
FPIN
Family Physicians Inquiries Network


GEMs
GOOD EVIDENCE MATTERS

Good Evidence Matters (GEMs)

The Good Evidence Matters (GEMs) writing project is ideal for residents or faculty new to the critical appraisal and publication process. This project caters to authors that have some early experience in critical appraisal (such as through FPIN's PURLs Journal Club) and can use this writing experience as a building block for authoring FPIN's Help Desk Answers.

Who: GEMs is ideal for solo authors (residents or faculty) new to writing for publication and looking to bolster their critical appraisal skills.

What: A GEM is a concise summary of a single, recent study. Participation also serves as a great first step for programs wanting to advance their scholarship program to include FPIN's HelpDesk Answers. GEMs are peer reviewed and disseminated nationally, which position them well to meet ACGME requirements.

Requirements for participation:

- Membership package which includes GEMs access
- One Local Editor (faculty) who agrees to review all GEMs manuscripts within our editorial management system before submission to the GEMs editors
- Agreement to schedule ongoing calls with the project management team to discuss the number of scholarship projects planned and ongoing progress
- Approximate Time Commitment: 10 hours (7 from the author, 3 from the local editor) over the span of 5 months.

Membership Types

Scholarship Solutions

The Scholarship Solutions package includes:

- Access to the PURLs Journal Club
- GEMs writing privileges for residents and faculty
- HDA writing privileges for faculty only - no residents

Exclusively GEMs

- The Exclusively GEMs package includes:
- Access to the PURLs Journal Club
- GEMs writing privileges for residents and faculty

GEMs Program Qualifications & Requirements

Program Name: _____

Program Size: _____

Qualifications:

- Must be a current **FPIN member with GEMs writing benefits**
- Must have **a GEMs Local Editor**.

Requirements:

- Commit to **a 1-year plan** of being a GEMs program.
- Understand there is a **limit** to the number of GEMs your program can author. A GEMs program can only author the same number of GEMs as its largest class size (ie, an 8x8x8 program can author a maximum of 8 GEMs per year)
- Participate in **calls** with the GEMs Editor-in-Chief and the GEMs Project Manager. Frequency of these calls can be worked out between FPIN and your program.
- Adhere to **GEMs authorship policy**. Most GEMs will be authored by ONE author – which can be a resident or a faculty member. Faculty Local Editors who find themselves contributing significantly to the work can also be listed as an author so long as they attest to meeting the authorship requirements as outlined in **Section 2 of ICMJE's Authorship Policy**. Therefore, the maximum number of authors on any GEM is **TWO.**
- Pledge that the local GEMs editor will review **ALL** authors' work from his/her institution within FPIN's editorial management system.
- Promise to **peer review** the same number of GEMs as is being authored at your institution.

GEMs Local Editor Name and Title: _____

Email Address: _____

Date completed: _____

GEMs Local Editor

Role and Expectations

FPIN's philosophy as an organization is to develop family physicians who possess strong evidence-based medicine knowledge, critical appraisal, and writing skills. Our goal is for every FPIN author to begin sharpening these skills through the Good Evidence Matters (GEMs) project. GEMs is ideal for residents or faculty new to the critical appraisal and publication process. This project is perfect for authors that have some early experience in critical appraisal (such as the PURLs Journal Club) and can use this writing experience as a building block to author FPIN's HelpDesk Answers (HDAs).

The purpose of this document is to outline the role of a GEMs Local Editor so that your program can self-identify a person who can take on this integral function. Local Editors within this project are critical as they serve as the first reviewers of a GEM manuscript written by either residents or peers at their program. Their role is to work with author(s) locally and provide feedback before it is submitted to FPIN's editorial team for review. Please read through the document below and identify a faculty member who will fulfill this role at your program. This form must be signed and returned to FPIN to be kept on file.

A GEMs Local Editor must:

1. Ensure that authors have adhered to the **GEMs Author Instructions**
2. Ensure that the **GEMs table** and **critical appraisal forms** are completed and accurate upon submission
3. **Review and edit** manuscripts through FPIN's editorial management system
4. Provide a **positive** educational experience for the author team at your program. This includes providing feedback in a timely manner and guiding author(s) with any necessary revisions.
5. Participate in recurring **calls** with FPIN

A GEMs Local Editors must have:

- Knowledge and expertise in critical appraisal and evidence-based medicine concepts.
- Basic comfort level with technology in order to work within FPIN's editorial management system
- Excellent attention to detail
- Ability to provide critical feedback in a constructive manner

GEMs Local Editor Name and Title: _____

Email Address: _____

Date completed: _____

In order to get started in the project, please provide the names and contact information of the residents and/or faculty who will be writing a GEM in the 2019-2020 academic year. These individuals will be added to the FPIN website and FPIN's Editorial Management system. For questions or concerns, please contact the Project Manager at GEMs@fpin.org

Resident(s)

Name	Email Address	Year (ie, PGY-1, PGY-2, PGY-3)

Faculty

Name	Email Address	Role/Title

Good Evidence Matters (GEMs) Author Instruction

The GEMs writing project is ideal for residents or faculty new to the critical appraisal and publication process. This project is perfect for authors that have some early experience in critical appraisal (through FPIN's PURLs Journal Club) and can use this writing experience as a building block for authoring FPIN's HelpDesk Answers (HDAs).

If you are converting an HDA into a GEMs summary, please review the ***Converting to GEMs*** *Author Instructions.*

1. Identify a high-quality, recent, original research article.
    a. Preferably select a systematic review/meta-analysis, RCT, or cohort trial
    b. Original research article should **not be older** than 3 years
    c. Can select an article from this list of journals, or an indexed primary care journal
        - NEJM
        - JAMA
        - Lancet
        - Cochrane Database of Systematic Reviews
        - BMJ
        - Annals of Internal Medicine
        - Obstetrics and Gynecology
        - American Journal of Obstetrics and Gynecology
        - Pediatrics
        - Annals of Emergency Medicine
        - Annals of Family Medicine
        - Journal of the American College of Cardiology
        - Chest
        - Clinical Journal of Sports Medicine
2. Request approval to summarize original research article from FPIN.
    a. Login into the FPIN website and complete the **GEMs Proposal** form. Please have your citation and PMID readily available.
    b. If the article proposed is not already summarized and meets the criteria of approved articles, permission will be granted within one week and the appropriate summary table will be provided to author.
3. Complete the GEMS critical appraisal form and summary table.
    a. Review the original research article and complete the critical appraisal worksheet
    b. Follow the instruction on the specific GEM table template

c. Key considerations for summarizing the original research into the GEM table:
    i. Do not use the abstract to fill out your table – this will help avoid any plagiarism issues, and provide a more detailed, accurate summary.
    ii. Present as much detail as concisely as possible (follow the instructions on the summary table provided)
    iii. Always provide the statistics in a user friendly fashion
        1. Use confidence intervals, Number Needed to Treat, Likelihood ratios, etc

4. Once the work is complete, please submit the following to FPIN:
    a. PDF copy of original article
    b. GEMs Critical Appraisal Worksheet
    c. Summary Table
5. The GEMs editor will review, provide edits and recommendations to author. Authors will need to respond to all comments in the document and make the necessary changes for resubmission within **two weeks**. All GEMs authors must adhere to FPIN's Due Date Extension Policy.
6. Once the final GEMs summary is approved by the GEMs Editor-in-Chief. It will be published in FPIN's journal, *Evidence-Based Practice*.

Systematic Review GEM - Example

Title: Check out this option; Metformin over Insulin in GDM

Article title Citation:	*Short- and long-term outcomes of metformin compared with insulin alone in pregnancy: a systematic review and meta-analysis* Butalia S, Gutierrez L, Lodha A, Aitken E, Zakariasen A, Donovan L. Short- and long-term outcomes of metformin compared with insulin alone in pregnancy: a systematic review and meta-analysis. *Diabetic Medicine*. 2016;34(1):27-36. doi:10.1111/dme.13150.
Key Takeaway:	In patients with GDM, Metformin had no short-term adverse effects on pregnancy or neonatal outcomes with potential benefits with outcomes such as hypoglycemia and LGA in the neonatal period when compared to insulin, but limited long-term follow-up information
Study Design:	Meta-analysis of 16 RCTs; N=2165
Level of Evidence:	Step 1
Brief Background info:	Insulin is safe in pregnancy but many patients would prefer to be on an oral agent if possible for type II and gestational diabetes in pregnancy. Oral agents have become more popular and accepted, but there are concerns, given metformin crosses the placenta, on effects it may have on pregnancy outcomes.
Patients: Intervention: Control: Outcome:	**P:** Pregnant women with type II or gestational diabetes **I:** Metformin **O:** Insulin **C:** Pre-term Delivery, neonatal hypoglycemia, NICU admission, macrosomia, SGA, PIH, weight gain during pregnancy, Caesarean section
Methods brief description:	Comprehensive literature review of RCTs and f/u studies of these RCTs of patients with GDM or type II DM and on metformin (with or without insulin) compared to insulin and reported a maternal or fetal outcomes.
Intervention (# in the group)	Metformin 500-2500mg (N=1084)
Comparison (# in the group)	Insulin (dose either not reported or range from 10 Units to 89 Unites) (N=1081)
Follow up period:	Most trials were in the immediate post-partum period. 2 small trials followed out 18 months – 2 years
Results:	Metformin showed statistically significant lowering of the risk of: - neonatal hypoglycemia (14 trials; N=2120; RR 0.63; 95% CI, 0.45-0.87)

	- large for gestational age babies (7 trials; N=1649; RR 0.80; 95% CI, 0.64-0.99) - pregnancy-induced hypertension (4 trials; N=1260; RR 0.56; 95% CI, 0.37-0.85) - total maternal pregnancy weight gain (4 trials; N=677; MD -2 kg; 95% CI, -2.9 to -1.3). - NICU admissions (10 trials; N=1822; RR 0.72; 95% CI, 0.57-0.91) No significant difference between metformin and insulin with preterm delivery, small for gestational age babies, perinatal mortality or Caesarean section. Long term outcome information is limited
Limitations:	This review included patients with type II DM in addition to GDM and some patients in the metformin group also included patients on insulin, which could complicate the outcomes.

GEM

Systematic Review/Meta-analysis

Title: Provide a catchy title

Article title Citation:	Insert the article title and citation in this format – list the title first, then place the citation in AMA format *Short- and long-term outcomes of metformin compared with insulin alone in pregnancy: a systematic review and meta-analysis* Butalia S, Gutierrez L, Lodha A, Aitken E, Zakariasen A, Donovan L. Short- and long-term outcomes of metformin compared with insulin alone in pregnancy: a systematic review and meta-analysis. *Diabetic Medicine*. 2016;34(1):27-36. doi:10.1111/dme.13150.
Key Takeaway:	This is the one liner conclusion to the article
Study Design:	Be as specific as possible on the study design Include the number and type of trials included in the review Include the total number of patients in all the trials included in the review (i.e - Meta-analysis of 16 RCTs; N=2500)
Level of Evidence:	Use the CEBM table and place a level of evidence in the STEP format (i.e STEP 1 or STEP 2, or STEP 3) **If you downgrade the Level of Evidence, clearly state why (i.e. "downgraded due to significant heterogeneity ….")
Brief Background info:	A 2-3 sentence background description of the topic. This may include what is currently known on the topic, conflicting evidence, confusion, etc. This section will help your readers understand the importance of this research.
Patients: Intervention: Control: Outcome:	**P:** Patient or Population – be specific and detailed on the article's study population **I:** Describe the Intervention being studied (if a medication, include dose, route, frequency, duration) **C:** Describe the Comparison being studied **O:** This the outcomes you will describe; clearly state which are the primary outcomes and secondary outcomes
Methods brief description:	Describe the methods in a concise manner. Avoid copying from the abstract or method section directly to avoid concerns for plagiarism. Information needed includes: - Description of the patients (demographics, diagnosis, disease severity, etc) - Treatment or intervention each group received

	(treatment protocol, duration, etc) - Description of how the outcomes were measured
Intervention (# in the group)	Clearly define the intervention group Include the number of patients in this group if provided
Comparison (# in the group)	Clearly define the control/comparison group Include the number of patients in this group if provided
Follow up period:	State the length (or ranges) of the follow up period
Results:	List the results in bullet format Include the data; list in a user friendly format Clearly Identify the PRIMARY outcome - Include Confidence Intervals, NNT - If using a p value, must have data in front of the p value (ie 25% vs 36%; P=.001) - Include the number of trials and number of patients for each outcome (i.e. – 6 trials; N=345; RR 1.9; 95% CI, 12.-2.2) Be very clear on what the data is representing (i.e what is being compared to what)
Limitations:	List any limitations or cautions your readers should be aware about

LOCAL EDITOR CHECKLIST

_____ **Title is accurately presented (title first, then citation in AMA format)**

_____ **Key takeaway is clear and represents the summary of the article**

Background information

_____ Current information on topic is provided, and/or
_____ Conflicting evidence on topic is presented

_____ **PICO is completed with enough detail and it is clear what the study is about**

_____ **Study design is described in detail**

Methods

_____ Methods section is paraphrased appropriately to avoid instances of plagiarism
_____ Patient demographics and/or description of included patients (diagnostic criteria, disease severity, etc.) is presented with detail
_____ Process of trial is described clearly
_____ Outcomes measured is described clearly
If outcomes are measured via outcome scales or scoring systems, the table includes:
_____ Description of what is measured
_____ Range of possible scores and indication of which end of range equals improvement

_____ **Patients in the intervention group is listed and is accurate**

_____ **Patients in the control/comparison group is listed and is accurate**

_____ **Length of follow-up period is stated**

Results Section

_____ Primary outcome clearly labeled
_____ Statistics provided so magnitude of effect is seen (no floating P-values – ie a P-value with no other data)

_____ **Limitations helps cautions readers on what to be aware of**

_____ **Level of Evidence is written in STEPs format based on the 2011 CEBM Levels of Evidence Table and is accurate**

Unequal Yield and Use of Head CT in the Patient With Syncope

The Yield of Computed Tomography of the Head Among Patients Presenting With Syncope: A Systematic Review

Viau JA, Chaudry H, Hannigan A, et al. The Yield of Computed Tomography of the Head Among Patients Presenting With Syncope: A Systematic Review. *Acad Emerg Med*. 2019 May; 26(5):479-490. doi: 10.1111/acem.13568. Epub 2019 Apr 22.

KEY TAKEAWAY: The use of head CT;s in the evaluation of syncope rarely identifies serious intracranial conditions (1.1-3.8% of the time).

BRIEF BACKGROUND INFO: The Choosing Wisely Campaign in Canada and the US as well as the Society for Academic Emergency Medicine in the US have been recommending against CT Head for low-risk syncope patients. There also has been a push to reduce unnecessary imaging and testing to decrease cost and prevent side effects associated with certain imaging modalities. However, two thirds of patients presenting in the ED with syncope will get a CT Head as part of their ED workup. The aim of this review was to address the overuse of CT Head in patients presenting with syncope. The researchers aimed to determine the yield of CT Head, specifically in regards to serious intracranial conditions (subarachnoid hemorrhage, subdural hematoma, space occupying lesion, intraparenchymal hemorrhage, intraparenchymal ischemia/infarct) in patients with syncope.

PATIENTS: Patients with syncope that presented in the ED or who were hospitalized
INTERVENTION: CT Head.
CONTROL: No CT Head
OUTCOME: Detection rate of serious intercranial conditions.

STUDY DESIGN: Systematic Review of 17 prospective and retrospective observational cohort studies.

METHODS BRIEF DESCRIPTION: A detailed literature review was conducted by the study authors. Two reviewers determined what articles were relevant to determine the diagnostic yield (proportion with acute hemorrhage, infarct or tumor) in the syncopal patients. Each study was analyzed by study type, patient population, patients enrolled, head CT performed, acute outcomes identified, and risk factors identified.

INTERVENTION (# in the group): 1,821

COMPARISON (# in the group): none

FOLLOW UP PERIOD: No follow up for the 15 retrospective studies. One of the prospective studies included in the review had a follow up over a period of 1 year. The other prospective study had follow up every 6 months for as long as 18 months.

RESULTS:
- In ED patients with Syncope; 54.4% of patients received Head CT with 3.8% of them having a serious intracranial conditions.
- In Hospitalized patients for Syncope; 44.8% of patients received Head CT with 1.2% of them having a serious intracranial conditions.

LIMITATIONS: This review included trials that were retrospective chart review and prospective cohort studies. It is not clear which patients would benefit from a head CT and which ones do not need a CT

LEVEL OF EVIDENCE: LEVEL 3, downgraded due to this systematic review utilizing retrospective trials. EBP