

GEORGIAN MEDICAL NEWS

ISSN 1512-0112

NO 11 (368) ноябрь 2025

ТБИЛИСИ - NEW YORK



ЕЖЕМЕСЯЧНЫЙ НАУЧНЫЙ ЖУРНАЛ

Медицинские новости Грузии
საქართველოს სამედიცინო სიახლეები

GEORGIAN MEDICAL NEWS

Monthly Georgia-US joint scientific journal published both in electronic and paper formats of the Agency of Medical Information of the Georgian Association of Business Press. Published since 1994. Distributed in NIS, EU and USA.

GMN: Georgian Medical News is peer-reviewed, published monthly journal committed to promoting the science and art of medicine and the betterment of public health, published by the GMN Editorial Board since 1994. GMN carries original scientific articles on medicine, biology and pharmacy, which are of experimental, theoretical and practical character; publishes original research, reviews, commentaries, editorials, essays, medical news, and correspondence in English and Russian.

GMN is indexed in MEDLINE, SCOPUS, PubMed and VINITI Russian Academy of Sciences. The full text content is available through EBSCO databases.

GMN: Медицинские новости Грузии - ежемесячный рецензируемый научный журнал, издаётся Редакционной коллегией с 1994 года на русском и английском языках в целях поддержки медицинской науки и улучшения здравоохранения. В журнале публикуются оригинальные научные статьи в области медицины, биологии и фармации, статьи обзорного характера, научные сообщения, новости медицины и здравоохранения. Журнал индексируется в MEDLINE, отражён в базе данных SCOPUS, PubMed и ВИНИТИ РАН. Полнотекстовые статьи журнала доступны через БД EBSCO.

GMN: Georgian Medical News – საქართველოს სამედიცინო ხიახლები – არის უფლებული სამეცნიერო სამედიცინო რევიუზირებადი ჟურნალი, გამოიცემა 1994 წლიდან, წარმოადგენს სარედაქციო კოლეგიისა და აშშ-ის მეცნიერების, განათლების, ინდუსტრიის, ხელოვნებისა და ბუნებისმეცნიელების საერთაშორისო აკადემიის ერთობლივ გამოცემას. GMN-ში რეცენზირდება ინგლისურ ენებზე ქვეყნება ექსპერიმენტული, თეორიული და პრაქტიკული ხასიათის ორიგინალური სამეცნიერო სტატიები მედიცინის, ბიოლოგიისა და ფარმაციის სფეროში, მიმოხილვითი ხასიათის სტატიები.

ჟურნალი ინდექსირებულია MEDLINE-ის საერთაშორისო სისტემაში, ასახულია SCOPUS-ის, PubMed-ის და ВИНИТИ РАН-ის მონაცემთა ბაზებში. სტატიების სრული ტექსტი ხელმისაწვდომია EBSCO-ს მონაცემთა ბაზებიდან.

WEBSITE

www.geomednews.com

К СВЕДЕНИЮ АВТОРОВ!

При направлении статьи в редакцию необходимо соблюдать следующие правила:

1. Статья должна быть представлена в двух экземплярах, на русском или английском языках, напечатанная через **полтора интервала на одной стороне стандартного листа с шириной левого поля в три сантиметра**. Используемый компьютерный шрифт для текста на русском и английском языках - **Times New Roman (Кириллица)**, для текста на грузинском языке следует использовать **AcadNusx**. Размер шрифта - **12**. К рукописи, напечатанной на компьютере, должен быть приложен CD со статьей.

2. Размер статьи должен быть не менее десяти и не более двадцати страниц машинописи, включая указатель литературы и резюме на английском, русском и грузинском языках.

3. В статье должны быть освещены актуальность данного материала, методы и результаты исследования и их обсуждение.

При представлении в печать научных экспериментальных работ авторы должны указывать вид и количество экспериментальных животных, применяющиеся методы обезболивания и усыпления (в ходе острых опытов).

4. К статье должны быть приложены краткое (на полстраницы) резюме на английском, русском и грузинском языках (включающее следующие разделы: цель исследования, материал и методы, результаты и заключение) и список ключевых слов (key words).

5. Таблицы необходимо представлять в печатной форме. Фотокопии не принимаются. **Все цифровые, итоговые и процентные данные в таблицах должны соответствовать таковым в тексте статьи.** Таблицы и графики должны быть озаглавлены.

6. Фотографии должны быть контрастными, фотокопии с рентгенограмм - в позитивном изображении. Рисунки, чертежи и диаграммы следует озаглавить, пронумеровать и вставить в соответствующее место текста **в tiff формате**.

В подписях к микрофотографиям следует указывать степень увеличения через окуляр или объектив и метод окраски или импрегнации срезов.

7. Фамилии отечественных авторов приводятся в оригинальной транскрипции.

8. При оформлении и направлении статей в журнал МНГ просим авторов соблюдать правила, изложенные в «Единых требованиях к рукописям, представляемым в биомедицинские журналы», принятых Международным комитетом редакторов медицинских журналов - <http://www.spinesurgery.ru/files/publish.pdf> и http://www.nlm.nih.gov/bsd/uniform_requirements.html В конце каждой оригинальной статьи приводится библиографический список. В список литературы включаются все материалы, на которые имеются ссылки в тексте. Список составляется в алфавитном порядке и нумеруется. Литературный источник приводится на языке оригинала. В списке литературы сначала приводятся работы, написанные знаками грузинского алфавита, затем кириллицей и латиницей. Ссылки на цитируемые работы в тексте статьи даются в квадратных скобках в виде номера, соответствующего номеру данной работы в списке литературы. Большинство цитированных источников должны быть за последние 5-7 лет.

9. Для получения права на публикацию статья должна иметь от руководителя работы или учреждения визу и сопроводительное отношение, написанные или напечатанные на бланке и заверенные подписью и печатью.

10. В конце статьи должны быть подписи всех авторов, полностью приведены их фамилии, имена и отчества, указаны служебный и домашний номера телефонов и адреса или иные координаты. Количество авторов (соавторов) не должно превышать пяти человек.

11. Редакция оставляет за собой право сокращать и исправлять статьи. Корректура авторам не высылается, вся работа и сверка проводится по авторскому оригиналу.

12. Недопустимо направление в редакцию работ, представленных к печати в иных издательствах или опубликованных в других изданиях.

При нарушении указанных правил статьи не рассматриваются.

REQUIREMENTS

Please note, materials submitted to the Editorial Office Staff are supposed to meet the following requirements:

1. Articles must be provided with a double copy, in English or Russian languages and typed or computer-printed on a single side of standard typing paper, with the left margin of **3** centimeters width, and **1.5** spacing between the lines, typeface - **Times New Roman (Cyrillic)**, print size - **12** (referring to Georgian and Russian materials). With computer-printed texts please enclose a CD carrying the same file titled with Latin symbols.

2. Size of the article, including index and resume in English, Russian and Georgian languages must be at least 10 pages and not exceed the limit of 20 pages of typed or computer-printed text.

3. Submitted material must include a coverage of a topical subject, research methods, results, and review.

Authors of the scientific-research works must indicate the number of experimental biological species drawn in, list the employed methods of anesthetization and soporific means used during acute tests.

4. Articles must have a short (half page) abstract in English, Russian and Georgian (including the following sections: aim of study, material and methods, results and conclusions) and a list of key words.

5. Tables must be presented in an original typed or computer-printed form, instead of a photocopied version. **Numbers, totals, percentile data on the tables must coincide with those in the texts of the articles.** Tables and graphs must be headed.

6. Photographs are required to be contrasted and must be submitted with doubles. Please number each photograph with a pencil on its back, indicate author's name, title of the article (short version), and mark out its top and bottom parts. Drawings must be accurate, drafts and diagrams drawn in Indian ink (or black ink). Photocopies of the X-ray photographs must be presented in a positive image in **tiff format**.

Accurately numbered subtitles for each illustration must be listed on a separate sheet of paper. In the subtitles for the microphotographs please indicate the ocular and objective lens magnification power, method of coloring or impregnation of the microscopic sections (preparations).

7. Please indicate last names, first and middle initials of the native authors, present names and initials of the foreign authors in the transcription of the original language, enclose in parenthesis corresponding number under which the author is listed in the reference materials.

8. Please follow guidance offered to authors by The International Committee of Medical Journal Editors guidance in its Uniform Requirements for Manuscripts Submitted to Biomedical Journals publication available online at: http://www.nlm.nih.gov/bsd/uniform_requirements.html
http://www.icmje.org/urm_full.pdf

In GMN style for each work cited in the text, a bibliographic reference is given, and this is located at the end of the article under the title "References". All references cited in the text must be listed. The list of references should be arranged alphabetically and then numbered. References are numbered in the text [numbers in square brackets] and in the reference list and numbers are repeated throughout the text as needed. The bibliographic description is given in the language of publication (citations in Georgian script are followed by Cyrillic and Latin).

9. To obtain the rights of publication articles must be accompanied by a visa from the project instructor or the establishment, where the work has been performed, and a reference letter, both written or typed on a special signed form, certified by a stamp or a seal.

10. Articles must be signed by all of the authors at the end, and they must be provided with a list of full names, office and home phone numbers and addresses or other non-office locations where the authors could be reached. The number of the authors (co-authors) must not exceed the limit of 5 people.

11. Editorial Staff reserves the rights to cut down in size and correct the articles. Proof-sheets are not sent out to the authors. The entire editorial and collation work is performed according to the author's original text.

12. Sending in the works that have already been assigned to the press by other Editorial Staffs or have been printed by other publishers is not permissible.

Articles that Fail to Meet the Aforementioned Requirements are not Assigned to be Reviewed.

ავტორია საშურალებოდ!

რედაქტორი სტატიის წარმოდგენისას საჭიროა დავიცვათ შემდეგი წესები:

1. სტატია უნდა წარმოადგინოთ 2 ცალად, რუსულ ან ინგლისურ ენებზე, დაბეჭდილი სტანდარტული ფურცლის 1 გვერდზე, 3 სმ სიგანის მარცხენა ველისა და სტრიქონებს შორის 1,5 ინტერვალის დაცვით. გამოყენებული კომპიუტერული შრიფტი რუსულ და ინგლისურნოვან ტექსტებში - **Times New Roman (Кириллицა)**, ხოლო ქართულენოვან ტექსტში საჭიროა გამოვიყენოთ **AcadNusx**. შრიფტის ზომა – 12. სტატიას თან უნდა ახლდეს CD სტატიით.

2. სტატიის მოცულობა არ უნდა შეადგენდეს 10 გვერდზე ნაკლებს და 20 გვერდზე მეტს ლიტერატურის სის და რეზიუმების (ინგლისურ, რუსულ და ქართულ ენებზე) ჩათვლით.

3. სტატიაში საჭიროა გამუქდება: საკითხის აქტუალობა; კვლევის მიზანი; საკვლევი მასალა და გამოყენებული მეთოდები; მიღებული შედეგები და მათი განსჯა. ექსპერიმენტული ხასიათის სტატიების წარმოდგენისას ავტორებმა უნდა მიუთითონ საექსპერიმენტო ცხოველების სახეობა და რაოდენობა; გაუტკივარებისა და დაძინების მეთოდები (მწვავე ცდების პირობებში).

4. სტატიას თან უნდა ახლდეს რეზიუმე ინგლისურ, რუსულ და ქართულ ენებზე არანაკლებ ნახევარი გვერდის მოცულობისა (სათაურის, ავტორების, დაწესებულების მითითებით და უნდა შეიცავდეს შემდეგ განყოფილებებს: მიზანი, მასალა და მეთოდები, შედეგები და დასკვნები; ტექსტუალური ნაწილი არ უნდა იყოს 15 სტრიქონზე ნაკლები) და საკვანძო სიტყვების ჩამონათვალი (key words).

5. ცხრილები საჭიროა წარმოადგინოთ ნაბეჭდი სახით. ყველა ციფრული, შემაჯამებელი და პროცენტული მონაცემები უნდა შეესაბამებოდეს ტექსტში მოყვანილს.

6. ფოტოსურათები უნდა იყოს კონტრასტული; სურათები, ნახაზები, დიაგრამები - დასათაურებული, დანორმილი და სათანადო ადგილას ჩასმული. რენტგენოგრამების ფოტოსასლები წარმოადგინეთ პოზიტიური გამოსახულებით **tiff** ფორმატში. მიკროფოტ-სურათების წარწერებში საჭიროა მიუთითოთ ოკულარის ან ობიექტივის საშუალებით გადიდების ხარისხი, ანათალების შედებვის ან იმპრეგნაციის მეთოდი და აღნიშნოთ სურათის ზედა და ქვედა ნაწილები.

7. სამამულო ავტორების გვარები სტატიაში აღინიშნება ინიციალების თანდართვით, უცხოურისა – უცხოური ტრანსკრიპციით.

8. სტატიას თან უნდა ახლდეს ავტორის მიერ გამოყენებული სამამულო და უცხოური შრომების ბიბლიოგრაფიული სია (ბოლო 5-8 წლის სიღრმით). ანბანური წყობით წარმოდგენილ ბიბლიოგრაფიულ სიაში მიუთითეთ ჯერ სამამულო, შემდეგ უცხოელი ავტორები (გვარი, ინიციალები, სტატიის სათაური, ურნალის დასახელება, გამოცემის ადგილი, წელი, ურნალის №, პირველი და ბოლო გვერდები). მონოგრაფიის შემთხვევაში მიუთითეთ გამოცემის წელი, ადგილი და გვერდების საერთო რაოდენობა. ტექსტში კვადრატულ ფრჩილებში უნდა მიუთითოთ ავტორის შესაბამისი N ლიტერატურის სიის მიხედვით. მიზანშეწონილია, რომ ციტირებული წყაროების უმეტესი ნაწილი იყოს 5-6 წლის სიღრმის.

9. სტატიას თან უნდა ახლდეს: ა) დაწესებულების ან სამეცნიერო ხელმძღვანელის წარდგინება, დამოწმებული ხელმოწერითა და ბეჭდით; ბ) დარგის სპეციალისტის დამოწმებული რეცეპტია, რომელშიც მითითებული იქნება საკითხის აქტუალობა, მასალის საკმაობა, მეთოდის სანდოობა, შედეგების სამეცნიერო-პრაქტიკული მნიშვნელობა.

10. სტატიის ბოლოს საჭიროა ყველა ავტორის ხელმოწერა, რომელთა რაოდენობა არ უნდა აღემატებოდეს 5-ს.

11. რედაქტორი იტოვებს უფლებას შეასწოროს სტატიას. ტექსტშე მუშაობა და შეჯრება ხდება საავტორო ორიგინალის მიხედვით.

12. დაუშვებელია რედაქტორი ისეთი სტატიის წარდგენა, რომელიც დასაბეჭდიდად წარდგენილი იყო სხვა რედაქტორიაში ან გამოქვეყნებული იყო სხვა გამოცემებში.

აღნიშნული წესების დარღვევის შემთხვევაში სტატიები არ განიხილება.

Содержание:

Samah A. Elshweikh, Atheer G. Almutairi, Talal Abdullah A AL musaiteer, Ghala Fahad Alharbi, Lamees Abdulaziz H. Algubllan, Raghad Mohammed Alajlan, Hossam Eldein A. Husien.	
A CASE OF REFRACTORY IRON DEFICIENCY ANEMIA REVEALING HEREDITARY HEMORRHAGIC TELANGIECTASIA.....6-11	
Mariam Andriadze, Maia Kereselidze, Nino Chkhaberidze, Guga Kashibadze, Nato Pitskhelauri, Nino Chikhladze.	
PEDIATRIC BURN INJURIES IN GEORGIA: 8 YEAR RETROSPECTIVE STUDY OF HOSPITAL DATA.....12-20	
Agzamkhodjaeva S.S, Nuritdinov N.A, Hamraev A.A, Muhamedova M.G, Khalimova F.T.	
NON-ALCOHOLIC FATTY LIVER DISEASE AND CARDIOVASCULAR DISEASE: ASSOCIATIONS WITH CLINICAL MARKERS AND METABOLIC ALTERATIONS.....21-26	
Gulden Aldabergenova, Assiya Turgambayeva, Bakhyt Malgazhdarova, Aisulu Tulemissova, Diana Zhumagaleyeva, Talgat Sergaliyev.	
QUALITY OF LIFE OF GENERAL PRACTITIONERS OF POLYCLINICS IN CITIES OF KAZAKHSTAN.....27-32	
Meri Mkhitaryan, Aram Vartikyan, Armine Chopikyan, Armine Harutyunyan, Naira Gyulazyan, Artashes Tadevosyan.	
CONFLICTS DURING THE COVID-19 PANDEMIC IN ARMENIA: A STUDY OF MEDICAL FACILITIES....33-45	
Entela Basha, Emili Mara, Gentian Vyshka.	
CORTICOBASAL SYNDROME PRESENTING AS A PROGRESSIVE HEMIPARETIC SYNDROME: A CASE REPORT.....46-48	
Abdulaziz Mohsin Brifkani.	
PREVALENCE OF CLOPIDOGREL RESISTANCE AND GENETIC PROFILE AMONG A GROUP OF PCI PATIENTS IN DUHOK CITY.....49-54	
Isayan A.S, Danielyan M.H, Nebogova K.A, Simonyan K.V, Gevorgyan L.R, Antonyan I.V, Badalyan B.Yu, Avetisyan Z.A, Chavushyan V.A.	
ELECTROPHYSIOLOGICAL EFFECTS OF GLIBENCLAMIDE ON HIPPOCAMPAL AND BASOLATERAL AMYGDALA NEURONS IN RATS WITH FRUCTOSE-INDUCED METABOLIC DYSFUNCTION.....55-60	
Mykhailo Zhylin, Olena Starynska, Vitalii Yatsynovych, Olena Nevoenna, Iryna Romanova.	
USING PSYCHOLINGUISTICS IN DEVELOPING THERAPEUTIC METHODS FOR OVERCOMING ANXIETY STATES.....61-67	
Dinara Akhmetzhanova, Shynar Akhmetkaliyeva, Botagoz Turakhanova, Assem Kazangapova, Saule Imangazinova, Rustem Kazangapov, Nazarbek Omarov, Zhuldyz Masalova.	
THE RELATIONSHIP BETWEEN CONNECTIVE TISSUE DYSPLASIA AND OSTEOPENIA IN CHILDREN.....68-74	
Uday Mahajan, Ahmed Hassan Usman, Musab Mohamed, Krishnakumar Subbaraman, Haroon Yousaf, Meraj Akhtar, Mohamed Kabary, Abena Kwafo-Armah, Sayema Raza, Abdul Rehman Sarwar, Bassem Khater.	
DATA RETRIEVAL FOR CLINICAL PROJECTS IN THE EVOLVING HEALTHCARE SYSTEM: PAST, PRESENT, AND FUTURE.....75-77	
Mohammed Almustafa Q. Abdul-Hussien, Ghasaq A. Abdul-Wahab	
PEPTIDYLARGININE DEMINASE 4 AND FUSOBACTERIUM NUCLEATUM: A HIDDEN ALLIANCE IN PERIODONTAL DISEASE PROGRESSION.....78-84	
Levan Chitaia, Khatuna Saganelidze, Romeo Vardiashvili.	
OSTEOSYNTHESIS OF CLAVICLE FRACTURES IN CHILDREN USING TITANIUM ELASTIC NAILS.....85-89	
Varduhi Suren Hovsepyan, Naira Arayik Gevorgyan, Gevorg Garnik Safaryan, Ashot Vardges Babakhanyan, Hrachya Movses Stepanyan, Gohar Mkrtich Arajan.	
SYNTHESIS AND ANTIBACTERIAL EVALUATION OF 2-(ALKYLOXY)-N-(2,5-DIMETHYLBENZYL)-N,N-DIMETHYL-2-OXOETHANAMMONIUMCHLORIDES.....90-97	
Mariam Saleh Alharbi, Raghad Ibrahim Albarak, Arwa Abdulaziz Alnassar, Kadi Abdulaziz Alsweed, Asrar Awad Almutairi, Reem Mohammed Albarak, Jenan Khaled Alqurishi.	
ACANTHOSIS NIGRICANS, OBESITY, AND DIABETES RISK FACTORS: A COMMUNITY-BASED MULTICENTER STUDY IN QASSIM, SAUDI ARABIA.....98-111	
Marwa AA Osman, Azza O Alawad, Tarig H Merghani, Minha M E Mohammed, Khalid AD Gasmalla.	
LINKS BETWEEN DYSLIPIDEMIA AND RISK FACTORS IN ACUTE CORONARY SYNDROME.....112-116	
Tamar Zarginava.	
INTERNATIONAL STUDENT RECRUITMENT INSTRUMENTS: A COMPARATIVE ANALYSIS OF GEORGIA AND LEADING EUROPEAN COUNTRIES.....117-123	
Anar Kozhabayeva, Bolat Ashirov, Jamilia Mansurova, Meiramgul Tokbulatova, Mirgul Kapakova, Zhanar Toktarova, Dariga Nurgalieva.	
CARDIORENAL BIOMARKERS AS PREDICTORS OF ADVERSE OUTCOMES IN CARDIOVASCULAR DISEASES: A NARRATIVE REVIEW.....124-129	
Abzaliyeva A, Kulzhanov M, Laktionova M, Baimuratova M, Abzaliyev Zh.	
DEVELOPMENT AND PILOT IMPLEMENTATION OF A MULTILEVEL COMPETENCY ASSESSMENT AND DEVELOPMENT SYSTEM (MSRK PMSP) BASED ON THE INDICATOR MODEL FOR OUTPATIENT CLINIC DEVELOPMENT (IMORP).....130-139	

ANAS ALI ALHUR, ATEER JAMAL, ABDULRAHMAN ZAKRI, RETAJ MAJED, ELAF SAEED, RAGAD ALSUDAIRI, SHMOUKH ALBUGAMI, AFAF ALANAZI, ABDULLAH ALI, AYED FEHAID ALANAZI, EMAN ALHARBI, DANA HAMOH, SREEN ALLAHYANI, SAEED ALSHAHRANI, SHAIMA AL-MAADI. INVESTIGATING CHALLENGES IN ACHIEVING EARLY DIAGNOSIS OF DIABETES AMONG THE SAUDI POPULATION.....	140-145
Marat Syzdykbayev, Bazar Tuleuov, Maksut Kazymov, Kulsara Rustemova, Gulshat Alimkhanova, Akzhunus Zheksenova, Rustem Kazangapov, Saltanat Khamzina, Saule Abdkazimova, Abzal Ismatov, Sanzhar Khalelov, Roman Khrupunov. SUCCESSFUL USE OF PROLONGED INHALATIONAL SURFACTANT THERAPY IN AN EXTREMELY SEVERE PATIENT WITH COVID-19-ASSOCIATED ARDS.....	146-150
Ketevan Omiadze, Khatuna Kudava, Alikya Chipurupalli, Tea Abzhandadze, Maka Ghuchashvili, Sophio Nemsadze. CHRONIC URTICARIA CAUSED DUE TO ASCARIS LUMBRICOIDES - A CASE REPORT.....	151-154
Kiseri Kubati Jeta, Gashi Aferdita, Peci Donika, Berisha Vlora, Kiseri Burim. EARLY DETECTION, STAGE, AND SURVIVAL IN ORAL SQUAMOUS CELL CARCINOMA: LITERATURE REVIEW OF CLINICAL AND RECURRENT DATA (2019-2025).....	155-158
Dinara Akhmetzhanova, Nataliya Kulabukhova, Zhanar Smagulova, Assem Kazangapova, Saule Imangazinova, Rustem Kazangapov, Nazarbek Omarov, Zhuldyz Masalova. FREQUENCY AND CLINICAL MANIFESTATIONS OF CONNECTIVE TISSUE DYSPLASIA IN CHILDREN IN THE CITY OF SEMEY.....	159-163
Gulbarshyn Kalimoldina, Zhanna Muzdubayeva, Alida Kaskabayeva, Zauresh Zhumadilova, Karlygash Zhylkybayeva, Yerbol Smail, Daulet Muzdubayev, Zhanar Zhumanbayeva. EPIDEMIOLOGICAL INDICATORS OF ULCERATIVE COLITIS IN THE CITY OF SEMEY.....	164-170
David Tchkonia, Teona Mskhaladze, Tamari Kevlishvili, Mikolay Chkonia. LASER RESECTION AND ENDOBRONCHIAL STENTING IN THE MANAGEMENT OF MALIGNANT CENTRAL AIRWAY OBSTRUCTION: A COMPARATIVE SURVIVAL AND QUALITY OF LIFE ANALYSIS.....	171-175
Mohammed Saarti, Musab M Khalaf, Bashar H Yousif. THE EFFECT OF DAPAGLIFLOZIN ON THYROID FUNCTION TEST IN DIABETIC PATIENTS.....	176-181
Wei Zhang, Chao Zhou, Ning Li. A STUDY ON THE ASSOCIATION BETWEEN EXERCISE INTENSITY, EXERCISE TYPE, AND NEGATIVE EMOTIONS AMONG COLLEGE STUDENTS.....	182-189
Gulmira Urubayeva, Tolkyn Bulegenov, Ernar Mamyrov, Kenesh Dzhusupov, Smailova Zhanargul, Berikuly Duman, Imanbayev Merey, Alpishcheva Saule, Bazar Tuleuov, Araiym Kussainova, Akmara Mussakhanova, Baibussinova, Assel. QUALITY AND ACCESSIBILITY OF REHABILITATION IN OBLITERATING ATHEROSCLEROSIS OF THE LOWER EXTREMITY ARTERIES: A CROSS-SECTIONAL SURVEY OF PHYSICIANS.....	190-195
Argjira Veseli, Shera Kosumi, Blerim Krasniqi, Shefqet Mrasori, Enis Veseli, Milazim Gjocaj, Kaltrina Veseli. THE EFFICACY OF SENSORY-ADAPTED DENTAL INTERVENTIONS FOR CHILDREN WITH DEVELOPMENTAL DISABILITIES AND SENSORY SENSITIVITIES.....	196-200
Marwan Z. Abduljabbar, Rihab A. Kareem, Samaher M. Taha, Riyam Hasan. CLINICAL AND MICROBIOLOGICAL ASSESSMENT OF CHLORHEXIDINE IMPACT ON GINGIVAL TISSUE RESPONSE AND BIOFILM FORMATION RELATED TO MATERIAL COMPOSITION IN FIXED PROSTHODONTIC RESTORATIONS.....	201-205
Nana Kiknadze, Gia Lobzhanidze, Revazi Otarashvili, Mamuka Gurgenidze. THE RELEVANCE OF THE ENDOCYTOSCOPY IN MODERN ENDOSCOPY.....	206-212
ANAS ALI ALHUR, Dhai Hamoud, Amira Al-Shahrani, Ruqayah Yahya, Nawal Alasmari, Reyoof Thamer, Nuwayyir Aljuaid, Maryam Alshahrani, Nawaf Alqahtani, Abdulelah Alghaeb, Ghaidaa Alqahtani, Ibrahim Alhelali, Muhammad Alshahrani, Naif Alamri, Osama Alzahrani. VASCULAR INTERVENTIONS IN FRAIL ELDERLY PATIENTS: A BIBLIOMETRIC ANALYSIS OF GLOBAL RESEARCH OUTPUT AND CLINICAL OUTCOMES.....	213-225
Knarik V. Kazaryan, Naira G. Hunanyan, Tatevik A. Piliposyan, Margarita H. Danielyan, Arusyak V. Mkrtchyan, Harutyun Yu. Stepanyan, Hermine Kh. Mkrtchyan, Rosa G. Chibukchyan. OXYTOCIN-MEDIATED COORDINATION OF RHYTHMOGENIC ACTIVITY IN THE MYOMETRIUM.....	226-231
Shamil H. Othman, Ahmed Abdulsallam, Musab Mohammed Khalaf. THE PROTECTIVE EFFECT OF MILK OF THISTLE AGAINST DOXORUBICIN OR METHOTREXATE INDUCED CARDIOTOXICITY.....	232-238
Yang Wang, Tianzhu Wu. IMPACT OF LEARNING ATTITUDES ON LEARNING ENGAGEMENT AMONG MEDICAL STUDENTS AT A VOCATIONAL COLLEGE: A CASE STUDY OF MEDICAL STATISTICS.....	239-244

DATA RETRIEVAL FOR CLINICAL PROJECTS IN THE EVOLVING HEALTHCARE SYSTEM: PAST, PRESENT, AND FUTURE

Uday Mahajan¹, Ahmed Hassan Usman¹, Musab Mohamed¹, Krishnakumar Subbaraman¹, Haroon Yousaf¹, Meraj Akhtar², Mohamed Kabary¹, Abena Kwafo-Armah¹, Sayema Raza¹, Abdul Rehman Sarwar¹, Bassem Khater¹.

¹University Hospitals Birmingham NHS Foundation Trust, UK.

²Nottingham University Hospitals NHS Trust, UK.

Abstract.

Data retrieval underpins the success of clinical audits, quality improvement initiatives, and research. Over recent decades, healthcare systems have transitioned from manual chart review to electronic patient record (EPR) systems, informatics-driven queries, and now artificial intelligence (AI)-assisted methods. Each stage has brought improvements in scale and efficiency but has also introduced new challenges in accuracy, coding reliability, and access to clinically meaningful detail. This review traces the evolution of data sourcing methods, from manual extraction to digital workflows, examines the balance between structured and unstructured data, and highlights the emerging role of prompt engineering and natural language processing (NLP). By combining insights from literature and clinical practice, it outlines the limitations of current systems and the opportunities that future innovations may provide.

Key words. Data retrieval, clinical audits, healthcare system.

Introduction.

High-quality data is the foundation of meaningful audit, research, and service evaluation. Whether assessing adherence to guidelines, monitoring outcomes, or informing improvement initiatives, the validity of findings depends on how data is sourced and curated [1]. The methods used to retrieve information have evolved dramatically in recent decades. Manual review of case notes has given way to electronic systems, dedicated informatics teams, and, more recently, the application of AI to extract data from clinical narratives. Each transition has expanded what is possible but has also created new challenges in ensuring reliability, completeness, and contextual accuracy [2]. This review explores this evolution, from past practices to present systems, and considers the future directions of healthcare data retrieval.

Methods.

This narrative review combines clinical experience in audit, service evaluation, and research with a targeted appraisal of the literature. Searches were conducted in PubMed, Google Scholar, JMIR Publications, Nature Digital Medicine, and arXiv, covering the period January 2022 to July 2025. Keywords included “data retrieval in healthcare,” “structured versus unstructured data,” “electronic patient record,” “prompt engineering,” “natural language processing,” and “clinical informatics,” using Boolean operators to refine results.

Publications were eligible if they were peer-reviewed or high-quality preprints in English and provided relevant insights into data sourcing for audits, research, or quality improvement. Articles focused on non-clinical domains or lacking methodological depth were excluded. The selection process was designed to capture literature that contextualises historical

methods, outlines current practices, and explores emerging innovations in data retrieval.

Review.

The following sections present the findings of the review, organised chronologically and thematically to illustrate the evolution of data retrieval within healthcare systems. Themes include the historical reliance on manual record review, the transition to electronic patient records, the central role of informatics teams, the challenges of structured and unstructured data, and the emerging influence of prompt engineering and AI-based tools.

Historical Methods of Data Retrieval:

Before digitisation, data retrieval relied entirely on manual review of paper records. Clinicians accessed case notes through the Medical Records Department, examined handwritten entries, and transcribed information into proformas or spreadsheets. This process was labour-intensive and error-prone, with risks of incomplete documentation, illegible handwriting, and transcription mistakes.

Yet, manual review offered access to the full clinical narrative. Details of decision-making, operative challenges, and subtle complications—rarely captured in coded fields—were preserved. Early audit literature highlights the importance of clear case definitions, minimum The Shift to Electronic Patient Records

The introduction of EPRs marked a fundamental change in how information was accessed. Clinicians gained immediate access to patient demographics, diagnoses, investigations, and discharge summaries through a centralised platform. Standardised coding systems such as ICD-10, OPCS, and SNOMED made it possible to retrieve information across large cohorts. Studies report gains in efficiency, reduced loss of records, and expanded capacity for multi-centre projects [3].

However, the utility of EPRs depends on the quality of coding and data entry. Errors, omissions, and variability in documentation remain frequent barriers. Structured fields provide standardisation but rarely capture the nuance of clinical decision-making. Key details often remain locked in free-text fields, beyond the reach of conventional data queries. Thus, while EPRs improved accessibility, they highlighted a continuing tension between completeness and convenience [4].

Informatics as Data Gatekeepers:

With expanding datasets, informatics departments became central to data retrieval. Using data warehouses and SQL, analysts could identify large cohorts in minutes—projects that once took weeks of manual review. This greatly enhanced the scale and speed of audits and research [5].

Yet, dependence on informatics introduced new vulnerabilities.

Outputs are only as reliable as both the underlying data and the queries used to retrieve them. Coding errors and incomplete fields persist, while poorly defined requests can return unfocused datasets requiring substantial cleaning. Informatics teams thus act as “gatekeepers”: essential to access, but reliant on clinicians to articulate precise, clinically meaningful queries [6].

Structured and Unstructured Data:

A central issue in modern data retrieval is the distinction between structured and unstructured data. Structured data refers to information recorded in predefined formats—such as diagnostic codes, procedure codes, laboratory values, and medication lists—which is easily retrievable and suitable for large-scale analysis. However, studies consistently show that structured fields alone are insufficient to capture the complexity of clinical care. Coding variability, incomplete entries, and loss of nuance can compromise the validity of audit and research findings [7,8]. In contrast, unstructured data, including operative notes, clinic letters, discharge summaries, and multidisciplinary meeting records, contains the detailed narrative context that often explains decision-making, surgical challenges, or subtle postoperative issues [9].

For example, in trauma and orthopaedics, a structured field may record only “postoperative complication,” whereas the corresponding free-text operative note might provide essential nuance, such as: “Small superficial wound dehiscence noted at the distal end of the incision; cleaned and closed with Steri-Strips — no deep involvement.” Such narrative detail has direct implications for complication grading, follow-up planning, and outcome interpretation, yet remains invisible within structured datasets.

Taken together, the literature emphasises that combining structured and unstructured data yields the most accurate and clinically meaningful insights. Structured fields offer scalability and standardisation, while narrative text provides depth and context. Integrating these sources remains one of the central challenges—and opportunities—within contemporary healthcare data retrieval.

Prompt Engineering in Data Retrieval:

The accuracy of modern data retrieval increasingly depends on how queries are framed. Broad requests, such as “all patients with ankle surgery,” risk producing heterogeneous, unwieldy datasets. More precise prompts—specifying procedure codes, age ranges, dates, and outcomes—yield cleaner, more relevant results [10,11].

This principle, now described as prompt engineering, applies to both informatics workflows and AI-driven tools. Literature on LLMs demonstrates that even small changes in phrasing can dramatically affect output quality. Effective prompts improve reliability, while poorly designed ones introduce bias or irrelevance. Developing prompt-writing skills is therefore an emerging competency for clinicians engaged in data-driven projects [12].

AI, NLP, and the Future of Data Extraction:

Advances in AI, particularly NLP, offer solutions to the limitations of structured data. Recent studies show that models can extract diagnoses, procedures, and complications from free text with near-human accuracy when properly validated.

This capability allows access to nuanced information at scale, reducing reliance on manual review.

However, AI-based retrieval must be applied cautiously. Models are sensitive to prompt design and training data, and without clinician oversight may misinterpret context or propagate errors. The literature emphasises the need for validation and clinician involvement to ensure extracted data aligns with clinical reality. AI has the potential to revolutionise audits and research, but it must be integrated responsibly [13,14].

Future Directions.

Future data retrieval in healthcare will likely adopt hybrid approaches, combining structured database queries with AI-enabled analysis of unstructured text. Real-time dashboards linked to EPRs could support continuous quality monitoring, while regional and national databases could enable benchmarking and support large-scale initiatives.

To realise this potential, clinicians must remain central to the process. Data literacy, understanding of coding systems, and prompt engineering skills will be vital to ensure outputs are clinically meaningful. Equally, cultural change is required: clinicians should not view data retrieval as a passive process outsourced to informatics or AI, but as an integral part of clinical governance and service improvement.

The future of data retrieval will therefore be shaped not only by technological progress but also by the active engagement of clinicians in designing, validating, and interpreting the datasets that underpin healthcare improvement [15,16].

Conclusion.

Data retrieval in healthcare has evolved from slow but context-rich manual review to rapid, large-scale digital extraction. Each stage has brought opportunities and new challenges. EPRs and informatics services have enhanced efficiency but raised concerns about coding accuracy and loss of nuance. Emerging AI and NLP tools promise to unlock unstructured data, but their safe use requires careful prompt design and clinician oversight. The next phase will depend on hybrid systems that unite structured and narrative data, supported by a cultural shift towards clinician-led, data-informed practice. In this way, data retrieval can continue to serve as the foundation of effective audit, research, and quality improvement.

REFERENCES

1. Bernardi F.A, Alves D, Crepaldi N.Y, et al. Data Quality in Health Research: Integrative Literature Review. *Journal of Medical Internet Research*. 2023;25.
2. Syed K, Sleeman W, Jayakar Nalluri J, et al. Artificial intelligence methods in computer-aided diagnostic tools and decision support analytics for clinical informatics. *Elsevier eBooks*, Elsevier BV. 2020:31.
3. Stausberg J, Koch D, Ingenerf J, et al. Comparing Paper-based with Electronic Patient Records: Lessons Learned during a Study on Diagnosis and Procedure Codes. *Journal of the American Medical Informatics Association*. 2003;10:470.
4. Lovis C, Baud R, Planche P. Power of expression in the electronic patient record: structured data or narrative text? *International Journal of Medical Informatics*. 2000;101.

5. Yogesh M, Karthikeyan J Health Informatics: Engaging Modern Healthcare Units: A Brief Overview. *Frontiers in Public Health*. 2022;10.
6. Abuhalimeh A. Improving Data Quality in Clinical Research Informatics Tools. *Frontiers in Big Data*. 2022;5.
7. James BC, Edwards DP, James AF, et al. An Efficient, Clinically-Natural Electronic Medical Record System that Produces Computable Data. *eGEMs (Generating Evidence & Methods to improve patient outcomes)*. 2017;5:8.
8. Sedlakova J, Daniore P, Wintsch AH, et al. Challenges and best practices for digital unstructured data enrichment in health research: A systematic narrative review. *PLOS Digital Health*. 2023;2:e0000347.
9. van de Burgt BWM, Wasylewicz ATM, Dullemond B, et al. Combining text mining with clinical decision support in clinical practice: a scoping review. *Journal of the American Medical Informatics Association*. 2022;303:588.
10. Patil R, Heston T.F, Bhuse V. Prompt Engineering in Healthcare. *Electronics*. 2021;13:2961.
11. Edinger T, Cohen A, Bedrick S, et al. Barriers to retrieving patient information from electronic health record data: failure analysis from the TREC Medical Records Track. *AMIA Annu Symp Proc*. 2012;2012:180-8.
12. Zagh J, Naguib M, Bjelogrlic M, et al. Prompt Engineering Paradigms for Medical Applications: Scoping Review. *Journal of Medical Internet Research*. 2024;26.
13. Theriault-Lauzier P, Cobin D, Tastet O, et al. A Responsible Framework for Applying Artificial Intelligence on Medical Images and Signals at the Point of Care: The PACS-AI Platform. *Canadian Journal of Cardiology*. 2024;40:1828.
14. Reis F, Lenz C, Gossen M, et al. Practical Applications of Large Language Models for Health Care Professionals and Scientists. *JMIR Medical Informatics*. 2024;12.
15. Morone G, Angelis LD, Cinnera AM, et al. Artificial intelligence in clinical medicine: a state-of-the-art overview of systematic reviews with methodological recommendations for improved reporting. *Frontiers in Digital Health*. 2025;7.
16. Bertelsen P, Bossen C, Knudsen C, et al. Data work and practices in healthcare: A scoping review. *International Journal of Medical Informatics*. 2024;184:105348.