiable information (PII).
  All of the data requested is encrypted and stored on HIPAA-compliant servers.

- How much does this solution cost?
  The price depends on the type and size of the institution. Please contact us for a quote.

- How long does the subscription last?
  The subscription is annual, and you can cancel at any time.

- Can I try out the solution before buying it?
  Yes, we offer a 30-day free trial.

- How can we evaluate the success of this solution?
  You can receive reports on usage and completion data.

- Is there a limit on usage?
  No. There are no limitations on the number of users or sessions.

Services

Subscription Services

We sell X-Plain as an annual or monthly subscription. The licensed patient education package includes multimedia programs and textual materials, as well as software to deliver and manage the content. In addition, the following services are included:

- Branding with the name and logo of the client.
- Hosting of the software on our servers.
- Automatic updates of the medical content and software.
- A consultation covering best practices and tips for successful implementation.
- Evaluation measures.
- Customization Services.

Customization Services

Clients can adapt X-Plain to their needs through optional customization services. Less than two percent of our clients choose to develop custom programs, such as:

- Tutorials based on content that the client writes.
- Customized tutorials that include client-specific information and services.
- Apps for tablets and smartphones.
- Tutorials for clinical trials that document informed consent.

Translation Services

All X-Plain titles are originally developed in English and then translated into Arabic. In addition to translating the medical writing, the illustrations, animations, and narration are modified to fit the norms of local cultures.

The translated version of each title goes through the same quality development process as its English counterpart. The medical writers work with medical specialists who are fluent in the translated language. PEI's Medical Advisory Board includes a Director of Arabic, as well as medical practitioners and full-time staff who are fluent in Arabic.

The Arabic translation and localization processes are rigorous and the end-product is guaranteed by the Patient Education Institute. The following is a brief description:
- The original translation is done by one of five Syrian doctors with degrees in English-Arabic translation.
- The translation is then sent to a panel in Saudi Arabia be reviewed for adhering to Islamic values.
- The text is reviewed for medical accuracy and localized by our editorial staff and Medical Director for Arabic.
- Our multimedia staff develops the multimedia and localizes the illustrations to reflect the demographics of GCC countries. Currently, illustrations include people that represent the

whole MENA region; about 60% of depicted women appear in different hijabs and 20% wear traditional Khaliji folk clothing.

- Narrators with Khaligi accents are employed to narrate the content for multimedia in Modern Standard Arabic.

About PEI

Our History

During a holiday party in 1994, two doctors and an instructional designer were discussing how to ensure that their patients are reading and understanding their home-care instructions. They brainstormed ways to simplify the content, present it in multimedia, and ask questions that provide corrective feedback.

The next business day, Dr. Souheil Haddad and Dr. Dean Gesme asked Moe Ajam, Ph.D., to start the Patient Education Institute (PEI). Two months later, they tested the first X-Plain tutorials at the University of Iowa and at Bloomington Hospital in Indiana. Twenty-four years later, more than 300 million patients all over the world have watched thousands of X-Plain tutorials and read their illustrated handouts.

What Is an X-Plain Tutorial?

An X-Plain tutorial is a multimedia program that explains a specific health topic in about 50 slides. Patients advance through the presentation one slide at a time. Each slide displays simplified text with full narration. Illustrations and animations help the patient visualize the concepts presented.

At the end of each section, the tutorial asks questions to ensure understanding. If the patient misses a question, the tutorial explains the answer and asks the question a second time.

What Makes Us Unique?

The Patient Education Institute pioneered the electronic documentation of patient education encounters in 1995. PEI was the first in the nation to connect with patients using touch-screen technology.

Many companies now have simplified content, electronic documentation, and content updates. The Patient Education Institute remains unique, however, in our way of verifying and documenting comprehension through interactive questions.

Our Expertise

The Patient Education Institute has four main areas of expertise.

Medical Publishing

The Medical Advisory Board writes and updates the text in all of our programs. Leading healthcare institutions in the USA trust our peer-reviewed and unbiased content. Our clients include Kaiser Permanente, the largest HMO in the nation and Hospital Corporation of America (HCA), the largest

private hospital system in the nation. Our patient education materials cover all medical specialties across each stage of care.

Education and Behavior Modification

We rely on behavior modification theories to develop our content. The Medical Advisory Board approves each health topic, and then we publish them in six educational formats:

1. Interactive Tutorials (Multimedia)

2. Video Presentations (Multimedia)

3. Interactive Quizzes (Multimedia)

4. Illustrated Handouts (Textual)

5. XML Database (Textual)

6. Overviews (Textual)
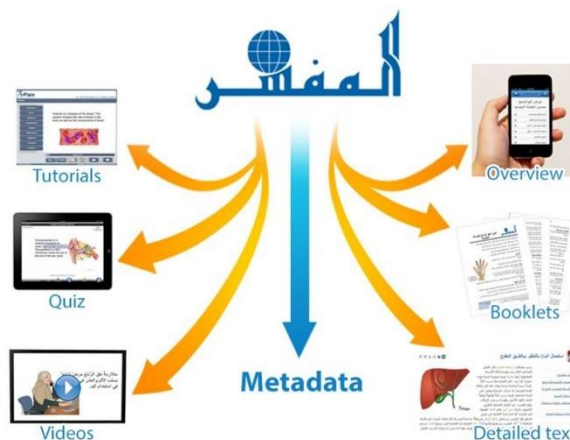
Health Informatics

We design X-Plain programs to run on a variety of platforms and hardware options, such as tablets, smart TVs, smartphones, and mobile apps. We provide our content in standard technology (XML, HL7) and with extensive metadata (ICD-10, SNOMED, MeSH, etc.) for integration with leading healthcare IT systems (EMR, patient portals, bedside TV systems, etc.).

Services & Program Evaluation

We want to ensure successful implementation, so clients who subscribe to our products receive the following services as part of the subscription:

1. Branding with the name and logo of the client.

2. Hosting of the software on our servers.

3. Automatic updates of the medical content and software.

4. A consultation covering best practices and tips for successful implementation.

5. Evaluation measures.

Our Leadership

Moe A. Ajam, Ph.D.

Dr. Moe Ajam is co-founder and president of the Patient Education Institute. Dr. Ajam has more than 32 years of experience designing educational software for startup companies. In 1991, Dr. Ajam pioneered the implementation of subscription-based computer software services for managing risk through the documentation of training and education.

Dr. Ajam received his Bachelor of Science degree in biology in 1982 and a degree in computer science programming in 1984. He received his Ph.D. in computer-based instruction from the University of Iowa in 1990.
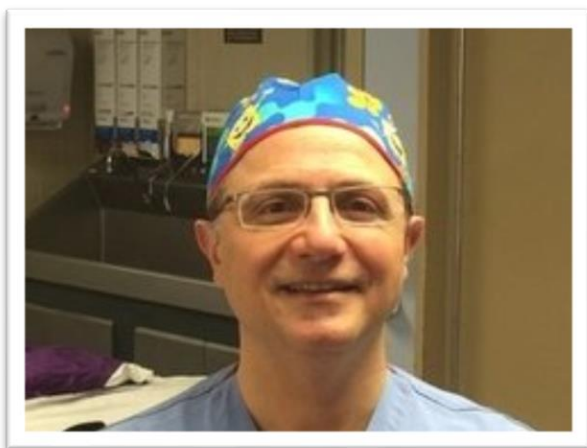
Souheil F. Haddad, M.D.

Dr. Souheil Haddad is co-founder and medical director of the Patient Education Institute. Dr. Haddad practices neurosurgery at the Neurosurgical Clinic of Bloomington in Indiana. He is a diplomate of the American Board of Neurosurgery and member of the Alpha Omega Alpha Honor Medical Society, American Medical Association, American Association of Neurological Surgery, Congress of Neurological Surgeons and Indiana State Medical Association.

Dr. Haddad received his Doctor of Medicine degree from the American University of Beirut in 1986. He received his neurosurgical training at the University of Iowa from 1986 to 1992.

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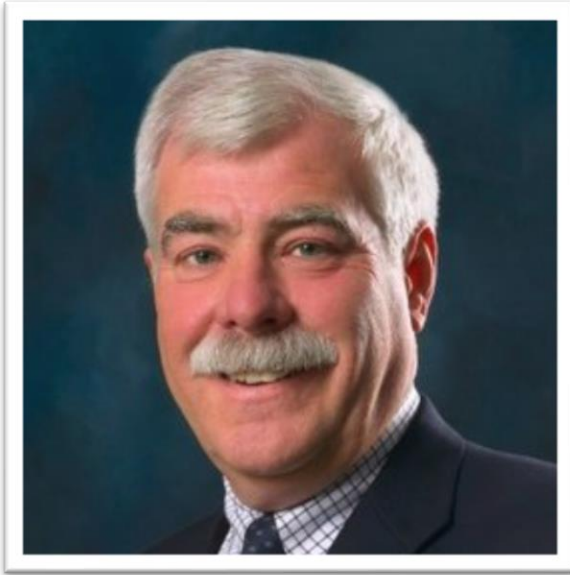
Dean Gesme, M.D., FASCO, FACP, FACPE
Dr. Dean H. Gesme, Jr. is co-founder of the Patient Education Institute and is on the board of directors. Dr. Gesme is board certified in internal medicine, medical oncology and medical management. He has been the assistant principal investigator for multi-million dollar grants from the National Cancer Institute. Dr. Gesme serves as president of the National Coalition for Cancer Survivorship and past president of the Iowa Division of the American Cancer Society. He has also served on the board of directors for the National Cancer Society Organization.

Dr. Gesme completed medical training at the University of Iowa in 1977. He completed his internal medical residency in San Francisco. Then he finished his medical oncology fellowship at the University of Minnesota.

Our Clients and Partners

We are proud to partner with these leading healthcare organizations and hundreds of others to improve health and business outcomes.

USA

American Association of Neurosurgeons

Advocate Good Samaritan Hospital

CHC WELLBEING

COWETA SAMARITAN CLINIC

KAISER PERMANENTE®

ST. LUKE'S HOSPITAL IOWA HEALTH System

SOUTHERN ILLINOIS HEALTHCARE

CERNER All Together™

LINCOR SOLUTIONS

CARONDELET HEALTH a member of Ascension Health

SIMPLYWeLL.

OneView Revolutionizing Patient Experience

MedlinePlus® Trusted Health Information for You

WINSTANLEY ASSOCIATES

GCC

Cleveland Clinic Abu Dhabi

موسوعة الملك عبدالله بن عبد العزيز العربية للمحتوى الصحي
الإصدار الأول
الشؤون الصحية بالحرس الوطني – المملكة العربية السعودية

مركز جونز هوبكنز أرامكو الطبي
Johns Hopkins Aramco Healthcare

SEHA صحة
شركة أبوظبي للخدمات الصحية ش.م
Abu Dhabi Health Services Co.P.J.S.C

Patient Education INSTITUTE

Our Values

Our corporate office is in Iowa City. The area features the University of Iowa, affordable housing, and a diverse population.

Focus

All our goals and projects align with our mission statement:

> "Our mission is to empower patients and healthcare providers
> through evidence-based patient education software
> that is engaging, effective, and primed
> for integration with evolving technologies."

Every opportunity we encounter is analyzed to determine if it fits our mission of empowering patients and healthcare providers through engaging patient education.

Innovation

Long before terms like Meaningful Use, informed consent, or HCAHPS scores were common phrases in healthcare, we anticipated a paradigm shift toward engaging the patient in medical decisions. Since 1995, we have led the industry with interactive learning that verifies comprehension through combining technological advances, medical expertise, and learning/behavior modification theories.

Flexibility

We are flexible with our clients. There are no minimum contractual terms; clients can cancel at any time. Legal agreements are designed to communicate our promises to the client but are never meant to bind clients to services that are not providing measurable value.

Loyalty

We are loyal to all our employees, clients and partners.

Transparency

The statement "what you see is what you get" applies to our organization and our collective efforts. We also subscribe to the philosophy that a good company always "under-promises and over-delivers." We strategically chose to locate our offices in the Iowa City metropolitan area. The Patient Education Institute is part of a community of honest, hard-working, and educated Midwesterners who provide the straightforward and dedicated approach that is vital to our success.
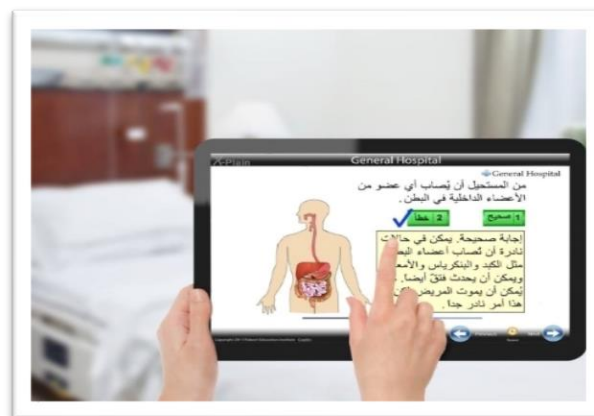
Content

Educational Formats

Once the Medical Advisory Board has finished reviewing a health topic, we publish it in six educational formats – three are multimedia and three are textual.

Tutorials

An X-Plain tutorial is a multimedia presentation that covers a specific health topic. Each slide displays simplified text alongside related illustrations and animations. The text is fully narrated so patients can listen and read at the same time.


The tutorial asks the patient questions during the presentation to verify understanding. If the patient answers correctly, the concept is reinforced. If the patient answers incorrectly, the tutorial explains the concept again.

Each patient can advance through the tutorial at his or her own pace. The programs maintain the patient's attention through multimedia, interactive questions, and a variety of techniques based on adult learning research.

Video Presentations

X-Plain videos are multimedia presentations that contain the same multimedia components as X-Plain tutorials, but without the interactive questions. These presentations run without user input. When needed, the patient can pause or rewind.

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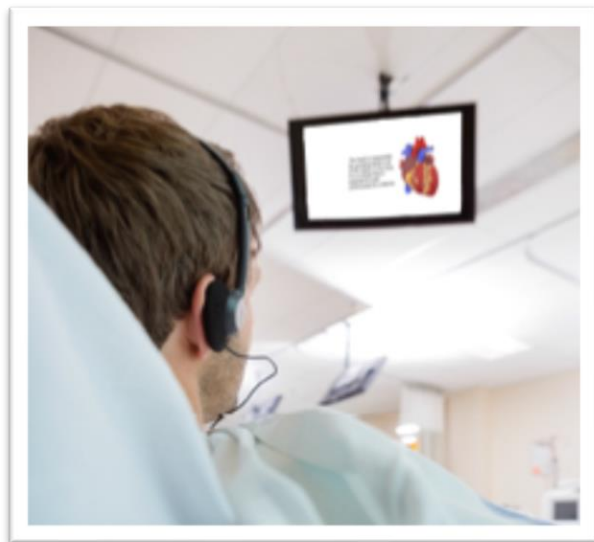
Illustrated Handouts

Illustrated handouts are PDF documents that include the text of an X-Plain tutorial but without the questions, plus selected images to illustrate concepts and instructions. The illustrated handouts use large font and short paragraphs with white space for easy reading. Click to see examples of X-Plain's illustrated handouts on Inguinal Hernia Repair and Left Ventricular Assist Devices.

XML Database

The XML Database houses all of the textual and multimedia content of X-Plain in one database with extensive metadata, such as medical coding and keywords. The XML Database format is mostly used by our healthcare IT partners, who integrate X-Plain with their health informatics solutions.

```xml
<?xml version="1.0" encoding="UTF-8"?>
- <encyclopedia>
    - <item object_id="ge010103">
        <source>PEI</source>
        <type>tutorial</type>
        <path>gastro/ge010103/</path>
        <version>3</version>
        - <bodyparts>
            <part SPID="194">Digestive System</part>
            <part SPID="232">Esophagus</part>
            <part SPID="248">Nasal Cavity</part>
            <part SPID="250">Nose</part>
```

Overviews

Overviews provide a summary of a health topic in about 250 words. Patients find them especially useful when browsing a hospital's website on their smartphone. The overviews help them decide whether they should read the full text or run the multimedia program.

www.patient-education.com
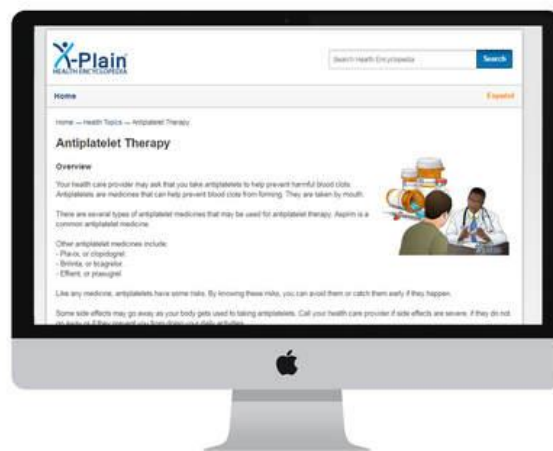
Interactive Quizzes

An interactive quiz, also known as a test-your-knowledge quiz, asks patients approximately ten questions regarding a specific health topic. If the patient responds correctly, the quiz confirms the answer. If he or she answers incorrectly, the quiz explains the correct answer and asks the question again later. This format is ideal for health promotion purposes and for assessing patients' knowledge about their chronic diseases.

Are all tumors cancerous?

1 Yes   ✓ 2 No

Correct. If a tumor does not invade tissues and body parts, it is called a benign tumor, or non-cancerous growth.

Medical Editorial

The titles in the X-Plain® library have been written and reviewed by hundreds of certified medical professionals in the United States. The Patient Education Institute's Medical Advisory Board consists of over 40 practitioners from leading healthcare institutions, such as:

- Johns Hopkins University
- Cleveland Clinic
- Mayo Clinic
- The University of Chicago
- The University of Iowa
- Washington University

Evidence-Based Medical Content

We rely on quality medical and academic research, healthcare best practices, and recommendations from medical experts when developing our written materials. The Patient Education Institute's Medical Advisory Board collaborates with our team of medical writers to find the latest research in medicine and risk management. Together, they ensure that each title in the X-Plain® library meets national guidelines and standards of practice for evidence-based medicine.

Unbiased Health Information

Health information is the most useful when it puts the patient's needs first. This guiding principle ensures that any discussion about treatment options is free of advertising and other forms of bias.

Educational Effectiveness & Accessibility

We develop and regularly assess our materials to ensure they meet rigorous medical standards. This has enabled us to serve the National Institutes of Health and other leading healthcare organizations throughout the USA.

X-Plain® relies on cognitive learning theories and a thorough development process to produce educationally effective materials. We present any background information needed in plain language to help patients understand complex health concepts. Our programs include full narration.

Illustrations and animations reinforce the written and narrated text. We employ message design theories when developing these visual elements. The combination of visual and auditory modes of communication reaches users of all literacy levels, as well as those with disabilities, such as hearing and visual impairments.

X-Plain's tutorials maximize learning in a unique way – through interactive questions and feedback. By asking questions throughout the learning session, our programs can verify that learning is taking place. The questions keep the user engaged and provide feedback to reinforce learning.

The Patient Education Institute (PEI) has a team of Medical Advisory Board members, medical writers and editors, instructional designers, narrators, graphic artists, and computer programmers. They work together to develop accessible, engaging educational materials.

Content Sources by Medical Specialty

Addiction Medicine
- Centers for Disease Control and Prevention
- National Institute on Drug Abuse
- National Institutes of Health

Alternative Medicine
- National Center for Complementary and Alternative Medicine (NCCAM)
- National Institutes of Health

Anesthesia
- American Society of Anesthesiologists
- National Institutes of Health

Cardiology
- American Association for Cardiovascular and Pulmonary Rehabilitation
- American Society of Hypertension
- American Association of Thoracic Surgery
- American College of Cardiology
- American Heart Association/American Stroke Association
- Heart Failure Society of America
- Heart Rhythm Society
- National Heart, Lung, and Blood Institute
- National Institutes of Health
- Society for Cardiovascular Angiography and Interventions
- Society of Thoracic Surgeons

Dentistry
- American Journal of Orthodontics and Dentofacial Orthopedics
- Columbia University, College of Dental Medicine
- National Institutes of Health

Dermatology
- American Academy of Dermatology
- National Institute of Arthritis and Musculoskeletal and Skin Diseases
- National Institutes of Health

Diabetes
- Academy of Nutrition and Dietetics
- American Association of Diabetes Educators
- American Diabetes Association
- American Podiatric Medical Association
- International Diabetes Center
- National Institute of Diabetes and Digestive and Kidney Diseases
- National Institutes of Health

Emergency Medicine
- American Journal of Emergency Medicine
- National Institutes of Health

Endocrinology
- American Academy of Family Physicians
- National Institutes of Health

Gastroenterology
- American Cancer Society
- American College of Gastroenterology
- American Journal of Gastroenterology
- American Society of Colon & Rectal Surgeons
- National Comprehensive Cancer Network
- National Digestive Diseases Information Clearinghouse
- National Institutes of Health

Genetic Disorders
- Centers for Disease Control and Prevention
- National Institute of Child Health and Human Development
- National Institutes of Health

Family Medicine
- American Academy of Family Physicians
- American Board of Family Medicine
- Centers for Disease Control and Prevention
- National Institute of General Medical Sciences
- National Institutes of Health

General Surgery
- Centers for Disease Control and Prevention
- National Institute of Child Health and Human Development
- National Institutes of Health

Health Communication
- American Journal of Health Promotion
- CDC - National Center for Health Statistics
- Centers for Disease Control and Prevention
- Hospitals and Health Networks
- National Institute of Allergy and Infectious Diseases
- National Institutes of Health

Health Promotion
- CDC - National Center for Health Statistics
- National Institute of Allergy and Infectious Diseases

- National Institutes of Health
- Primary Care Clinics in Office Practice

Hematology
- Centers for Disease Control and Prevention
- National Heart, Lung, and Blood Institute
- National Institutes of Health

Immunology
- American Academy of Allergy, Asthma, and Immunology
- Centers for Disease Control and Prevention
- National Institute of Arthritis and Musculoskeletal and Skin Diseases
- National Institutes of Health

Infectious Diseases
- Centers for Disease Control and Prevention
- Infectious Diseases Society of America
- National Institutes of Health

Internal Medicine
- American Journal of Medicine
- Centers for Disease Control and Prevention
- International Society of Internal Medicine
- National Institutes of Health

Medications
- Centers for Disease Control and Prevention
- Food and Drug Administration
- National Institute of General Medical Sciences
- National Institutes of Health

Mental Health
- National Institute of Mental Health
- National Institutes of Health

Nephrology
- Centers for Disease Control and Prevention
- National Institute of Diabetes and Digestive and Kidney Diseases
- National Institutes of Health

Neurology
- American Academy of Neurology
- Centers for Disease Control and Prevention
- National Institute of Neurological Disorders and Stroke
- National Institutes of Health

Neurosurgery

- American Academy of Neurology
- American Association of Neurological Surgeons
- Centers for Disease Control and Prevention
- National Institute of Neurological Disorders and Stroke
- National Institutes of Health

Nutrition
- Academy of Nutrition and Dietetics
- Centers for Disease Control and Prevention
- Food and Drug Administration
- National Institutes of Health

OB/GYN
- American Academy of Family Physicians
- American Academy of Pediatrics
- American Association of Gynecological Laparoscopists
- American Congress of Obstetricians and Gynecologists
- National Institutes of Health
- Obstetrics and Gynecology Clinics of North America

Oncology
- American Cancer Society
- Centers for Disease Control and Prevention
- National Cancer Institute
- National Institutes of Health

Ophthalmology
- American Academy of Ophthalmology
- American Society of Cataract & Refractive Surgery
- National Eye Institute
- National Institutes of Health

Orthopedic Surgery
- American Academy of Orthopaedic Surgeons
- American Association of Orthopaedic Surgeons
- National Association for Sport and Physical Education
- National Institutes of Health
- National Osteoporosis Foundation
- North American Spine Society

Otolaryngology
- American Academy of Otolaryngic Allergy
- American Academy of Otolaryngology
- American Head and Neck Society
- American Laryngological, Rhinological and Otological Society
- Association for Research in Otolaryngology
- Association of Otolaryngology Administrators

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- National Institutes of Health

Pediatrics
- American Academy of Family Physicians
- American Academy of Pediatrics
- National Institute of Child Health and Human Development
- National Institutes of Health

Physical Therapy
- American Academy of Physical Medicine and Rehabilitation
- American Physical Therapy Association
- National Institutes of Health

Plastic Surgery
- American Academy of Dermatology
- American Society for Dermatologic Surgery National Institutes of Health
- American Society of Plastic Surgeons

Podiatry
- American College of Foot and Ankle Surgeon
- American Orthopaedic Foot and Ankle Society
- American Podiatric Medical Association
- National Institutes of Health

Psychiatry
- American Psychiatric Association
- Handbook of Medical Psychiatry
- National Institute of Mental Health
- National Institutes of Health

Pulmonary Medicine
- American Academy of Allergy, Asthma & Immunology
- American College of Chest Physicians
- American Lung Association
- American Association for Cardiovascular and Pulmonary Rehabilitation
- Asthma and Allergy Foundation of America
- National Heart, Lung, and Blood Institute
- National Institutes of Health

Radiology
- American College of Radiology
- American Society of Radiologic Technologists
- National Cancer Institute
- National Institutes of Health
- Radiological Society of North America

Self-Care
- Centers for Disease Control and Prevention
- Food and Drug Administration
- Hospitals and clinics in North America
- National Institutes of Health

Symptoms
- Centers for Disease Control and Prevention
- Food and Drug Administration
- National Institutes of Health

Rheumatology
- American Academy of Orthopaedic Surgeons
- Centers for Disease Control and Prevention
- National Institute of Arthritis and Musculoskeletal and Skin Diseases
- National Institutes of Health

Travel Medicine
- American Academy of Family Physicians
- American College of Emergency Physicians
- Centers for Disease Control and Prevention
- National Institutes of Health

Urology
- American Academy of Family Physicians
- American Urological Association
- National Institute of Diabetes and Digestive and Kidney Diseases
- National Institutes of Health
- National Kidney Foundation
- Urology Care Foundation

Vascular Surgery
- American Heart Association
- Cardiovascular Research Foundation
- National Institutes of Health
- Vascular Disease Foundation

Appendix A - Selected Literature – X-Plain® & Interactive Patient Education
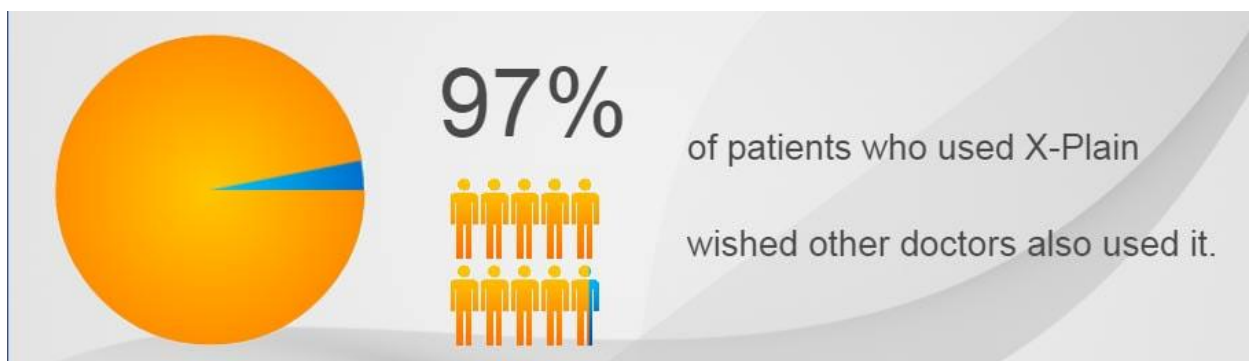
Informed Consent and Multimedia

Cohn, E., & Larson, E. (2007). Improving participant comprehension in the informed consent process. *Journal of Nursing Scholarship, 39*(3), 273-280. Retrieved from http://dx.doi.org/10.1111/j.1547-5069.2007.00180.x

Daugherty, C. K. (1999). Impact of therapeutic research on informed consent and the ethics of clinical trials: A medical oncology perspective. *Journal of Clinical Oncology, 17*(5), 1601.

Flory, J., & Emanuel, E. (2004). Interventions to improve research participants' understanding in informed consent for research: A systematic review. *JAMA: The Journal of the American Medical Association, 292*(13), 1593-1601. doi: 10.1001/jama.292.13.1593

Heeter, C. (2000). Interactivity in the context of designed experiences. *Journal of Interactive Advertising, 1*(1), 4-15.

Jeste, D. V., Dunn, L. B., Folsom, D. P., & Zisook, D. (2008). Multimedia educational aids for improving Interactive Multimedia Informed Consent Pilot 7. Consumer knowledge about illness management and treatment decisions: A review of randomized controlled trials. *Journal of Psychiatric Research, 42*(1), 1-21. doi: 10.1016/j.jpsychires.2006.10.004

Joffe, S., Cook, E. F., Cleary, P. D., Clark, J. W., & Weeks, J. C. (2001). Quality of informed consent in cancer clinical trials: A cross-sectional survey. *The Lancet, 358*(9295), 1772-1777. doi: 10.1016/S0140-6736(01)06805-2

Lewis, D. (1999). Computer-based approaches to patient education: A review of the literature. *Journal of the American Medical Informatics Association, 6*(4), 272-282.

Mayer, R. E. (2002). Cognitive theory and the design of multimedia instruction: An example of the two-way street between cognition and instruction. *New Directions for Teaching and Learning, 2002*(89), 55-71. Retrieved from http://dx.doi.org/10.1002/tl.47.

Mayer, R. E., & Moreno, R. (2003). Nine ways to reduce cognitive load in multimedia learning. *Educational Psychologist, 38*(1), 43. Retrieved from http://www.informaworld.com/10.1207/S15326985EP3801_6.

Sadoski, M., & Paivio, A. (2001). *Imagery and text: A dual coding theory of reading and writing.* Mahwah, NJ: Lawrence Erlbaum Assoc.

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Sims, R. (1997). Interactivity: A forgotten art? *Computers in Human Behavior, 13*(2), 157-180. doi: 10.1016/S0747-5632(97)00004-6.

Sims, R. (2003). Promises of interactivity: Aligning learner perceptions and expectations with strategies for Interactive Multimedia Informed Consent Pilot 8. Flexible and online learning. *Distance Education, 24*(1), 87.

Sweller, J., van Merriënboer, J., & Paas, F. (1998). Cognitive architecture and instructional design. *Educational Psychology Review, 10*(3), 251-296. Retrieved from http://dx.doi.org/10.1023/A:1022193728205.

Van Merriënboer, J. J. G., & Sweller, J. (2005). Cognitive load theory and complex learning: Recent developments and future directions. *Educational Psychology Review, 17*(2), 147-177. Retrieved from http://dx.doi.org/10.1007/s10648-005-3951-0.

Yacci, M. (2000). Interactivity demystified: A structural definition for distance education and intelligent computer-based instruction. *Educational Technology, 40*(4), 5-16.

Zheng, R., McAlack, M., Wilmes, B., Kohler-Evans, P., & Williamson, J. (2009). Effects of multimedia on cognitive load, self-efficacy, and multiple rule-based problem solving. *British Journal of Educational Technology, 40*(5), 790-803. doi: 10.1111/j.1467-8535.2008.00859.http://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,cookie,uid,url&db=tfh&AN=10182228 &loginpage=Login.asp&site=ehost-live.

Patient Engagement

Bernabeo, Elizabeth, and Eric S. Holmboe, "Patients, Providers, and Systems Need to Acquire a Specific Set of Competencies to Achieve Truly Patient-Centered Care," Health Affairs 32, no. 2 (2013): 250-8.

Bisognano, Maureen, and Ellen Goodman, "Engaging Patients and Their Loved Ones in the Ultimate Conversation," Health Affairs 32, no. 2 (2013): 203-6.

Carman, Kristin L., Pam Dardess, Maureen Maurer, Shoshanna Sofaer, Karen Adams, Christine Bechtel, and Jennifer Sweeney, "Patient and Family Engagement: A Framework for Understanding the Elements and Developing Interventions and Policies," Health Affairs 32, no. 2 (2013): 223-31.

Friedberg, Mark W., Kristin Van Busum, Richard Wexler, Megan Bowen, and Eric C. Schneider, "A Demonstration of Shared Decision Making in Primary Care Highlights Barriers to Adoption and Potential Remedies," Health Affairs 32, no. 2 (2013): 268-75.

Grob, Rachel, Mark Schlesinger, Sarah Davis, Deborah Cohen, and Joshua Lapps, "The Affordable Care Act's Plan for Consumer Assistance with Insurance Moves States Forward but Remains a Work in Progress," Health Affairs 32, no. 2 (2013): 347-56.

Hibbard, Judith H., and Jessica Greene, "What the Evidence Shows about Patient Activation: Better Health Outcomes and Care Experiences; Fewer Data on Costs," Health Affairs 32, no. 2 (2013): 207-14.

Hibbard, Judith H., Jessica Greene, and Valerie Overton, "Patients with Lower Activation Associated with Higher Costs; Delivery Systems Should Know Their Patients' 'Scores,'" Health Affairs 32, no. 2 (2013): 216-22.

Koh, Howard K., Cindy Brach, Linda M. Harris, and Michael L. Parchman, "A Proposed 'Health Literate Care Model' Would Constitute a Systems Approach to Improving Patients' Engagement in Care," Health Affairs 32, no. 2 (2013): 357-67.

Légaré, France, and Holly O. Witteman, "Shared Decision Making: Examining Key Elements and Barriers to Adoption into Routine Clinical Practice," Health Affairs 32, no. 2 (2013): 276-84.

Lin, Grace A., Meghan Halley, Katharine A.S. Rendle, Caroline Tietbohl, Suepattra G. May, Laurel Trujillo, and Dominick L. Frosch, "An Effort to Spread Decision Aids in Five California Primary Care Practices Yielded Low Distribution, Highlighting Hurdles," Health Affairs 32, no. 2 (2013): 311-20.

Nease, Robert F., Sharon Glave Frazee, Larry Zarin, and Steven B. Miller, "Choice Architecture Is a Better Strategy Than Engaging Patients to Spur Behavior Change," Health Affairs 32, no. 2 (2013): 242-9.

Sommers, Roseanna, Susan Dorr Goold, Elizabeth A. McGlynn, Steven D. Pearson, and Marion Danis, "Focus Groups Highlight That Many Patients Object to Clinicians' Focusing on Costs," Health Affairs 32, no. 2 (2013): 338-46.

Veroff, David, Amy Marr, and David E. Wennberg, "Enhanced Support for Shared Decision Making Reduced Costs of Care for Patients with Preference-Sensitive Conditions," Health Affairs 32, no. 2 (2013): 285-93.

Yegian, Jill Mathews, Pam Dardess, Maribeth Shannon, and Kristin L. Carman, "Engaged Patients Will Need Comparative Physician-Level Quality Data and Information about Their Out-of-Pocket Costs," Health Affairs 32, no. 2 (2013): 328-37.

Interactive Multimedia Patient Education

Lustria, M. L. A. (2007). Can interactivity make a difference? Effects of interactivity on the comprehension of and attitudes toward online health content. *Journal of the American Society for Information Science & Technology, 58*(6), 766-776. doi: 10.1002/asi.20557	"The findings suggest that interactivity can significantly affect comprehension as well as attitudes towards health Web sites."
Kahn, G. (1993). "Computer-based patient education: a progress report." MD Computing 10(2): 93-9.	"...the evidence indicates that patients like interacting with the computer, regardless of their age, education, or socioeconomic group."
Krishna, S., E. A. Balas, et al. (1997). "Clinical trials of interactive computerized patient education: implications for family practice." Journal of Family Practice 45(1): 25-33	"A systematic review of randomized clinical trials was conducted to evaluate the acceptability and usefulness of computerized patient education interventions...In some of the studies, the patients seemed more willing to confide in computers than in human interviewers, possibly because the computers were perceived as nonjudgmental or evoked less embarrassment on sensitive subjects....Computers help

patients take better care of their conditions by providing access to the necessary information. Increased understanding of the clinical disease, a benefit that was frequently noted, may have contributed to the patients' positive attitudes by eliciting in the patients feelings of greater control and increased confidence in their ability to effect positive changes in their health status."

Lewis, D. (1999). "Computer-based approaches to patient education: a review of the literature. [Review] [68 refs]." Journal of the American Medical Informatics Association 6(4): 272-82.

"Sixty-six articles, including 21 research-based reports, were identified...Patient with low literacy skills appear to benefit from the individualized pace of instruction and the non-threatening learning that occur with a computer-based learning program… Computer-based education has been shown to be effective for persons across the age continuum."

Shaw, M. J., T. J. Beebe, et al. (2001). "A randomized, controlled trial of interactive, multimedia software for patient colonoscopy education." Journal of Clinical Gastroenterology 32(2): 142-7.

"Computer-assisted instruction helps physicians meet their educational responsibilities with no decrement to the patient-physician relationship."

Rosoff, A. J. (1999). "Informed consent in the electronic age." American Journal of Law & Medicine 25(2-3): 367-86.

"...the electronic record not only documents that the information was presented but also evidences the level of the patient's comprehension. This is powerful protection against a later claim that the patient was not adequately informed, which presents a significant concern because patients generally have imperfect recall of their informed consent discussions with physicians. Protection like this could help a doctor win an informed consent suit if one were brought. More important it could deter the filing of such suits. Or, to put a more positive and less defensive face on things, such suits are less of a problem because patients are better informed and, thus, have no reason to sue."

Saxton, J. W. (1995). The Satisfied Patient A Guide to Preventing Malpractice Claims. Lancaster PA, Wentworht Worldwide Media, Inc

"Studies show the seed of a malpractice claim is planted when patient expectations are not met... A patient with a greater level of understanding is not as angry or surprised when an unfortunate complication occurs."

Krishna, S., E. A. Balas, et al. (1997). "Clinical trials of interactive computerized patient

"A systematic review of randomized clinical trials was conducted to evaluate the acceptability and usefulness of computerized patient education

education: implications for family practice." Journal of Family Practice 45(1): 25-33.

interventions...Computerized educational interventions can lead to improved health status in several major areas of care, and appear not to be a substitute for, but a valuable supplement to, face-to-face time with physicians."

Lewis, D. (1999). "Computer-based approaches to patient education: a review of the literature. [Review] [68 refs]." Journal of the American Medical Informatics Association 6(4): 272-82.

"… eight authors [out of 13] reported that knowledge presented by computer-based patient education methods resulted in improved clinical outcomes when compared with traditional patient education methods [the other 5 studies showed equal gains]."

Jones, R., J. Pearson, et al. (1999). "Randomised trial of personalised computer based information for cancer patients. ." BMJ 319(7219): 1241-7.

"A general computer information system would cost 40% of the costs of full access to booklets; even in the first year it would cost less."

Krishna, S., E. A. Balas, et al. (1997). "Clinical trials of interactive computerized patient education: implications for family practice." Journal of Family Practice 45(1): 25-33.

"A systematic review of randomized clinical trials was conducted to evaluate the acceptability and usefulness of computerized patient education interventions...Computerized educational methods may also be more efficient for physicians who, because of busy clinical schedules, are limited in the amount of time they can spend with a single patient."

Doak, C. C., L. G. Doak, et al. (1996). Teaching patients with low literacy skills. Philadelphia, J.B. Lippincott.

"Multimedia appears to have the potential to provide patients with the appropriate conditions for learning. Furthermore, the patients' responses to information and questions can provide evidence that they understand the instruction, a key requirement in the new JCAHO accreditation requirements."

Kahn, G. (1993). "Computer-based patient education: a progress report." MD Computing 10(2): 93-9.

"Documentation of patient education is now a routine part of discharge planning and a requirement for hospital accreditation."

Re-hospitalization After Discharge

Adrian F. Hernandez, M.D., M.H.S., Melissa A. Greiner, M.S., Gregg C. Fonarow, M.D., et al, "Relationship between early physician follow-up and 30-day readmission among Medicare beneficiaries hospitalized for heart failure," Journal of the American Medical Association 303(17), May 5, 2010, pp. 1716-1722, http:// jama.ama-assn.org/cgi/content/abstract/303/17/1716

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