LIBR 244 Exercise 1: ProQuest Dialog

Yu Ting Lin
Question Number: 1

1. Search Plan

   Important Ideas:

   ![Diagram of search concepts (Concept 1 AND Concept 2 AND Concept 3)]

   Searching Style: Building Blocks and Lawn Mowing/ Pearl Growing if necessary

   Database(s): Gale Group PROMT

   Fields (title, subject, etc.) or limiters (dates, document types, etc.) you might use:
   - Document text
   - Document title

   Contingency Planning:
   (what to do if I retrieve too little or too much?)
   - If too few results are retrieved, look into relevant articles to get inspiration for synonyms. If too many results are retrieved, change search field to Document title.

   Other notes:

2. Search Steps

   1. Chose database: Gale Group PROMT
      a. Annotation: database was chosen as instructed.
   2. Searched: tx(Facebook) AND tx(Instagram) AND tx(price*)
      a. Search result: 492
         b. Annotation: At first, I thought many articles might not include these exact keywords in their titles; thus, I decided to search in document text. However, too many results were retrieved, and a lot of them were unrelated. “Price*” as a keyword was too general. I needed to further restrict my search result and make it more relevant.
   3. Clicked into article “Facebook-Instagram deal final- at a reduced price.” to look for possible search term to restrict result
      a. Annotation: This was the only article on the first page of my search result that matched what I was looking for. I clicked into the record to see if there are any alternative search terms that I can use to make the search result more accurate.
b. Additional possible search terms found: acquisition, deal, merge*

4. Searched: ti(Facebook) AND ti(Instagram) AND tx(price* or acquisition or deal or merge*)
   a. Search result: 8 results
   b. Annotation: I added "acquisition", "deal" and "merge*" as synonyms to "price*" to make the result more relevant to the answer I was looking for. Additionally, since my last search in Document text resulted in too many unrelated results, I changed the search fields for "Facebook" and "Instagram" to Document title to retrieve records that were more directly related. I kept the search field for (price* or acquisition or deal or merge*) the same due to the title might not mention these specific keywords. Search result successfully yielded the answer.

<table>
<thead>
<tr>
<th>Record #</th>
<th>Content</th>
</tr>
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</table>
| 1-1      | **Facebook-Instagram deal final - at a reduced price.**  

**Full Text**

Byline: Benny Evangelista

It took five months, but Facebook's pricey acquisition of Instagram is finally a done deal, just as the popular mobile photo app maker hit a major milestone.

More than 5 billion photos have been shared by people using Instagram, which now becomes part of a social network that has nearly 1 billion members.

The cash-plus-stock deal would have added another "billion" to that sentence if it had closed in April, but because Facebook's stock price tanked after the company went public, Instagram now joins the social network for a mere $741 million instead of $1 billion.

In a blog post announcing that the deal had officially closed Thursday, Instagram said its team will be moving from San Francisco to Facebook headquarters in Menlo Park.

"We're humbled that so many people around the world use Instagram to share their lives with friends through photos," the post said. "From weddings to epic pilgrimages through the Spanish countryside, we're constantly amazed by the stories that are shared on Instagram, and we thank you for being a part of this growing community."

The company said the move to Facebook "means we can now work together to evolve and build a better Instagram for everyone. While our team is making the short move to the Facebook offices, Instagram isn't going anywhere. The Instagram app and its features will
stay the same one you know and love, and we'll keep working together to build a better Instagram for everyone."

More than 300 million images are posted on Facebook each day, but there's not a clear picture of how Facebook will use Instagram and its team to improve photo-sharing features.

But the Instagram deal, which had to clear some regulatory hurdles, gives Facebook a popular mobile application at a time when users are flocking to smartphones and tablets.

Mike Schroepfer, Facebook's vice president of engineering, said Instagram will remain independent.

"As we said from the beginning, we are committed to building and growing Instagram independently," he said in a Facebook post. "Instagram will continue to serve its community, and we will help Instagram continue to grow by using Facebook's strong engineering team and infrastructure. We also can't wait to work with the talented Instagram team to improve the mobile experience."

One huge question is whether Facebook can turn Instagram, which wasn't generating a profit, into a mobile moneymaker. According to new estimates by online research firm eMarketer, Twitter is going to make more money on mobile advertising this year than Facebook.

Twitter, which is finding success with advertiser-sponsored products like Promoted Tweets, will earn $129.7 million in mobile advertising in the United States this year, eMarketer said.

Facebook, which only recently began selling mobile ads, should generate about $72.7 million. Facebook is still dependent on its online display ads, which appear on the Web but not on mobile devices, for 60 percent of its ad revenue, eMarketer said.

That should flip-flop next year, with Facebook generating $387 million in mobile advertising and Twitter at $272.6 million.

Both still lag far behind Google, the leader in mobile ad revenue, which should generate about $1.4 billion this year and $2.4 billion in 2013.

Oakland's Pandora Media "has emerged as one of the strongest U.S. mobile display ad sellers" and should come in second to Google with $226.4 million in revenues this year and $349.4 million next year, eMarketer said.
LinkedIn mobility: LinkedIn is adding more features to its mobile applications, but the more interesting news is how quickly members of the professional social network have started using mobile devices.

More than 23 percent of LinkedIn's users visit the service through a mobile app, compared with just 10 percent one year ago. And more than 15 percent of new members sign up through a mobile device.

Sure, Facebook already has half of its users on mobile, but it's only been a little more than a year since LinkedIn revamped its apps to emphasize mobile, and the Mountain View company introduced an iPad app in April.

The updated iPad app, released Wednesday, will also have six additional languages, an important step since 60 percent of LinkedIn's membership is now outside of the United States.

The new features are designed to increase daily use of LinkedIn, including instant notifications for whenever someone comments on a story or sends a message.

The mobile apps will also recommend potential jobs. That function has been available on LinkedIn's website, but there's nothing worse than having a big list of job openings displayed on your desktop screen when the boss walks by. With a smartphone or tablet, you can hide in a storage closet while looking for a better job.

CAPTION(S):

Instagram, the popular photo-sharing app, will move its staff to Facebook's Menlo Park headquarters.

Justin Sullivan / Getty Images

Word count: 798
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Indexing (details)

Business subject
Software industry -- Mergers, acquisitions and divestments;
Software industry -- Growth;
Mobile applications -- Growth;
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A photo finish Facebook buys photo-altering app Instagram.
Byline: Associated Press Associated Press

NEW YORK -- Facebook is spending $1 billion to buy the photo-sharing company Instagram in the social network's largest acquisition ever.

Instagram lets people apply filters to photos they snap with their mobile devices and share them with friends and strangers. Some of the filters make the photos look as if they've been taken in the 1970s or on Polaroid cameras.

"This is an important milestone for Facebook because it's the first time we've ever acquired a product and company with so many users," CEO Mark Zuckerberg wrote on his Facebook page. "We don't plan on doing many more of these, if any at all."

Facebook said it plans to keep Instagram running independently. That's a departure from its tendency to buy small startups and integrate the technology -- or shut them down altogether just so it can hire talented engineers and developers.

"We think the fact that Instagram is connected to other services beyond Facebook is an important part of the experience," Zuckerberg wrote. "We plan on keeping features like the ability to post to other social networks, the ability to not share your Instagrams on Facebook if you want, and the ability to have followers and follow people separately from your friends on Facebook."

Facebook is paying cash and stock for San Francisco-based Instagram and hiring its roughly 10 employees. The deal is expected to close by the end of June.

Menlo Park, Calif.-based Facebook is expected to complete its initial public offering of stock next month. Getting Instagram is big win for Facebook as it works to harness people's growing obsession with their mobile devices and sharing every moment of their life.

Instagram was only available Apple devices until recently. An app for Android devices was released last week.

Word count: **298**

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Facebook Inc to buy Instagram.

**Premium Banking News** 11 Apr 2012: NA.

### Full Text

New York: Social networking giant Facebook is spending $1 billion to buy the photo-sharing company Instagram in the social network's largest acquisition ever.

On the surface, that is a huge sum for a tiny startup that has a handful of employees and no way to make money. But the lack of a business model rarely dampens excitement about hot tech upshots these days. As Facebook has shown, itself without ads or revenue in its early days, money goes where the users are.

Instagram lets people share photos they snap with their mobile devices. The app has filters that can make photos look as if they've been taken in the 1970s or on Polaroid cameras. Its users take photos of everything from their breakfast egg sandwiches to sunsets to the smiling faces of their girlfriends. Instagram's fans, brand recognition and its potential are difficult to put
a price tag on. Yet Facebook has -- and can afford it. The company is preparing for an initial public offering of stock that could value it at as much as $100 billion in a few weeks. What's $1 billion? A drop in the bucket, really. Social networking giant Facebook after this IPO is going to be in a position to be predatory. They can make sure no one steps in their way and buy anyone who gets in their way, said Wedbush analyst Michael Pachter, who follows social media.

Buying Instagram, he added, not only eliminates a rival but gives Facebook the technology that is gaining crazy traction. Facebook is paying cash and stock for San Francisco-based Instagram and hiring its dozen or so employees. The deal is expected to close by the end of June.

Word count: 283
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Question Number: 2

1. Search Plan

Important Ideas:

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Fields (title, subject, etc.) or limiters (dates, document types, etc.) you might use:
Document title, Document text, Subject

Searching Style: Building Blocks and Lawn Mowing/ Pearl Growing if necessary

Database(s):
Search #1: 2 databases (ERIC and PsycInfo)
Search #2: 56 databases (Unassigned databases and Telecommunication & computing databases)

Contingency Planning:
(what to do if I retrieve too little or too much?)
When too few results are retrieved, additional synonyms will be added. When too many results are retrieved, searched fields and keywords should be alternated to be more restricted. Database selection should also be reconsidered if results appear to be not in the direction expected.

Other notes:

2. Search Steps

(Search #1: Search in Education databases)

1. Chose databases: viewed by industry and Education databases (ERIC and PsycInfo) were selected
   a. Annotation: Question 2 asks us to search article regarding language learning; therefore I chose Education databases to begin my research

2. Searched: exact("Second Life") AND (language learn* OR second language*) AND Hungarian*
   a. Search result: 0 result
   b. Annotation: I translated topic for Question 2 as “Second Life helps Hungarians’ second language learning,” which is broken down into three individual concepts. I added the command “exact” in front of “Second Life” to focus the search on the exact phrase as the title of the virtual reality software.
3. Chose databases: Viewed by industry and selected Unassigned databases and Telecommunication & computing databases
   a. Annotation: Failure of the last search might due to that the two databases did not cover expected topic. Therefore, I decided to increase databases searched. I quickly scanned through each industry, and selected the whole industry which included one or more databases that might retrieve relevant results. I wanted to increase the scope of information searched by increasing database selected.

4. Searched: exact("Second Life") AND (second language* OR language learn*) AND Hungarian*
   a. Search result: 1 result
   b. Annotation: I used the same command from step #2, and hoping the increase in database searched would retrieve the answer. The only search result matched the description of Question 2.

3. Search Results

<table>
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<th>Record #</th>
<th>Content</th>
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<td>Foreign language vocabulary development through activities in an online 3D environment</td>
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Abstract (summary)

On-line virtual 3D worlds offer the opportunity for users to interact in real time with native speakers of the language they are learning. In principle, this ought to be of great benefit to learners, and mimicking the opportunity for immersion that real-life travel to a foreign country offers. We have very little research to show whether this is the case, however, nor how best to take advantage of virtual travel for foreign language development. This paper investigates the vocabulary environment and learning among learners in the Village virtual learning environment in Second Life. It appears that outside controlled learning activities, the lexical environment is poor and offers little opportunity for lexical growth. However, there is some evidence that learners, even in a short space of time, can improve their speed of language interaction and their fluency, and in focused vocabulary-learning activities uptake was good and comparable with more traditional vocabulary-learning activities.

Indexing (details)

Subject

English (Second Language);
Foreign language vocabulary development through activities in an online 3D environment

Milton, James; Jonsen, Sunniva; Hirst, Steven; Lindenburn, Sharn

Language
English

Language of abstract
English

Document type
Journal Article

Publication title
Language Learning Journal

Volume
40

Issue
1

Pagination
99-112

ISSN
09571736

Publication type
Scholarly Journals

Publisher location
England

Notes
Special issue: Vocabulary, part II: input and uptake; guest editors James Milton and
Question Number: 3

1. Search Plan

Search #1
Important Ideas:

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Searching Style: Building Blocks and Lawn Mowing if necessary

Search #2
Important Ideas:

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Searching Style: Building Blocks and Lawn Mowing if necessary

Database(s): Medline

Fields (title, subject, etc.) or limiters (dates, document types, etc.) you might use:
Document title, Document text, Subject, Dates

Contingency Planning:
(what to do if I retrieve too little or too much?)
When too few results are retrieved, additional synonyms will be added. When too many results are
retrieved, searched fields and keywords should be alternated to be more restricted. Change in searched field is another way to control number of search results. Expand/narrow focus of the search can also help increase/decrease search result.

**Other notes:**
Focus #1: type 2 diabetes treatment for female patients
I decided to conduct the search focus on gender difference in type 2 diabetes treatment because of personal interest. However, as demonstrated in the following search steps, gender seems not to be a determined element in treatment options. No relevant research was found for this specific focus. Therefore, I redirected my search with another focus.

Focus #2: type 2 diabetes treatment for youth
This choice of search focus was also made on personal interest. After failure for the previous attempt, this time I decided to focus my search on treatment for youth. I would like to know specific treatment options for teenagers.

---

**2. Search Steps**

1. Chose a database: Medline
   a. **Annotation:** Database was chosen as instructed.

2. **(Focus: type 2 diabetes treatment for female patients)**
   - Searched: treatment* AND su(type 2 diabetes) AND su(female* OR wom?n )
     a. Search result: 12631 results
     b. **Annotation:** This was my first attempt to search for diabetes treatment with focus on female. From previous searches, I realized that a lot of important concepts are set as the controlled vocabulary subject terms. Therefore, I specifically searched in subjects for “type 2 diabetes” and “female* OR wom?n.”
   - Applied filter: Specified publication date as from 2011 to 2014.
     a. Search result: 3084 results
     b. **Annotation:** Restriction on dates is set as instructed. After examining search results on the first page, I noticed that most results are written for patients in both genders. Subject terms usually include both “female” AND “male.” Abstracts or full-text contents usually do not even mention about specific gender.
   3. Searched: treatment* AND su(type 2 diabetes) AND tx(female* OR wom?n )
      a. Search result: 0 result
      b. **Annotation:** I was trying to search “female* OR wom?n” within document text, hoping to retrieve researches that are written for type 2 diabetes treatment specifically for female. However, no result was retrieved.
   4. Searched: treatment* AND su(type 2 diabetes) AND (female* OR wom?n )
      a. Search result: 12840
      b. **Annotation:** I expanded the restriction for “female* OR wom?n) to retrieve more results.
   5. Applied filter: Specified publication date as from 2011 to 2014.
      a. Search result: 3150 results
      b. **Annotation:** Restriction on dates was set as instructed. Result reflected the same problem as before. I did not find any research for type 2 diabetes treatment with gender focus. Unable to retrieve information for this specific focus, I decided to re-direct my search with a different focus.
7. Searched: treatment* AND su(type 2 diabetes) AND (adolescent* OR teen* OR youth*)
   a. Search result: 1324 results
   b. Annotation: I used the same command and switched the last part to youth focus.

   a. Search result: 369 results
   b. Annotation: Restriction on dates was set as instructed. Search result reflected a list that was more relevant to what I was expected.

3. Search Results

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| 2-1      | **Current treatment options for type 2 diabetes mellitus in youth: today's realities and lessons from the TODAY study**

George, Minu M; Copeland, Kenneth C; NLM. Current diabetes reports 13.1 (Feb 2013): 72-80.

**Abstract (summary)**

The incidence of type 2 diabetes in children and adolescents has increased over the last 2 decades, paralleled by an increase in obesity over the same time period. Although the value of lifestyle modification in obese youth is unquestioned, scant evidence for optimal treatment of type 2 diabetes in this age group exists. Despite recent therapeutic drug trials, metformin and insulin are the only medicines currently approved by the U.S. Food and Drug Administration for the treatment of type 2 diabetes in youth. Because of recently amended pharmaceutical regulations, however, it is likely that more anti-diabetic medications soon will be added to the armamentarium of therapeutic options for youth with type 2 diabetes. Additionally, the recently published TODAY study comparing safety and efficacy of three treatment regimens in maintaining glycemic control in youth with type 2 diabetes has shed new light on the problem.

**Indexing (details)**

**References**

- Pediatrics. 2011 Sep;128 Suppl 2:S65-70. 21885647.;
- Diabetes. 2012 Mar;61(3):606-14. 22315322.;
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J Pediatr Endocrinol Metab. 2002 May;15 Suppl 2:737-44. 12092688.;
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Diabetes. 1999 Oct;48(10):2039-44. 10512371.;
J Pediatr. 2005 May;146(5):693-700. 15870677.;
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Pediatr Ann. 2005 Sep;34(9):686-97. 16222946.;
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Pediatr Diabetes. 2007 Dec;8 Suppl 9:16-27. 17991129.;
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J Clin Endocrinol Metab. 2011 Jan;96(1):159-67. 20962021.;
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J Pediatr Endocrinol Metab. 2007 Feb;20(2):173-84. 17396433.;
Pediatr Diabetes. 2007 Apr;8(2):74-87. 17448130.;
Current treatment options for type 2 diabetes mellitus in youth: today’s realities and lessons from the TODAY study

Author

George, Minu M; Copeland, Kenneth C

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Correspondence author

George, Minu M Department of Pediatrics, Section of Diabetes & Endocrinology, The University of Oklahoma College of Medicine, 1200 Children’s Ave, Oklahoma City, OK 73104, USA.
Feb 2013  
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2013-01-14  
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**Date revised**  
2014-02-04  
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**Database**  
MEDLINE® (1946 - current)

### Prescribing trends for the outpatient treatment of adolescents and young adults with type 2 diabetes mellitus

**Abstract (summary)**

**BACKGROUND**

Little is known about U.S. outpatient prescribing trends for type 2 diabetes (T2DM) in adolescents and young adults.

**OBJECTIVES**

To determine (a) trends in the outpatient prescribing of pharmacological and non-pharmacological therapies and (b) factors influencing prescribing trends for adolescents and young adults with T2DM.

**METHODS**

A retrospective, cross-sectional analysis was conducted on office visits of adolescents (12-17 years) and young adults (18-39 years) with T2DM or impaired glucose tolerance (IGT), using the National Ambulatory Medical Care Survey (NAMCS) from 1996-2005. Logistic regression was used to test for prescribing trends over time.

**RESULTS**

There were an estimated 1.6 million (93.7% T2DM; 4.4% T2DM + IGT; 1.9% IGT) and 22.2 million (88.1% T2DM; 11.9% IGT) office visits for adolescents (0.4% of all adolescent visits) and young adults (1.2% of all young adult visits) associated with T2DM based on ICD-9-CM codes, respectively. In young adults, diabetes drug mentions increased significantly from 39% of visits with T2DM to 61% in 2004-2005 (P = 0.04). Oral diabetes medication mentions increased from 20% to 49% (P = 0.001). However, reports of non-pharmacological therapy decreased from 53% in 1996-1997 to 37% in 2004-2005 (P = 0.14).

**CONCLUSIONS**

The prescribing of pharmacological treatment for T2DM increased with emphasis on oral agents, while reports of non-pharmacological therapy for T2DM decreased over the 9-year study period with increased use of oral medications in both adolescents and young adults.
Health care providers should consistently consider both treatment approaches when prescribing patient care as recommended by treatment guidelines.

**Indexing (details)**

**MeSH**
- Administration, Oral;
- Adolescent;
- Adult;
- Age Factors;
- Ambulatory Care -- statistics & numerical data (major);
- Child;
- Cross-Sectional Studies;
- Diabetes Mellitus, Type 2 -- drug therapy (major);
- Diabetes Mellitus, Type 2 -- therapy;
- Female;
- Health Care Surveys;
- Humans;
- Hypoglycemic Agents -- administration & dosage;
- Hypoglycemic Agents -- therapeutic use (major);
- Logistic Models;
- Male;
- Physician's Practice Patterns -- trends (major);
- Retrospective Studies;
- Time Factors;
- United States;
- Young Adult

**Journal classification**

**Index Medicus**

**Substance**
- Substance:
  - Hypoglycemic Agents

**CAS:**
- 0

**Title**
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<table>
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<tr>
<th><strong>Author</strong></th>
<th>Phan, Hanna¹; Porter, Kyle; Sill, Bruce; Nahata, Milap C</th>
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4. Analysis

Question 3 presents a situation similar to a daily subject search. Started with a broad topic of an unfamiliar subject, the search’s most difficult part for me was to pinpoint the “focus.” A focus that is too broad would retrieve too much information. In contrast, a focus that is too narrow or too unpopular, for example, type 2 diabetes treatment options specifically for women, would retrieve insufficient information. Prior to the search, I did not have any knowledge of type 2 diabetes nor its treatments. However, instead of gaining an overview of the big topic, I started directly with the focus (gender/female) in mind. Several attempts all resulted in outcome that did not answer my question. My failure to evaluate practicality of the focus in the planning process led to unnecessary waste of time and longer search process.

Once the focus was on the right track, the search process became a lot more efficient. The planning prior the actual search made it easier to identify key concepts, possible usage of truncations
and alternative synonyms. From my previous search experiences, I also learned to utilize Subject field. Instead of searching Document Text or Document Title, search in Subject field is a more efficient method since Subject usually covers the most important concepts of the record. Pearl Growing and Lawn Mowing were also important techniques to decrease/increase search results. After determining that search results on the first page were relevant to my topic, I would start reading the Document title and abstract to evaluate how well each record fulfilled my need. This last step was relatively efficient and quick. I located both of my best results on the first page of search result.

I was satisfied with my search outcome. The two records explain different treatment options for youth, which effectively answered my inquiry.
Question Number: 4

1. Search Plan

Important Ideas:

```
CONCEPT 1       AND       CONCEPT 2       AND       CONCEPT 3

Treatment   AND        Type 2 diabetes   AND        Adolescent
Treatments
```

Searching Style: Building Blocks and Lawn Mowing/ Pearl Growing if necessary

Database(s):
Gale Group Health Periodicals
Google Scholar

Fields (title, subject, etc.) or limiters (dates, document types, etc.) you might use:
Document title, Document text, Subject

Contingency Planning:
(what to do if I retrieve too little or too much?)
When too few results are retrieved, searched fields will be broadened. When too many results are retrieved, searched fields and keywords should be alternated to be more restricted.

Other notes:

2. Search Steps

(Search 1: Search in Gale Group Health Periodicals)
1. Selected a database: Gale Group Health Periodicals
   a. Annotation: Database was selected as instructed.
2. Searched in Command Line: treatment* AND su(type 2 diabetes) AND (adolescent* OR teen* OR youth* )
   a. Search result: 421 results
   b. Annotation: I used the same search command from Question 3 Step 7 in order to compare differences in search result of Medline and Gale Group Health Periodicals. On the other hand, I usually start my search with Advanced Search Mode, which is designed
to help users easily translate desired search concepts into command. Afterwards, modification on the command can be easily done to adjust search results. In this particular case, since I already recorded down the search command form previous steps, copying and pasting command in Command Line is a more direct method than inputting individual concept again in Advanced Search Mode.

   a. Search result: 153 results
   b. Annotation: Restriction on dates was set as instructed.

(Search 2: Search in Google Scholar)

1. Searched: treatment* AND su("type 2 diabetes") AND (adolescent* OR teen* OR youth* )
   a. Search result: 14,900 results
   b. Annotation: I wanted to try searching with the same command on Google Scholar.

   a. Search result: 5,980 results
   b. Annotation: Restriction on dates was set as instructed. With the same search command, Google Scholar's result turned out to be a lot more in number, but a lot less in accuracy. Google Scholar does not categorize record concept into subjects; thus the instruction to search within Subject field does not apply. However, in many search records, only partial of the search concepts were covered. For instance, many records were written for the topic treatment AND “type 2 diabetes,” but not for youth (at least “youth” is a concept that is not important enough to be mentioned in the abstract). Some articles retrieved were not even related to type 2 diabetes. I saw couple records that talk about type 1 diabetes.

3. Searched: (treatment*) AND ("type 2 diabetes") AND (adolescent* OR teen* OR youth*)
   a. Search Results: 53,900 results
   b. Annotation: I took out the search field “Subject” in front of type 2 diabetes.

   a. Search result: 17,400 results
   b. Annotation: Restriction on dates is set as instructed. Though the number of search results was greater than the number from previous search (step 2), the accuracy of search result increased. Result of this search were more on-topic.

3. Search Results

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<td>TYPE 2 DIABETES IN YOUTH PROGRESSES FASTER, MORE AGGRESSIVELY THAN IN ADULTS, EVEN UNDER OPTIMAL TREATMENT CONDITIONS States News Service 23 May 2013: NA.</td>
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Full Text

ALEXANDRIA, VA -- The following information was released by the American Diabetes Association (ADA):

Even when they receive the best currently available treatment and close monitoring of their
condition, American youth with type 2 diabetes experience a more rapid progression of comorbidities far more aggressive than what is typically seen in adults. The findings suggest grave cause for concern, according to a series of study results being published in a special issue of Diabetes Care dedicated to this important public health concern.

The most recent findings from the ongoing Treatment Options for Type 2 Diabetes in Adolescents and Youth (TODAY) study reveals that young people who develop type 2 diabetes are heading for a future of serious complications and that current treatment options are inadequate for this population, according to the study's authors. Two commentaries and an editorial accompanying the study's results "sound the alarm" for young people, who are increasingly developing type 2, noting that how to effectively treat this population "remains largely unknown" and most drugs known to successfully treat adults have not been studied in children or approved by the FDA to treat younger people with diabetes.

"The TODAY study has shown that youth with type 2 diabetes can face faster consequences than their adult counterparts," said Griffin P. Rodgers, MD, director of the National Institute of Diabetes and Digestive and Kidney Diseases, part of the National Institutes of Health, which funded the study. "Given the disease's more rapid progression in youth, the need for better treatment and prevention cannot be overlooked."

The study found that youth with type 2 diabetes were developing early and rapidly progressing signs of heart and kidney disease, poor glycemic control and diabetes-related eye disease, even in the group receiving more intensive two-drug therapy, shown in previously released results to be the most effective treatment for maintenance of glycemic control.

The TODAY study randomly assigned patients to one of three treatment arms: metformin alone; metformin plus rosiglitazone; and metformin plus an intensive lifestyle intervention that included diet, exercise and counseling on how to lose weight. Initial results of the study, reported last year in the New England Journal of Medicine, found that half of the youth in the study were unable to maintain glycemic control when treated with metformin alone and needed to be put on insulin. The study's initial findings also showed that treating youth with both metformin and rosiglitazone reduced the need to transition them to insulin therapy by 25 percent.

The findings, published in the June issue of Diabetes Care, reflect ongoing monitoring of more than 500 participants (ages 10-17 when the study began in 2004) in all three treatment arms.
and a deeper analysis of the complications they are developing as the study continues.

"Substantial numbers of these kids, in addition to their diabetes, have developed hypertension, abnormal lipids and both early or more advanced kidney disease," said Phil Zeitler, MD, PhD, Professor of Pediatrics at the University of Colorado and TODAY Study Chair. "We're seeing a continuation of the way diabetes behaves differently in youth, and it's a serious cause for concern for their future disease burden. At a time when they should be entering the most productive period of their lives, I think we can anticipate that instead of going to college and getting jobs, they will be visiting doctors and dealing with serious health care issues."

Beta Cell Function and the Need for Early, Aggressive Treatment

Though it cannot currently be recommended for use as treatment in youth, adding rosiglitazone to metformin as a treatment not only reduced the need to transition participants to insulin therapy, it appears to have done so because it helped to preserve beta cell function, the most recent findings suggest.

The rate of deterioration of beta cell function in youth was almost four times higher than has been reported in adults, researchers found, noting a 20-35 percent decline in beta cell function per year on average, compared to 7-11 percent for adults (as reported in previous research).

In the first six months of treatment, those in the rosiglitazone plus metformin arm saw a 20 percent improvement in insulin sensitivity, while the other two treatment arms saw either a deterioration (metformin alone) or no change (metformin plus lifestyle). This initial boost in improving insulin sensitivity in the rosiglitazone plus metformin arm lessened the burden on the beta cell and preserved beta cell function while it deteriorated in the other two groups. This early preservation in beta cell function resulted in overall lower glycemic failure rates in the rosiglitazone plus metformin arm compared with the other two groups, said Silva Arslanian, MD, Richard L. Day Endowed Professor of Pediatric Endocrinology, director of the Weight Management and Wellness Center at Children's Hospital of Pittsburgh, University of Pittsburgh Medical Center and director of the Pediatric Clinical and Translational Research Center.

"The message here is that if you are going to treat youth with type 2 diabetes effectively, it must be done early and aggressively targeting to improve beta cell function and insulin resistance," she said.

The TODAY analysis also helped researchers predict which participants would ultimately
fail **treatment** and require insulin therapy, Dr. Arslanian said. "It turns out that the participants who failed oral **treatment** had almost 50 percent lower beta cell function relative to insulin sensitivity to begin with, compared to those who were not failing," she said. "In other words, it is the reserve in beta cell function that determines whether a person will respond well or poorly to any **treatment**."

Their analysis also found that those **youth** whose A1C was higher at the beginning of the study experienced the poorest outcomes. For every 0.5 percent increase in A1C, the chances of failing **treatment** and requiring insulin therapy almost doubled, she said.

**Hypertension and Kidney Disease**

Both hypertension and kidney disease also progressed rapidly in the study participants, regardless of **treatment** arm. The incidence of hypertension rose from 11.6 percent of participants to 33.8 percent after 3.9 years, despite receiving the best possible **treatment** and monitoring, said Jane Lynch, MD, Professor of Pediatrics at the University of Texas Health Science Center in San Antonio.

Males were at 81 percent higher risk for developing high blood pressure than females, she noted, which is consistent with adult findings in terms of gender differences in hypertension.

As boys grew older, their risk for developing hypertension increased: for every additional year of age at baseline, there was a 14 percent greater risk of hypertension. Weight also played a role in increasing risk: for every one unit of increased BMI, there was a 6 percent increased risk for high blood pressure. There were no differences in hypertension risk based on differences in race, ethnicity or randomized **treatment** group.

In contrast, gender did not appear to impact the increased incidence of early kidney disease. The rates of microalbuminuria overall rose from 6.3 percent of participants at the beginning of the study to 16.6 percent of participants after 3.9 years.

Dr. Lynch said it was poor glycemic control that influenced whether kidney disease progressed in participants. For every 1 percent rise in A1C (e.g., from 7 percent to 8 percent), there was a 17 percent increased risk of developing early signs of kidney disease, defined as microalbumin, or protein in the urine. Some participants showed a substantially more advanced form of renal disease, Dr. Lynch noted, with 57 participants exhibiting macroalbuminuria and one-third of those advancing to proteinuria, an even more advanced stage of renal disease.
"The future for young adults with advancing renal disease is very worrisome," Dr. Lynch said. "These outcomes show evidence of a more rapid progression of hypertension and renal disease risk than we expected to see, and that's under the best-case scenario of being treated with ACE inhibitor medications and counseling and very close monitoring."

Lynch also noted that of the 205 participants who required ACE inhibitors for hypertension or kidney disease, 79 needed maximal ACE dosing and needed a second medication added during these 3.9 years of the study. "This is much more rapid progression than we see in adults," she said.

Cardiovascular Risk

Regardless of which treatment arm they were in, participants also experienced a worsening of cardiovascular risks, said Ruth Weinstock, MD, PhD, Distinguished Service Professor at SUNY Upstate Medical University in Syracuse, N.Y., and one of the investigators in the TODAY trial.

Researchers found that LDL (the so-called "bad" cholesterol), triglycerides and other inflammatory markers all rose over 12 months and then stabilized over the next 24 months. The percentage of youth with LDL levels over 130 mg/dl and those needing to be placed on cholesterol-lowering medications once their levels exceeded 130 mg/dl rose from 4.5 percent of participants to 10.7 percent over 36 months.

Also of concern, said Dr. Weinstock, was that only 55.9 percent of participants remained at their LDL goal of less than 100 mg/dl over the 36 months. "This is a frightening number. These are youth we hope will have many decades of life ahead of them and only half were at goal. I cannot tell you what the future looks like for these youth, but I can tell you I am concerned."

Somewhat surprisingly, those whose treatment included lifestyle interventions did no better for their LDL goals than those whose treatment did not, Dr. Weinstock said, but, lifestyle intervention did make a difference in helping to keep triglyceride levels under control. Whereas LDL levels rose with increasing A1C levels regardless of treatment group, higher A1C levels were not associated with higher triglyceride levels in the lifestyle intervention group.

Overall, she said, "lipid disorders and chronic inflammation were common in youth with type 2 diabetes and they worsened over 36 months. Despite some treatment group differences, the diabetes treatment was generally inadequate to control this worsening risk. We are going to have to find better ways to decrease cardiovascular risk in youth with type 2.
Retinopathy and the Obesity Paradox

One area where the disease behaved similarly in youth to the way it does in adults, however, was in the case of retinopathy, a type of eye disease associated with type 2 diabetes. Previous research has shown that 15.5 percent of adults with a diabetes duration of three years develop retinopathy. In the TODAY population, 13.7 percent of participants developed nonproliferative retinopathy after an average duration of diabetes of 4.9 years. As with adults, greater incidence of retinopathy was associated with longer duration of diabetes, higher age and poorer glycemic control.

Another phenomenon previously seen only in adults -- known as the "obesity paradox" -- likewise appeared in the younger population, said Lynne Levitsky, MD, Chief of Pediatric Endocrinology at Massachusetts General Hospital and Associate Professor of Pediatrics at Harvard Medical School. "The most surprising thing we found," she said, "was that for youth who were quite obese, there was a reduced chance of developing retinopathy." This has been reported previously in adults, but never in young people.

Those in the most obese group of youth, with a BMI of 37.87-68.7, had considerably less retinopathy (9.3 percent) than those with a BMI of 31.5-37.86 (15.6 percent) and 21.6-31.5 (16.3 percent). "In young people, the obesity paradox is clear," she said.

Body Composition

Though researchers expected the group treated with metformin plus intensive lifestyle interventions to experience greater weight loss and improvements in body composition, those gains were smaller than they hoped for and any positive effects were lost by 24 months, said Kenneth C. Copeland, MD, Milburn Chair and Chief of Pediatric Endocrinology, University of Oklahoma College of Medicine.

The group treated with metformin and rosiglitazone, conversely, experienced the largest accumulation of body fat but maintained the best glycemic control.

"This does not say that lifestyle changes are not important," Dr. Copeland said. "What it says is that reductions in body fat and BMI through lifestyle change are extremely hard to accomplish in this group of profoundly affected diabetic youth. The implications are that the time to intervene is before diabetes develops."
Conclusions

"The development of type 2 diabetes among young individuals has significant public health consequences as these youth are likely to manifest the complications of diabetes, including retinopathy, nephropathy, neuropathy and cardiovascular disease, at a time that should be the most active and productive of their lives," concluded an accompanying commentary by Dr. Rodgers and NIDDK colleagues Barbara Linder, MD, PhD, senior advisor for childhood diabetes research; and Judith Fradkin, MD, director of the Division of Diabetes, Endocrinology and Metabolic Diseases of NIDDK.

Study Chair Zeitler reiterated the importance of prevention and continued study of treatment options beyond those explored in this study.

"We need to prevent diabetes," Dr. Zeitler said. "Before that, we need to prevent childhood obesity. Before that, we need to prevent pregnancies complicated by obesity and diabetes. There is a huge societal intervention that needs to happen. We also need a better understanding of how to treat the co-morbidities in these kids. Right now we are extrapolating from adults, but we have no information on whether this is the correct route, and that's a critical issue to understand."

The "faces" of those developing type 2 diabetes "are becoming younger by the year," wrote Diabetes Care Editor in Chief William Cefalu, MD, in an editorial accompanying the study results. "We are not prepared as a medical community or as a global society at this time to effectively address the growing problem of type 2 diabetes in youth. To state that we have a huge challenge ahead and no real solutions is an understatement."

"The need is imperative," the NIH commentary concluded, "to promote research to understand how to establish healthy habits at a young age rather than trying to correct 'bad' habits later on."

The American Diabetes Association is leading the fight to Stop Diabetes and its deadly consequences and fighting for those affected by diabetes. The Association funds research to prevent, cure and manage diabetes; delivers services to hundreds of communities; provides objective and credible information; and gives voice to those denied their rights because of diabetes. Founded in 1940, our mission is to prevent and cure diabetes and to improve the lives of all people affected by diabetes. For more information please call the American Diabetes Association at 1-800-DIABETES (1-800-342-2383) or visit www.diabetes.org. Information from
both these sources is available in English and Spanish.

Word count: 2385

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Business subject

Type 2 diabetes -- Development and progression;
Type 2 diabetes -- Care and treatment;
Adults;
Youth;
Diabetes therapy;
Cholesterol;
Teenagers;
Development and progression;
Diseases;
Care and treatment

Company / organization

American Diabetes Association

Identifier (keyword)

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NAICS classification

621: Ambulatory Health Care Services

Product classification

E121940: Adults;
E121930: Youth;
8000431: Diabetes Therapy

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States News Service

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May 23, 2013
Double-drug diabetes treatment disappoints in kids.

**Reuters Health Medical News** 01 May 2012: NA.
NEW YORK (Reuters Health) - In adolescents with type 2 diabetes, metformin monotherapy is adequate only half the time, and even the addition of rosiglitazone (Avandia) leaves nearly 40% without durable glycemic control, a new study of 699 people age 10-17 has found.

A very intensive lifestyle intervention didn't improve the results, either. And adding rosiglitazone only benefited girls, not boys.

The TODAY trial findings were reported this weekend at the annual meeting of the Pediatric Academic Societies in Boston and published online yesterday in the New England Journal of Medicine.

"The results of the study were discouraging," said Dr. David Allen University of Wisconsin School of Medicine and Public Health in a Journal editorial. "These data imply that most youth with type 2 diabetes will require multiple oral agents or insulin therapy within a very few years after diagnosis."

Type 2 diabetes "progresses more rapidly" in youth, Dr. Phil Zeitler, who led the study, told Reuters Health. He said he and his colleagues were surprised at how quickly many of the youngsters needed to switch to insulin.

Also, he said, the teens in the study appeared to develop complications more often than adults do.

Youngsters with diabetes are a difficult population to work with, Dr. Zeitler noted. Many don't take their medications as instructed. And in the first place, to get type 2 diabetes as a youngster, "the toxicity of your lifestyle must be pretty severe," Dr. Zeitler said.

That's why all of the kids in the study got at least "basic lifestyle counseling" in a run-in phase, including advice to stop drinking sugared sodas, eat less fast food, watch their diet in other healthy ways, take stairs instead of elevators, and generally get more exercise.

All of the children had been diabetic for less than two years and all were at or above the 85th percentile when it came to weight. Enrollment began in July 2004 and follow-up continued through February 2011.

Following the run-in phase, they were randomly assigned to three protocols: 1000 mg of
metformin twice daily, metformin plus 4 mg of rosiglitazone twice daily, or metformin plus a particularly intensive lifestyle intervention that involved more assignments for kids to complete, more interaction with counselors, and close involvement of at least one parent.

**Treatment** failure -- a glycated hemoglobin level of 8% or higher over six months, or persistent metabolic decompensation - came after a median interval of only 11.5 months.

In the end, the failure rates were highest in the metformin-only group, at 51.7%, and lowest in the metformin/rosiglitazone group, at 38.6%. The kids who got metformin and the very intensive lifestyle intervention had a failure rate of 46.6%, better than the metformin-only group but worse than the combination drug group.

The issue wasn't body weight. The double-drug group had the largest increase in their body-mass index despite better glycemic control and the **youth** in the lifestyle group had the largest drop in BMI.

When the researchers looked at the results by gender, they found that the failure rates were higher among boys (48.2% vs 44.3% for girls, P=0.02). In fact, the double-drug combination showed no significant advantage over metformin or metformin plus lifestyle intervention among males.

"Metformin alone was less effective in non-Hispanic black participants and in other racial or ethnic groups" for reasons that are unclear, the researchers reported.

Overall, 19.2% of the participants developed serious adverse effects such as severe hypoglycemia, diabetic ketoacidosis and lactic acidosis.

The rate in the **treatment** groups was 18% in the metformin-only group, 15% in the double-drug group and 25% in the group that practiced lifestyle changes (P=0.02), but rates of specific problems, such as hyperglycemia, were not significantly different between the groups.

"We don't want to give the message that 'no lifestyle intervention' can be an option," Dr. Zeitler said. The message here, he added, is that the very intensive lifestyle intervention did not appear overall to add to the effect of metformin.

He pointed out, "You can see in the data a suggestion that there might be groups of children who respond to the very intensive intervention. Our challenge now is: Can we identify the kids
who are going to respond to a lifestyle intervention and (just one oral diabetes medicine)?"

Conversely, he continued, the challenge is also to recognize from the start the kids for whom the intensive lifestyle intervention is "going to be ineffective and not worth the time and money."

Dr. Zeitler also pointed out something researchers find interesting. "A number of these kids who are out three to five years are not all that adherent but are still doing well," he said. "A number of us see this almost as a parallel to gestational diabetes."

Perhaps, he said, the physiologic stress of puberty is similar in some way to the stress of pregnancy that causes transient diabetes. In the protocol for their study, the study investigators noted, "Puberty contributes to insulin resistance due to augmentation of growth hormone secretion, and if these normal pubertal physiologic changes are not compensated for by increased insulin secretion, frank diabetes will develop."

Puberty-related type 2 diabetes that appears to resolve would still be "a marker of higher risk for future trouble," Dr. Zeitler added.

In his editorial, Dr. Allen writes, "Solace can still be found in the TODAY study, if its larger message transcends its worrisome findings. Illness from childhood overnutrition is a societal and cultural problem that current medicines treat but cannot resolve. For a substantial proportion of those millions of children at risk for largely preventable type 2 diabetes, the findings of the TODAY study reinforce the idea that medications and even procedures will not stave off a lifetime of illness."

It's critical to remember, the editorial continues, that the patients in this study are "youth immersed from a young age in a sedentary, calorie-laden environment that may well have induced and now aggravates their type 2 diabetes."

"Fifty years ago," Dr. Allen concludes, "children did not avoid obesity by making healthy choices; they simply lived in an environment that provided fewer calories and included more physical activity for all. Until a healthier 'eat less, move more' environment is created for today's children, lifestyle interventions like that in the TODAY study will fail."

The Treatment Options for Type 2 Diabetes in Adolescents and Youth (TODAY) study was funded by the National Institute of Diabetes and Digestive and Kidney Diseases.
Product classification
- 8000431: Diabetes Therapy
- 2834121: Antidiabetic Preparations
- E121930: Youth

SIC classification
- 2834: Pharmaceutical preparations

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Reuters Health Medical News

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Characteristics of Adolescents and Youth with Recent-Onset Type 2 Diabetes: The TODAY Cohort at Baseline

Kenneth C. Copeland, Philip Zeitler, Mitchell Geffner, Cindy Guandalini, Janine Higgins, Kathryn Hirst, Francine R. Kaufman, Barbara Linder, Santica Marcovina, Paul McGuigan, Laura Pyle, William Tamborlane, Steven Willi, and for the TODAY Study Group

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Abstract

Context: The Treatment Options for Type 2 Diabetes in Adolescents and Youth (TODAY) cohort represents the largest and best-characterized national sample of American youth with recent-onset type 2 diabetes.

Objective: The objective of the study was to describe the baseline characteristics of participants in the TODAY randomized clinical trial.

Design: Participants were recruited over 4 yr at 15 clinical centers in the United States (n = 704) and enrolled, randomized, treated, and followed up 2–6 yr.

Setting: The study was conducted at pediatric diabetes care clinics and practices.

Participants: Eligible participants were aged 10–17 yr inclusive, diagnosed with type 2 diabetes for less than 2 yr and had a body mass index at the 85th percentile or greater.

Interventions: After baseline data collection, participants were randomized to one of the following groups: 1) metformin alone, 2) metformin plus rosiglitazone, or 3) metformin plus a lifestyle program of weight management.

Main Outcome Measures: Baseline data presented include demographics, clinical/medical history, biochemical measurements, and clinical and biochemical abnormalities.

Results: At baseline the cohort included the following: 64.9% were female; mean age was 14.0 yr; mean diabetes duration was 7.8 months; mean body mass index Z-score was 2.15; 89.4% had a family history of diabetes; 41.1% were Hispanic, 31.5% were non-Hispanic black; 38.8% were living with both biological parents; 41.5% had a household annual income of less than $25,000; 26.3% had a highest education level of parent/guardian less than a high school degree; 26.3% had a blood pressure at the 90th percentile or greater; 13.6% had a blood pressure at the 95th percentile or greater; 13.0% had microalbuminuria; 79.8% had a low high-density lipoprotein level; and 10.2% had high triglycerides.
**Conclusions:** The TODAY cohort is predominantly from racial/ethnic minority groups, with low socioeconomic status and a family history of diabetes. Clinical and biochemical abnormalities and comorbidities are prevalent within 2 yr of diagnosis. These findings contribute greatly to our understanding of American youth with type 2 diabetes.

The TODAY cohort, representing the largest and best-characterized national sample of American youth with type 2 diabetes, is described at baseline.

**Affiliations**

**Cited by**  
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[Abstract](#) | [Full Text](#) | [PDF (128 KB)](#)  
[Abstract](#) | [Full Text](#) | [PDF (584 KB)](#)


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### 4. Analysis

The comparison between Medline and Gale Group Health Periodicals Database search results reflects interesting differences between the two databases. Medline is a bibliographic database for the field of medicine and related topics in various industries. Controlled vocabularies and search results in Medline also gears toward the same direction with focus on drug usage and its side effects. On the other hand, Gale Group Health Periodicals covers a slightly more diverse information fields, ranging from health, fitness to medicine and lifestyle. Controlled vocabularies and search results on the same topic presents another viewpoint of type 2 diabetes treatment options for youth, emphasizing the importance of lifestyle instead of reliance on drug treatment. Controlled vocabularies and search results represent the different emphasis of the database; therefore, it is important to plan our search. Identifying focus of a search and target audience will help choose a database for effectiveness and accuracy.

Google Scholar displays search result pretty different from ProQuest Dialog databases. Unlike ProQuest Dialog databases, Google Scholar search results are not in a standard format and subject categories. Therefore, in order to determine relevance, the most direct method is the title and the short paragraph displayed on the search result page. However, while the displayed paragraph might contain keywords that I searched, it might not be the article’s primary concept. For instance, during my search for type 2 diabetes treatment options for youth, some records’ display paragraph showed all three concepts. After I clicked to view the record’s abstract, it turned out the article actually was not focusing on youth treatment. While using Google Scholar, users should pay more attention to article title, focus of the article and the actual content to determine relevance.