



UDD

Facultad de Medicina
Clínica Alemana - Universidad del Desarrollo

Búsqueda de evidencia científica Cómo leer la literatura del área de la Salud

OSCAR URREJOLA ORTIZ

¿Cómo generar preguntas clínicas contestables?



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Ejemplos

Elemento	P	A (exposición)	C	O
Eventualidad (<i>likelihood</i>)	En pacientes con hemorragia digestiva alta...	... que resangran durante la hospitalización...	(no se aplica)	... ¿cuál es la mortalidad?
Efecto de la exposición	En mujeres con cáncer de mama...	... la presencia de determinado polimorfismo genético...	... comparado con la ausencia de dicho polimorfismo...	... ¿aumenta la mortalidad?

Tipos de preguntas clínicas

Área clínica	Evaluación
Terapia	Efecto de la intervención
Etiología	Causas/ Agentes potenciales de daño
Diagnóstico	Validez diagnóstica / Concordancia
Pronóstico	Curso futuro del paciente

Principio PICO/PECO (T)

- Población o participantes
- Intervención o exposición
- Comparador o control
- Outcome (resultado o desenlace)
- Tipo de diseño (Tiempo)



As you move up the pyramid:

- Stronger methodology
- Less Bias
- Controls for comparison
- Fewer studies

Pregunta y mejor diseño del estudio

Intervención	Ensayos clínicos controlados aleatorizados (ECA) Revisiones Sistemáticas de ECAs
Etiología y favtores de riesgo	ECA, Cohorte, Caso Control
Frecuencia y tasa	Cohorte, Corte Transversal
Diagnóstico	Corte Transversal con muestra randomizada o consecutiva, ECA
Pronóstico	Cohorte, Estudio de Sobrevida

Búsqueda de evidencia



Estrategia general de búsqueda

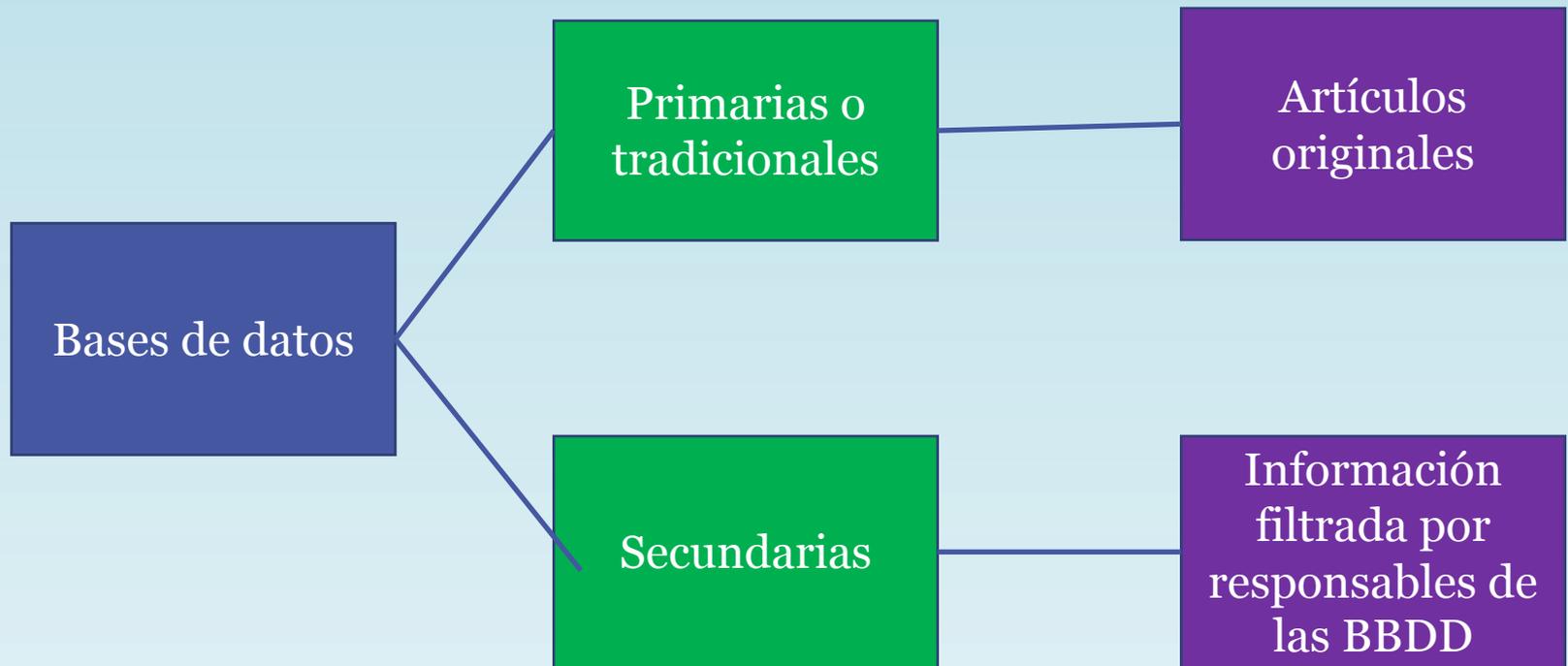


Protocolos de búsqueda

- Plan de proceso detallado y explícito (bases de datos y pasos a seguir)
- Rastreo sistemático de la información
- Proceso transparente y explícito para que sea reproducible

Facilita el trabajo en equipo
Flexible
Dinámico
Prioriza las bases de datos
Sugiere puntos de corte

Tipos de fuentes de información



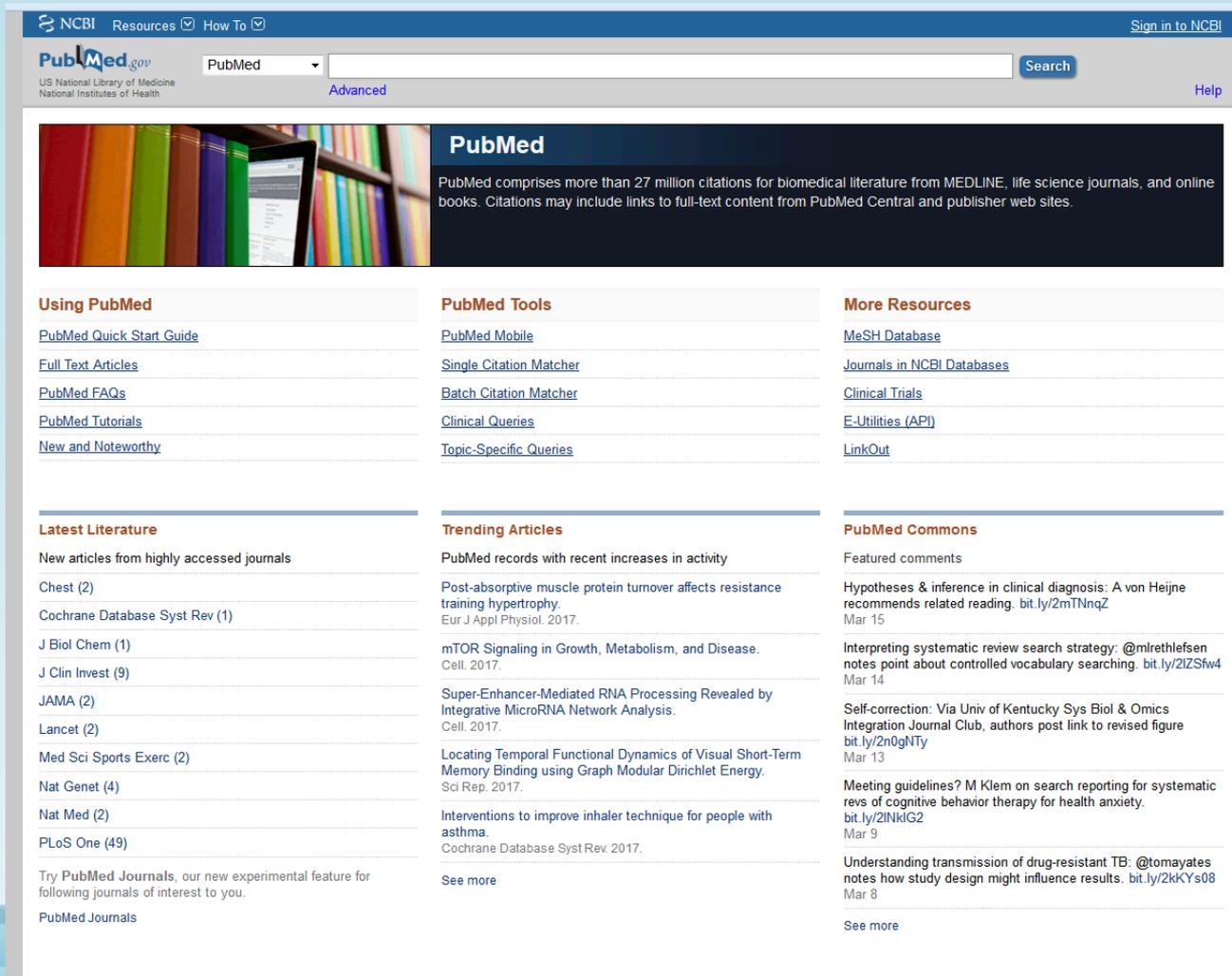
Fuentes de información

- Bases de datos filtradas
 - Clinical evidence
 - Colaboración Cochrane
 - Revistas
 - Metabuscadore
 - Sumsearch
 - Tripdatabase
 - Filtros metodológicos

Fuentes de información bases de datos no filtradas

- Medline:
 - Citas y referencias
 - Base de datos de la National Library of Medicine (NLM), USA
 - Revistas periódicas publicadas desde 1966
- PubMed:
 - Permite la consulta a MEDLINE y PREMEDLINE.
- EMBASE
- CINAHL
- LILACS

https://www.ncbi.nlm.nih.gov/pubmed



The screenshot shows the PubMed website homepage. At the top, there is a navigation bar with "NCBI Resources" and "How To" menus, and a "Sign in to NCBI" link. Below this is the PubMed logo and a search bar with a "Search" button. The main content area features a large banner with a bookshelf and a tablet, titled "PubMed", with a description: "PubMed comprises more than 27 million citations for biomedical literature from MEDLINE, life science journals, and online books. Citations may include links to full-text content from PubMed Central and publisher web sites." Below the banner are three columns of content: "Using PubMed" (with links to Quick Start Guide, Full Text Articles, FAQs, Tutorials, and New and Noteworthy), "PubMed Tools" (with links to Mobile, Single Citation Matcher, Batch Citation Matcher, Clinical Queries, and Topic-Specific Queries), and "More Resources" (with links to MeSH Database, Journals in NCBI Databases, Clinical Trials, E-Utilities (API), and LinkOut). Below these are three sections: "Latest Literature" (listing new articles from highly accessed journals like Chest, Cochrane Database Syst Rev, J Biol Chem, etc.), "Trending Articles" (listing PubMed records with recent increases in activity, such as Post-absorptive muscle protein turnover affects resistance training hypertrophy, mTOR Signaling in Growth, Metabolism, and Disease, etc.), and "PubMed Commons" (listing featured comments, such as Hypotheses & inference in clinical diagnosis, Interpreting systematic review search strategy, etc.).

NCBI Resources How To Sign in to NCBI

PubMed.gov PubMed Search Help

US National Library of Medicine National Institutes of Health Advanced

PubMed

PubMed comprises more than 27 million citations for biomedical literature from MEDLINE, life science journals, and online books. Citations may include links to full-text content from PubMed Central and publisher web sites.

Using PubMed

- [PubMed Quick Start Guide](#)
- [Full Text Articles](#)
- [PubMed FAQs](#)
- [PubMed Tutorials](#)
- [New and Noteworthy](#)

PubMed Tools

- [PubMed Mobile](#)
- [Single Citation Matcher](#)
- [Batch Citation Matcher](#)
- [Clinical Queries](#)
- [Topic-Specific Queries](#)

More Resources

- [MeSH Database](#)
- [Journals in NCBI Databases](#)
- [Clinical Trials](#)
- [E-Utilities \(API\)](#)
- [LinkOut](#)

Latest Literature

New articles from highly accessed journals

- Chest (2)
- Cochrane Database Syst Rev (1)
- J Biol Chem (1)
- J Clin Invest (9)
- JAMA (2)
- Lancet (2)
- Med Sci Sports Exerc (2)
- Nat Genet (4)
- Nat Med (2)
- PLoS One (49)

Try [PubMed Journals](#), our new experimental feature for following journals of interest to you.

[PubMed Journals](#)

Trending Articles

PubMed records with recent increases in activity

- Post-absorptive muscle protein turnover affects resistance training hypertrophy. Eur J Appl Physiol. 2017.
- mTOR Signaling in Growth, Metabolism, and Disease. Cell. 2017.
- Super-Enhancer-Mediated RNA Processing Revealed by Integrative MicroRNA Network Analysis. Cell. 2017.
- Locating Temporal Functional Dynamics of Visual Short-Term Memory Binding using Graph Modular Dirichlet Energy. Sci Rep. 2017.
- Interventions to improve inhaler technique for people with asthma. Cochrane Database Syst Rev. 2017.

[See more](#)

PubMed Commons

Featured comments

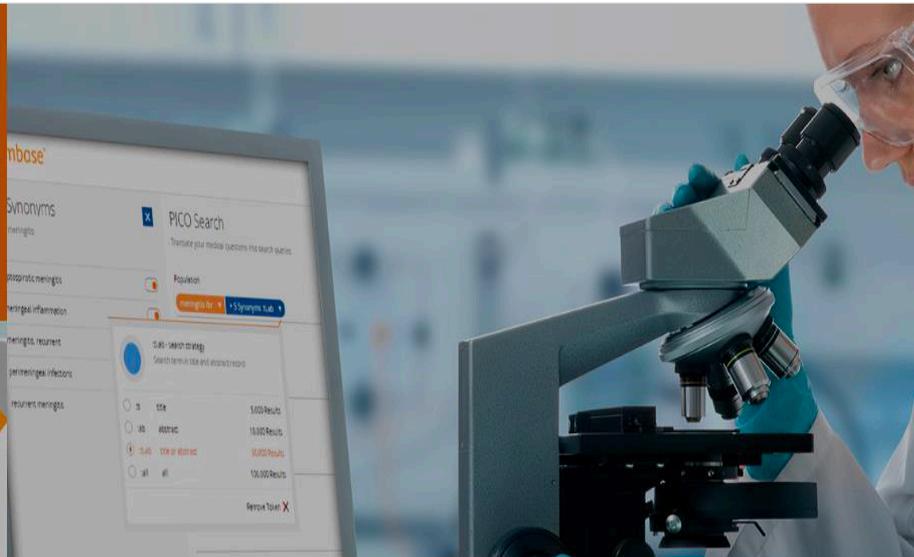
- Hypotheses & inference in clinical diagnosis: A von Heijne recommends related reading. bit.ly/2mTNnqZ Mar 15
- Interpreting systematic review search strategy: @mlrethlefsen notes point about controlled vocabulary searching. bit.ly/2IZSfw4 Mar 14
- Self-correction: Via Univ of Kentucky Sys Biol & Omics Integration Journal Club, authors post link to revised figure bit.ly/2n0gNTy Mar 13
- Meeting guidelines? M Klem on search reporting for systematic revs of cognitive behavior therapy for health anxiety. bit.ly/2lNklG2 Mar 9
- Understanding transmission of drug-resistant TB: @tomayates notes how study design might influence results. bit.ly/2kkYs08 Mar 8

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- Author Webshop

Cochrane Library

- Prepara, actualiza y divulga las revisiones sistemáticas sobre los efectos de la atención sanitaria
- Diseño que se utiliza: ECA
- 15 centros Cochrane en el mundo: Centro Cochrane Iberoamericano (CCI) posee la Biblioteca Cochrane plus

http://www.bibliotecaminsal.cl/

The screenshot displays the website www.bibliotecaminsal.cl/ in a browser window. The browser's address bar shows the URL and the page title "Biblioteca Virtual Ministerio de Salud". The website's navigation menu includes "INICIO", "QUIÉNES SOMOS", "SERVICIOS", "DIFUSIÓN", "APRENDA USTED MISMO", "BIBLIOINFORMA", and "NOTICIAS".

The main content area features a search interface for the "Biblioteca Virtual Ministerio de Salud" with the subtitle "Catálogo en Línea". It includes a search bar with the placeholder text "Ingrese una o más palabras", a search button labeled "búsqueda", and a configuration button labeled "config". Below the search bar, there are radio buttons for "Todas las palabras (AND)" (selected) and "Cualquier palabra (OR)".

On the right side of the page, there is a vertical list of service buttons: "Serie de Cuadernos de Redes", "Guías Clínicas AUGE", "Alertas Bibliográficas Temáticas", and "Encuestas Poblacionales". Below these buttons, there are three main sections: "REPOSITORIO Bibliográfico y Patrimonial MINSAL En desarrollo", "BEIC Biblioteca Electrónica de Información Científica", and "RECURSOS OVID Revistas Lippincott Williams & Wilkins". At the bottom right, there is a "Revista" button.

At the bottom of the page, there is a banner for "Embase" with an image of several medicine bottles. The browser's taskbar at the very bottom shows several open files: "fondachilena.jpg", "Anexo12FlujoDe....xls", "Anexo 16 Info....docx", "PROGRAMA EL....doc", "Medidas para...pdf", and a "Mostrar todos" button.

https://www.nice.org.uk/

diagnosis



Filter results by...

1641 results for diagnosis

Sort: Relevance | [Date](#)

[Share](#) ▼

Document Type

- Guidance ▼
- NICE advice ▼
- Indicators
- NICE Pathways
- Local practice
- Savings and productivity
- Do not do recommendations
- News

Non-Hodgkin's lymphoma: diagnosis and management (NG52)

Evidence-based recommendations on diagnosing and managing non-Hodgkin's lymphoma in people aged 16 years and over

NICE guideline Published July 2016

More ▼

Sepsis: recognition, diagnosis and early management (NG51)

Evidence-based recommendations on the recognition, diagnosis and early management of sepsis (blood poisoning / septicaemia) in all populations

NICE guideline Published July 2016

More ▼

Read about [our approach to COVID-19](#)

Filter results by

Download

Evidence type

- Guidance and Policy (7984)
 - Guidance (3926)
 - Policy and Strategy (841)
 - Quality Indicators (149)
 - Prescribing and Technical Information (3441)
 - Safety Alerts (62)
- Secondary Evidence (25815)
 - Systematic Reviews (16567)
 - Economic Evaluations (1666)
 - Evidence Summaries (5196)

Results for cancer

1 - 10 of 49004 sorted by relevance / date

Prostate cancer: What are the signs and symptoms of prostate cancer?

Source: [Clinical Knowledge Summaries - CKS](#)

Localised prostate cancer is usually asymptomatic and localised advanced prostate cancer is also frequently asymptomatic.

More: [Guidance](#)

Ovarian cancer

Source: [Clinical Knowledge Summaries - CKS](#)

The lifetime risk of a woman being diagnosed with ovarian cancer is 1 in 52. The risk of ovarian cancer is increased by: Increasing age.

More: [Guidance](#)

Prostate cancer

Source: [Clinical Knowledge Summaries - CKS](#)

Prostate cancer is a malignant tumour of the prostate. Almost all cases of the prostate (95%) are

https://cks.nice.org.uk

Recomendaciones para la búsqueda de información

- Texto libre
- Búsqueda con vocabulario especializado (MeSH, Medical Subject Headings)

The screenshot displays the NCBI MeSH search interface. The search bar contains the text "breast cancer 2 protein" and the search button is labeled "Search". Below the search bar, there is a red banner with COVID-19 information. The search results section shows two items:

- BRCA2 Protein**
1. A large, nuclear protein, encoded by the BRCA2 gene (GENE, BRCA2). Mutations in this gene predispose humans to breast and ovarian cancer. The **BRCA2 protein** is an essential component of DNA repair pathways, suppressing the formation of gross chromosomal rearrangements. (from Genes Dev. 2000;14(11):1400-6)
Year introduced: 2002
- BRCA2 protein, mouse [Supplementary Concept]**
2. RefSeq NM_009765
Date introduced: July 18, 1997

On the right side of the interface, there is a "PubMed Search Builder" section with a search box, "Add to search builder" and "Search PubMed" buttons, and a "Find related data" section with a "Database:" dropdown menu and a "Find items" button. Below that is a "Search details" section showing the search query: "brca2 protein"[MeSH Terms] OR breast cancer 2 protein[Text Word].

Uso de comillas

- Se utilizan para recuperar palabras compuestas o frases.
- Ejemplo: "cambio climático", "violencia doméstica",
"osteosarcoma en niños"

Texto libre

vitamin c pneumonia treatment

“vitamin c” AND pneumonia AND treatment

(“vitaminC”OR“ascorbicacid”) AND (pneumonia OR pneumonitis
OR “lunginflammation”) AND (treatment OR therap*)

+ (“Randomized Controlled Trial” OR RCT OR “Systematic review”
OR Meta-Analysis)

Truncamiento

- En pubmed *, en Ovid \$
- Para conseguir diferentes formas de un término
- Teen*[tw]
 - Teenage
 - Teenager
 - Teenagers
 - Teens
 - Teen
- Smok[*tw]
 - Smoke
 - Smoking
 - Smokes
 - Smoker
 - Smokers

Lenguajes controlados

- DeCS: descriptores en ciencias de la salud



Nueva Consulta Config V

Expresión de búsqueda: CANCER DE MAMA
 Descriptores Encontrados: 1
 Mostrando: 1 ... 1

1 / 1 DeCS

Descriptor *Inglés*: **Breast Neoplasms**
 Descriptor *Español*: **Neoplasias de la Mama**
 Descriptor *Portugués*: **Neoplasias da Mama**
 Sinónimos *Español*:
 Cancer de Seno
 Carcinoma Mamario Humano
 Carcinoma de Mama
 Carcinoma de la Mama
 Carcinomas Mamarios Humanos
 Carcinomas de Mama
 Cáncer Mamario
 Cáncer de Mama
 Cáncer de la Mama
 Cánceres de Mama
 Neoplasia Maligna de Mama
 Neoplasia Maligna de la Mama
 Neoplasia Mamaria Humana
 Neoplasias Malignas de Mama
 Neoplasias Mamarias
 Neoplasias Mamarias Humanas
 Neoplasia Mamaria
 Neoplasia de la Mama
 Tumor Maligno de la Mama
 Tumor de Mama
 Tumor de Seno
 Tumor de la Mama
 Tumores Malignos de la Mama
 Tumores Mamarios
 Tumores de Mama
 Tumores de Seno
 Tumores de la Mama

Categoría: [C04.588.180](#)
[C17.800.090.500](#)

Definición *Español*: Tumores o cáncer de la MAMA humana.

Nota de Indización *Español*: solamente humano; [NEOPLASIAS DE LA MAMA MASCULINA](#) también está disponible; para animal use [NEOPLASIAS MAMARIAS ANIMALES](#) o [NEOPLASIAS MAMARIAS EXPERIMENTALES](#); coordine como primario con tipo histológico de neoplasia (como primario)

Relacionados *Español*: [Linfedema del Cáncer de Mama](#)

Calificadores Permitidos *Español*:

SU cirugía	CL clasificación
CO complicaciones	CN congénito
DG diagnóstico por imagen	DI diagnóstico
DH dietoterapia	EC economía
EM embriología	NU enfermería
EN enzimología	EP epidemiología
ET etiología	EH etnología
PP fisiopatología	GE genética
HI historia	CI inducido químicamente
IM inmunología	BS irrigación sanguínea
CF líquido cefalorraquídeo	ME metabolismo
MI microbiología	MO mortalidad
UR orina	PS parasitología
PA patología	PC prevención & control
PX psicología	CH química
RT radioterapia	RH rehabilitación
BL sangre	SC secundario
TH terapia	DT tratamiento farmacológico
UL ultraestructura	VE veterinaria
VI virología	

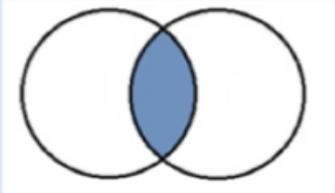
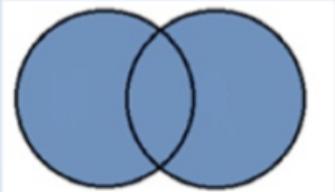
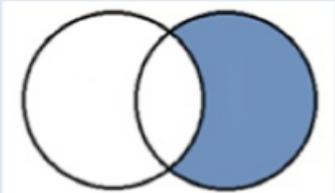
Número del Registro: 1968
 Identificador Único: D001943

Nueva Consulta Config ^

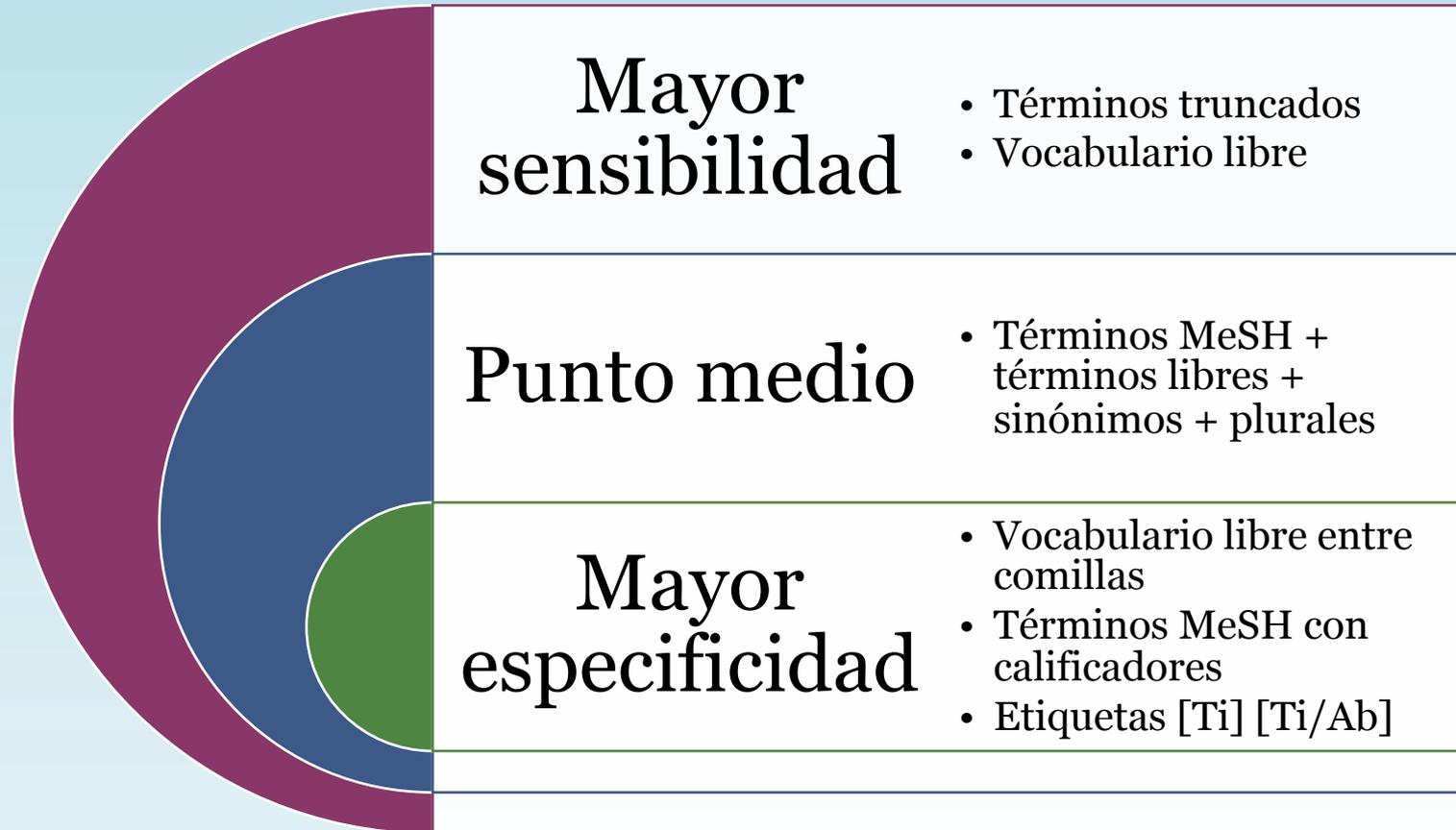
MeSH

MeSH Heading	Neoplasms
Tree Number	C04
Annotation	general; prefer specifics; policy: Manual section 24; qualifier / nurs = the patient, ONCOLOGY NURSING = the oncologic specialty; qualifier / radiother = the patient, RADIATION ONCOLOGY = the specialty; familial: consider also NEOPLASTIC SYNDROMES, HEREDITARY ; metastatic cancer of unknown origin: index under NEOPLASM METASTASIS
Scope Note	New abnormal growth of tissue. Malignant neoplasms show a greater degree of anaplasia and have the properties of invasion and metastasis, compared to benign neoplasms.
Entry Term	Benign Neoplasms
Entry Term	Cancer
Entry Term	Neoplasia
Entry Term	Neoplasm
Entry Term	Neoplasms, Benign

Operadores Booleanos

	AND	AND (Y): Recupera las referencias que incluyan ambos términos
	OR	OR (O): recupera las referencias que incluyan cualquiera de los términos o los dos a la vez
	NOT	NOT (NO): Recupera las referencias en las que aparezca sólo el primer término

Búsqueda Sensible / Específica



Pubmed Clinical Queries

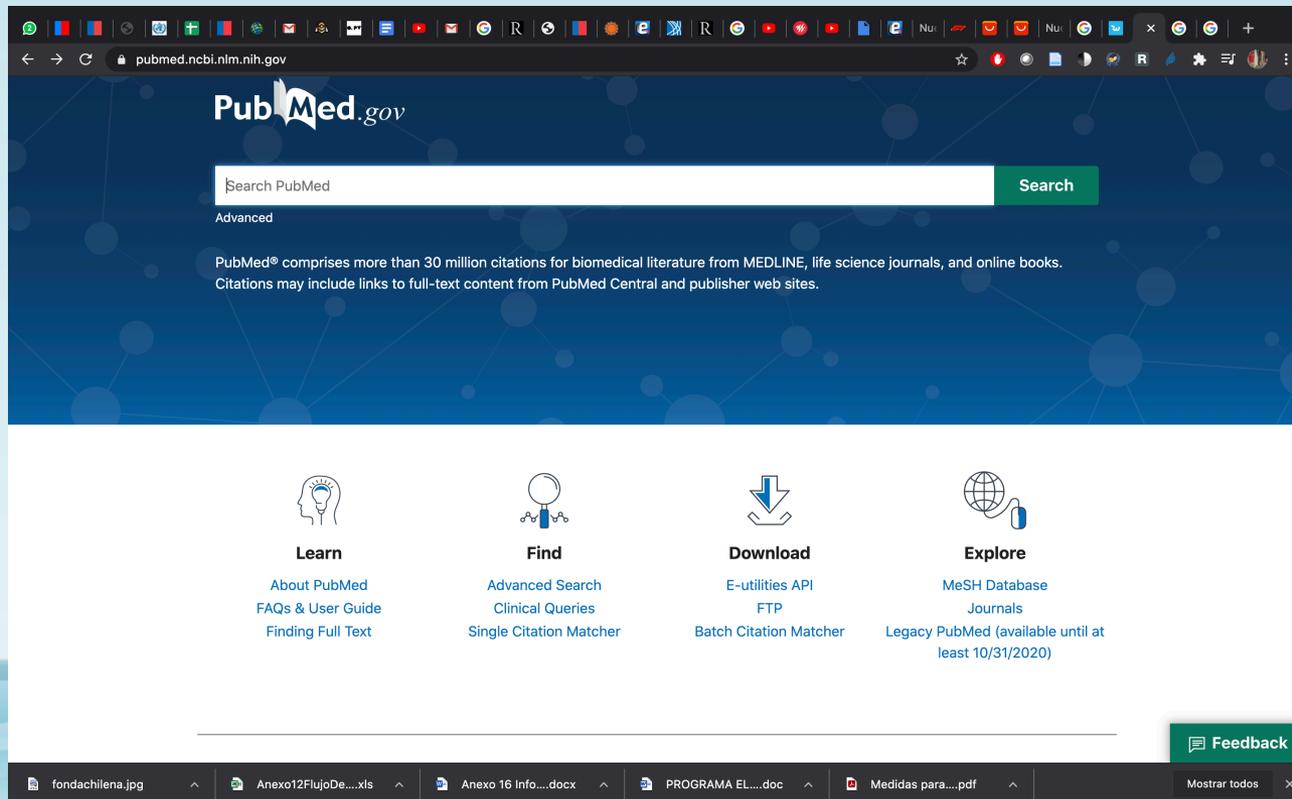
- Son estrategias de búsqueda diseñadas para preguntas clínicas
- “clinical queries”
- “systematic reviews”
- Utilidad: limitar resultados a aquellos artículos cuyo tipo de diseño de investigación se ajusta a una serie de requisitos metodológicos previamente definidos

PubMed/Clinical Queries Search by Clinical Study Category

-
- Diseño específico que identifica referencias relevantes para la categoría concreta elegida
 - Terapia y prevención
 - Diagnóstico
 - Etiología
 - Pronóstico
- Alcance
- Sensibilidad (broad): obtiene un mayor número de referencias: artículos relevantes y otros que no lo son tanto
- Especificidad (narrow): recuperará menos referencias, pero serán más precisas y artículos más relevantes.

PubMed/Clinical Queries

- Filtro metodológico
- Definir tipo de pregunta
- Definir sensibilidad o especificidad



The screenshot shows the PubMed website homepage. At the top, there is a search bar with the text "Search PubMed" and a green "Search" button. Below the search bar, the text "Advanced" is visible. The main content area features a blue background with a network diagram and the text: "PubMed® comprises more than 30 million citations for biomedical literature from MEDLINE, life science journals, and online books. Citations may include links to full-text content from PubMed Central and publisher web sites." Below this, there are four main sections: "Learn" (with a lightbulb icon), "Find" (with a magnifying glass icon), "Download" (with a download arrow icon), and "Explore" (with a globe icon). Each section lists related resources. At the bottom right, there is a green "Feedback" button. The browser's taskbar at the very bottom shows several open files: "fondachilena.jpg", "Anexo12FlujoDe...xls", "Anexo 16 Info...docx", "PROGRAMA EL...doc", and "Medidas para...pdf".

PubMed.gov

Search PubMed Search

Advanced

PubMed® comprises more than 30 million citations for biomedical literature from MEDLINE, life science journals, and online books. Citations may include links to full-text content from PubMed Central and publisher web sites.

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FTP
Batch Citation Matcher

Explore
MeSH Database
Journals
Legacy PubMed (available until at least 10/31/2020)

Feedback

fondachilena.jpg Anexo12FlujoDe...xls Anexo 16 Info...docx PROGRAMA EL...doc Medidas para...pdf Mostrar todos

PubMed Clinical Queries

Results of searches on this page are limited to specific clinical research areas. For comprehensive searches, use [PubMed](#) directly.



Clinical Study Categories

Category: Scope:

Results: 2 of 2

Rapid quantitative PCR assays for the simultaneous detection of herpes simplex virus, varicella zoster virus, cytomegalovirus, Epstein-Barr virus, and human herpesvirus 6 DNA in blood and other clinical specimens.

Engelmann I, Petzold DR, Kosinska A, Hepkema BG, Schulz TF, Heim A.
J Med Virol. 2008 Mar; 80(3):467-77.

Optimization and evaluation of a PCR assay for detecting toxoplasmic encephalitis in patients with AIDS.

Joseph P, Calderón MM, Gilman RH, Quispe ML, Cok J, Ticona E, Chavez V, Jimenez JA, Chang MC, Lopez MJ, et al.
J Clin Microbiol. 2002 Dec; 40(12):4499-503.

[See all \(2\)](#)

This column displays citations filtered to a specific clinical study category and scope. These search filters were developed by [Houng DR et al.](#) See more filter information.

Systematic Reviews

Results: 0 of 0

This column displays citations for systematic reviews, meta-analyses, reviews of clinical trials, evidence-based medicine, consensus development conferences, and guidelines. See [filter information](#) or additional [related sources](#).

Medical Genetics

Topic:

Results: 4 of 4

The current status of laboratory diagnosis of *Angiostrongylus cantonensis* infections in humans using serologic and molecular methods.

Wilkins PP, Qvarnstrom Y, Whelen AC, Saucier C, da Silva AJ, Eamsobhana P.
Hawaii J Med Public Health. 2013 Jun; 72(6 Suppl 2):55-7.

Rapid cerebral amyloid binding by A β antibodies infused into β -amyloid precursor protein transgenic mice.

Winkler DT, Abramowski D, Danner S, Zurini M, Paganetti P, Tolnay M, Staufenbiel M.
Biol Psychiatry. 2010 Nov 15; 68(10):971-4. Epub 2010 Mar 31.

Optimization and evaluation of a PCR assay for detecting toxoplasmic encephalitis in patients with AIDS.

Joseph P, Calderón MM, Gilman RH, Quispe ML, Cok J, Ticona E, Chavez V, Jimenez JA, Chang MC, Lopez MJ, et al.
J Clin Microbiol. 2002 Dec; 40(12):4499-503.

Ejercicio

- Búsqueda de factores pronósticos en cáncer de hígado
- Delimitar
 - Términos MeSH y DeCS
 - Booleanos
 - Clinical Queries
 - Determinar si la búsqueda fue sensible o específica

GRACIAS