Libyan International University Research and Consultation Center Research Priority Setting Project 2021-2023

Research Priority Setting Workshop For the university policymakers Part-2



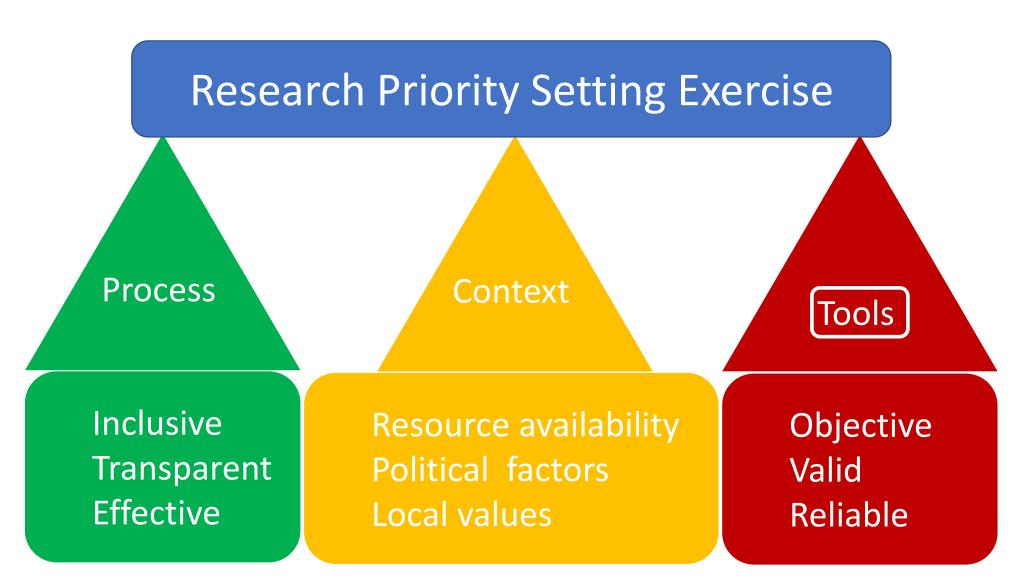
Rafik Elmehdawi 10/11/2021

Workshop ILOs

By the end of this workshop the attendee will be able to:

- 1. Define what is Research Priority Setting.
- 2. Decide who should be involved in setting research priority
- 3. List the steps of research priority setting exercise
- 4. Define the level of the Research Priority Setting.
- 5. Collect the required data to inform the Research Priority Setting exercise.
- 6. Discuss the different methods of generating research priorities
- 7. Rank the generated research priorities

Pillars of priority-setting exercise



Tools

- There are 4 main approaches (tools):
 - 3D Combined Approach Matrix (CAM).
 - Essential National Health Research (ENHR) approach.
 - The Child Health and Nutrition Research Initiative (CHNRI) approach.
 - The COHRED management process to priority setting.
- No gold standard for RPS
- The appropriate approach depends on the contexts.

Nine common themes of good practice in RPS

Preparatory work:

- Context
- Comprehensiveness: detailed, step-by-step guidance.
- Inclusiveness
- Information gathering
- Planning for implementation

Deciding on priorities:

- Criteria
- Methods for deciding on priorities

After priorities have been set:

- Evaluation
- Transparency

Selecting the approach

- You can:
 - Adhere to one of the standard comprehensive approaches:
 - improves the quality of an exercise.
 - Tailor an approach to your needs:
 - to accommodate existing wishes and needs for the exercise.
 - Develop your own methods:
 - Depending on the context.

Time needed for research priority setting

• The whole exercise may take 3-6 months depending on the level of the exercise (global/regional/national/institutional).

I. Planning and preparation (before the exercise):

- 1. Identify leadership for the process (advisory group).
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- 6. Agree on the method of generating the priorities.
- 7. Develop the criteria to guide the prioritization process.

II. Deciding on priorities (the workshop):

- Generation of research areas/issues.
- II. Ranking of research areas/issues
- III. Generation of research questions
- IV. Ranking priority research questions

Not always done

- Implementation
- Evaluation

Levels of RPS

Identifying broad research areas Advisory group Identifying & Ranking of A broad stakeholder group priority issues Identifying & Ranking of priority 3 Technical experts research questions

Deming wheel (PDCA)

- Analyze the current situation.
- Identify the problems.
- Set objectives.
- **Develop solutions.**

Implement the plan

- Perform root-cause analysis
- Take corrective actions

Evaluate the results against the objectives

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I-Planning and Preparation

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1-Identify leadership for the process Advisory group

- Structure of the advisory group:
 - Multi-disciplinary:
- Characteristics of the advisory group:
 - Acceptable to all major stakeholders
 - A motivated
 - Committed
 - Knowledgeable as to how and where to access information and resources.
 - Capable.
- Support to advisory group:
 - Well-managed
 - Well-resourced

Roles of the advisory group

- 1. Oversee the whole process.
- 2. Agree on a set of common terms/definitions to be used during the priority setting process.
- 3. Determine which stakeholders should be consulted.
- 4. Determine focus and level of analysis (context).
- 5. Gather and analyze information for setting priorities (situation analysis)
- 6. ±Identify broad research areas
- 7. Agree on the method to guide the generation of priority areas by stakeholders.
- 8. Generating criteria to guide ranking of priorities.
- 9. Synthesizing, refining and or translating into themes priority areas generated by stakeholders.
- 10. Establish an appeals mechanism for the established priorities can be considered, providing opportunity for feedback.

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2- Awareness raising

- The aim at this stage is to:
 - Create a demand for research.
 - Identify sources of information.
- Conduct open meetings with various groups and stakeholders to:
 - Develop an understanding of what RPS is all about.
 - Discuss the concept of essential health research.
 - Discuss how research could be of value to their work.
 - Ascertain the available secondary information on health.

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3-Identify and involve stakeholders.

- RPS is a collective social activity.
- Define who needs to be part of this collective activity
- A broad representation of stakeholders is critical.
- Stakeholders are people with a certain social and cultural background and bring their own views, values and preferences in their group.
- The main function of the stakeholders is to generate priority areas.

Why do we need to involve them?

- Minimizes gaps in research options.
- Minimizes unnecessary duplication.
- Fosters ownership.

Which stakeholders to be involved?

- Stakeholders should reflect:
 - Cultural differences.
 - Ethnical differences.
 - Organizational differences.
- Stakeholders should include but not restricted to:
 - Policymakers.
 - Funding organizations.
 - Researchers.
 - Practitioners.

Examples of stakeholders to be involved

- Policymakers
- Funders/donors
- Health researchers
- Medical practitioners
- Members of the public: Patients
- Economists
- Sociologists
- Private sector
- Civil society
- Many others.

Managing the stakeholder participation

- Stakeholders need some capacity building to:
 - Understand the structure and the dynamics of the whole process.
 - Understand the used definitions, criteria and methods.
 - Manage any potential conflict of interest
 - Each group of stakeholders has a different perspective:
 - Researchers tend to focus on their disciplinary interest and research trends
 - Health care providers focus on practical problems
 - Funders/donors focus on cost and benefits.

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4-Determine the focus & level of analysis (Context)

- Consider the following factors when planning:
 - Available resources (financial, human, time).
 - Focus/scope of the exercise:
 - Geographical scope (Global/regional/<u>national</u>/sub-national/institutional)
 - Timeframe (long-term/<u>short-term priorities</u>)
 - Intended beneficiaries (e.g. children, elderly, urban/rural areas).
 - Health, research and political environment in a country or institute:
 - Who has the political power to set priorities?
 - Who has previously set priorities?
 - How do policymakers perceive research for health?

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5-situation analysis

- RPS process should be as evidence-based as possible to be:
 - Objective
 - Valid
 - Reliable
- So one can easily justify the shift of resources into certain areas.
- Gather and analyze information for setting priorities (situation analysis).
- Situation analysis must be systematic and scientific and involve three broad categories:
 - Health status (main health problems, common diseases, risk factors)
 - Health care system (current status, deficiencies and problems)
 - Health research system (availability of human, fiscal and institutional resources for research).

Sources of information:

- 1. Literature review to identify gaps in knowledge.
- 2. Research priorities identified by RPS exercises outside your institute.
- 3. Stakeholder surveys or questionnaires, of broader stakeholder views on priorities or opinions on matters related to the research area.
- In most low- and middle-income countries the availability of valid and reliable data may be an issue of concern.
- If country-specific data are not available, global literature or relevant experts from the field may provide some useful information.

Examples of some important literature

- National research priorities
- Previous institutional research priorities
- Neighboring countries research priorities
- Global research priorities
- Official governmental reports.
- Local researches in the last 10 years

Analysis of the available information

Major health problems:

- CVD (~27% of adult medical admissions and ~32% of medical deaths)
- LRTI (~16% of adult medical admissions and ~15% of medical deaths)

Research gaps:

- What are the 5 leading problems that affect the health services in Libya?
- What are the 10 leading causes of OPD visits?

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Identifying broad research areas Where to start?

- مجالات البحث العامة (broad research areas) يمكن اشتقاقها من:
 - أولويات البحث العلمي على مستوى الدولة اذا وجدت .
 - التوجهات البحثية للمؤسسة في الخطة الاستراتيجية اذا وجدت.
 - مثلا, الاستجابة لجائحة كورونا.
- اولويات البحث العلمي الصادرة عن الهيئات العالمية مثل منظمة الصحة العالمية.
 - نتائج تحليل الواقع (situation analysis).
 - ويمكن تقسيمها حسب الأقسام العلمية في المؤسسة او قطاعات الدولة.

أولويات البحث العلمي في مجال الرعاية الصحية في ليبيا

- تقسم أولويات البحوث الصحية إلى البنود التالية:
 - 1. الدراسات الاجتماعية
 - 2. الرعاية الصحية.
- 3. البحوث الخاصة بالدواء والرقابة الدوائية والغذائية ومواد التجميل
 - 4. مكافحة تلوث البيئة
 - 5. الأمراض المشتركة
 - 6. بحوث التغذية.
 - 7. تطوير البرامج التعليمية الصحية وتنمية القوى العاملة
 - 8. الصحة المهنية والطب الصناعي

أولويات البحث في مجال الصحة العامة في إقليم شرق المتوسط بحسب الخطة الاستراتيجية 2020-2023.

- 1. الوقاية من الإمراض السارية و مكافحتها.
- 1. التحول الرقمي و جودة بيانات التمنيع (دراسات إقليمية مقارنة).
 - 2. الامراض غير السارية و الصحة النفسية.
 - 3. تعزيز صحة السكان.
 - 4. صحة البيئة و سلامة الغذاء.
 - 5. تطوير النظم الصحية.
 - 1. أنماط هجرة العاملين الصحيين في الإقليم.
 - 6. العلوم و المعلومات و النشر.
 - 7. الطوارئ الصحية:
 - 1. الوبائيات والترصيد
 - 2. المشاركة المجتمعية و الوقاية من العدوى و مكافحتها
 - 3. النظم و الخدمات الصحية
- 1. فاعلية استخدام الحلول الصحية الرقمية و جدواها في التصدي لكوفيد-19
 - 4. التأهب للكوارث و الاستجابة لها.

6-Agree on the method of generating and ranking the priorities

Consensus-based approaches

- Brainstorming sessions
- Multi-voting
- Nominal group technique
- Roundtable discussions

Metrics-based approaches

- Involve metrics or an algorithm that results in pooling of individual rankings of research options.
- Eg;
 - Delphi like techniques and
 - CHNRI method

A detailed discussion of different ranking techniques can be found on the COHRED website

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7-Develop the criteria to guide the ranking process

- Participants in the priority setting exercise should decide by consensus on appropriate criteria at the beginning of the exercise.
- The choice of criteria and the scoring system may differ, depending on the level or stage of priority setting.

Steps of developing the criteria

- 1. Create a list of criteria.
- 2. Group the selected criteria into categories.
- 3. Assign the number of score choices to each of the criteria.
- 4. Assign a point score to each choice
- 5. Decide if any of the criteria should be used as screening criteria in order to discard some of the proposed research from initial list.
- 6. Decide if all criteria should have equal or different weighting.
- 7. Choose between addition or multiplication for the scoring system
- 8. Produce a working module

1- Create a list of criteria

- Brainstorm on the list of criteria or review available documents or guidelines.
- Clearly define / clarify the meaning of each criterion.

2- Group the selected criteria into categories

- Selection criteria can be categorized into 4 dimensions:
 - <u>Category-1:</u> appropriateness (should we do it?)
 - The theme of this category is whether the proposed research is well suited to the target society and whether it does not duplicate past studies.
 - <u>Category-2</u>: relevance/ Public health benefit (why should we do it?)
 - The theme is to ensure that the proposed research is relevant to the health problems of the community, without disregarding equity issues.
 - <u>Category-2:</u> Feasibility (can we do it?)
 - The theme is to assess the strength and resources of the research team.
 - <u>Category-3:</u> Impact of the research outcome (what will the stake holders get out of it)
 - The theme is to estimate the benefit of using or implementing the research results, and evaluate the merit and usefulness of the research outcome.

3- Assign the number of score choices to each of the criteria

- The score usually range from 2 to 5 numbers.
 - Low/high (2 score choices)
 - Low/medium/high (3 score choices)
 - Very low/low/medium/high/very high (5 score choices)

4- Assign a point score to each choice

- The scores can be a positive or negative number or zero.
 - Low: -1
 - Medium:0
 - High:+1

5- Decide on screening criteria

- Decide if any of the criteria should be used as screening criteria in order to discard some of the proposed research areas from the list.
 - Adequacy and usefulness of the current knowledge base.
 - Ethical and moral issues.
 - Legal aspects.
- Example: Ethical and moral issues
 - 0 Unacceptable
 - 1 Debatable, Equivocal
 - 2 Sensitive issue
 - 3 No foreseeable problem
- If a topic scores zero for this criterion, it should be dropped from the list.

6- Decide if all criteria should have equal or different weighting.

- There are several methods of weighting, hence there must be consensus within the group on how to weight the criteria.
- Let the group decide if each category of criteria should be given equal or different weighting.
- If the consensus is for equal weighting then the total score for each category must be the same.

7- Choose between addition or multiplication for the scoring system

Addition system:

- Scores for all of the criteria are added up and the total is used for ranking the research topics.
- The higher the score, the higher the priority.

Multiplication system:

- The total score is arrived at by multiplying the scores together.
- The multiplication scoring system should not be used with negative number choices.
- Zero number scores can be used in the multiplication scoring system only if the criteria with a zero number score are designated as screening criteria.

8-Produce a working module

- This working module is a miniature of the final draft module.
- For ease of use, the module is meant to occupy no more than one page.

How to use criteria for research priority setting

Instructions: For each of the criteria below, enter the appropriate score for the research topic in the box to the left of the title. Add up all the scores and write the total in the aggregate score box at the bottom of the page.

ategory 1: Appropriateness. Should we do it?			
Ethical	and moral issues	Availa	bility of pre-existing data
	No foreseeable problem Sensitive issue Debatable, Equivocal Unacceptable (If this item is sen, the research topic should be arded)	3 2 1 0 the	None in existence Scarce, Inadequate Fair, Moderate Abundance (If this item is chosen, research topic should be discarded)
ategory 2: Relevancy. Why should we do it?			
deman 3 2 1 ategory	High Moderate Low or None 3: The chance of success. Casity of the system to undertake the	3 2 1 an we do	High Moderate Low or None it? astification Exceptional Good Fair or Poor
ategory 4: Impact of the research outcome. What do the stakeholders get ut of it?			
Chanc 3 2 1	es of implementation High Fair, Moderate Low or None	Overall cost 3 2 1	reduction of the burden, including High Fair, Moderate Poor or None

Stages of research priority setting

I. Planning and preparation (before the exercise):

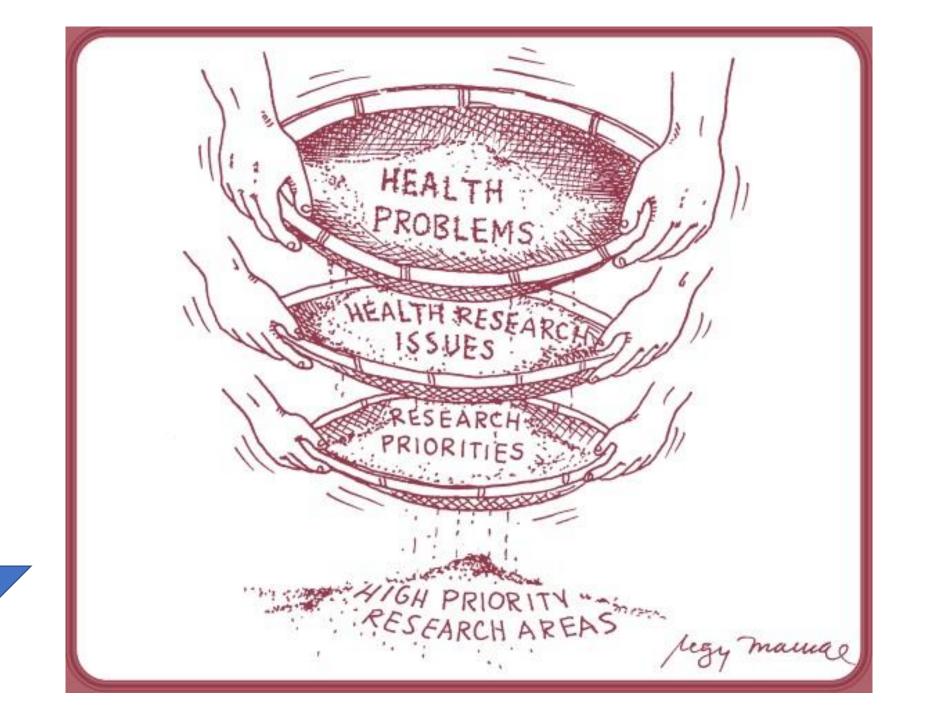
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III. After prioritization:

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- Evaluation



II-Setting the priorities



Determination of the scope of the expected outcome from broad lists of priority health (system) problems to a detailed list of priority research questions.

- 1. Identification of research areas/issues.
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1-Identification of research areas

- The workshop can be designed to be:
 - One-day exercise
 - Two or three days.
- The aim at this stage is to draw up initial lists of research areas that emerge from situation analysis and inputs from various stakeholders.
- Once a broad list of research areas has been agreed upon, many further rounds will be necessary to reduce it to a manageable list of priorities.

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2-Ranking of research areas

- Score each research topic using the working module.
- Write down all the scores
- Rank the research topics by their scores.

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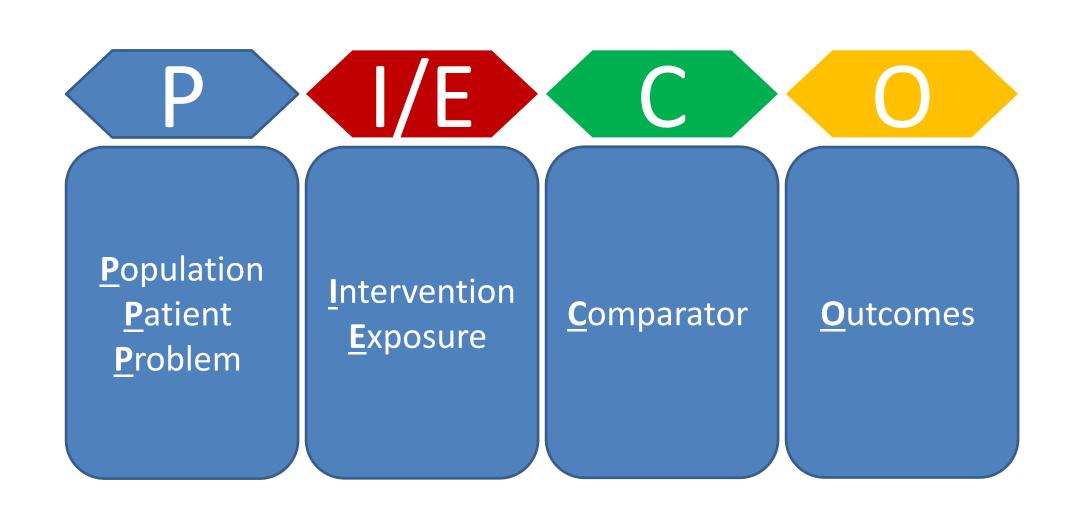
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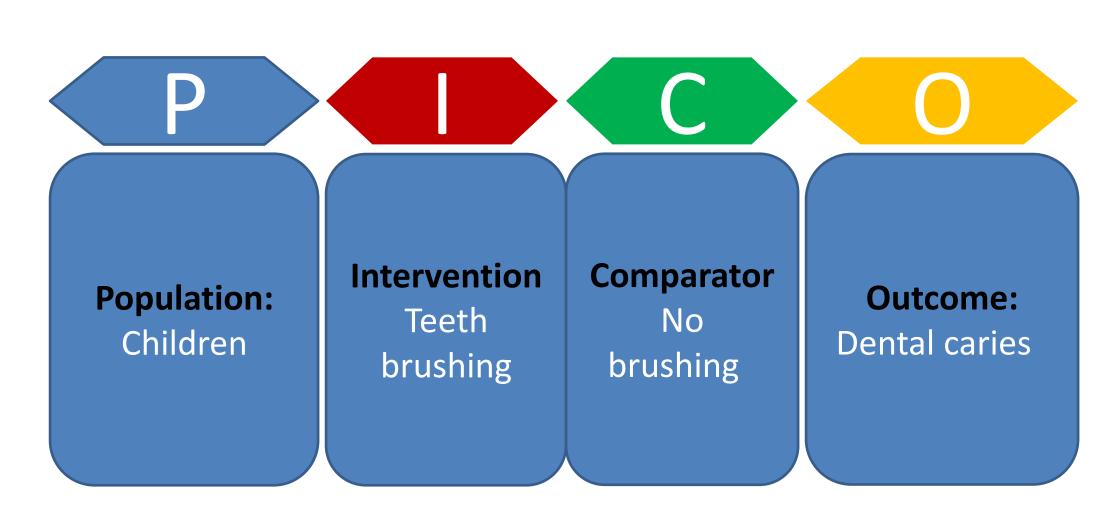
3-Identification of research questions

- Translation of research areas/issues into specific research questions.
- Development and ranking of research priority questions is performed by technical experts.
- Try to conceptualize research questions in the form of PICO.

PICO model



Does regular teeth brushing reduce the risk of development of dental caries in children?



Example

- Dental health (broad topic)
- Dental health in children (a more focused topic)
- Children and dental caries (a research problem)
- Sweet consumption and dental caries (a more focused problem)
- Is sweet consumption a risk factor for development of dental caries in children? (research question).
- Does regular teeth brushing reduce the risk of development of dental caries in children? (research question).

Examples of broad Research areas

- Medical research
- Dental research
- Basic medical sciences research
- Pharmacy research
- Information and communication technology research
- Business management research
- Education research

Medical research More focused Research areas

- Women health
- Child health
- Non communicable diseases
- Communicable diseases

Exercise-5

• Identify the important issues in Women's health

Most important issues in women's health

- Women and cancer
 - Breast cancer
 - Colon cancer
 - Endometrial cancer
 - Ovarian cancer
- Women and pregnancy
- Women and osteoporosis
- Women and anemia
- Women and mental health
 - Depression
 - Stress disorders

Exercise-6

• Identify the most important research questions for breast cancer.

Example

- Research area/topic: Women` health.
- An initial research problem/issue: Women and cancer.
- A more focused research problem/issue: women and breast cancer.
- Research questions:
 - 1. What is the prevalence of breast cancer in Libyan women?
 - 2. What are the clinical characteristics of breast cancer in Libyan women?
 - 3. What are the histological characteristics of breast cancer in Libyan women?
 - 4. What are the risk factors for breast cancer in Libyan women?
 - 5. What is the mortality of breast cancer in Libyan women?
 - 6. What is the response of Libyan women to different therapy of breast cancer?

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III-After priority have been set

Implementing the priorities

- Writing the report of the exercise:
 - The report should include
 - Who set the priority
 - Methodology: explain how these priorities were established
 - The list of priorities
- Integration of priorities into an appropriate governmental plan, agenda or policy to ensure political backing.

Evaluation

- 1. Reviewing previously set priorities (periodically) to ensure that priorities are up to date.
- 2. Evaluating the process used to set priorities can increase the quality and acceptability of that process.
- 3. Establishing an appeals mechanism for the established priorities can be considered, providing opportunity for feedback.
- 4. Performing an impact analysis, for example in the form of a review of research performed and/or funding allocated based on previously established priorities, can be valuable. Not only can this provide insight into priorities that have remained devoid of attention, but it can also enforce discussion on implementation issues.

Real examples

الأردن 2021

- استنادًا إلى التوجيهات التي صدرت عن منظمة الصحة العالمية في الأونة الأخيرة بشأن استخدام أسلوب منهجي في عملية تحديد الأولويات البحثية.
 - عقدت في 15 فبراير 2021 حلقة عمل افتراضية بشأن تحديد أولويات البحوث الصحية في الأردن.
 - المشاركين:
- كبار موظفي وزارة الصحة الذين يمثلون مختلف البرامج التقنية وبرامج مكافحة الأمراض، وكبار أعضاء هيئة التدريس من الأوساط الأكاديمية، وممثلون عن وكالات الأمم المتحدة الشقيقة والمنظمات غير الحكومية والقطاع الخاص، بالإضافة إلى موظفي المكتب القُطري والمكتب الإقليمي لمنظمة الصحة العالمية في الأردن ووزارة الصحة الأردنية وإدارة العلوم والمعلومات والنشر بالمكتب الإقليمي،
 - الهدف الرئيسي: إعداد قائمة مختصرة بالبيانات البحثية في 3 مجالات بحثية رئيسية:
 - 1) النظم الصحية والتغطية الصحية الشاملة؛
 - 2) والخدمات الصحية، والصحة الرقمية، وصحة المهاجرين؛
 - 3) والاستجابة لجائحة كوفيد-19، بما فيها ترصد الصحة العامة.
 - وفي إطار التحضير لحلقة العمل، أعد خبراء وطنيون نحو 100 بيان بحثي.
 - وقد عمل المشاركون، خلال ورشة العمل، في 3 فرق عمل فرعية من أجل تحديد الأولويات وانتقاء قائمة مختصرة من البيانات البحثية في المجالات الثلاثة.
 - وبناءً على ذلك، أعطيت الأولوية لثلاثين بيانًا نهائيًّا أقرها المشاركون الوطنيون في حلقة العمل.

جامعة محمد بن سعود الإسلامية السعودية 2011 و2013

- التخصصات الشرعية
- التخصصات اللغوية
- التخصصات الإنسانية و الاجتماعية
 - التخصصات الإدارية:
 - الاقتصاد
 - المحاسبة
 - التمويل و الاستثمار
 - إدارة الاعمال
 - الاعمال المصرفية

• التخصصات التطبيقية:

- علم الحاسوب
- نظم المعلومات
 - الفيزياء
 - الرياضيات
 - الكيمياء
 - الطب
- الهندسة المدنية
- الهندسة الميكانيكية
- الهندسة الكيميائية

تقنية المعلومات

- هندسة البرمجيات
- قواعد البيانات وتعدين البيانات
 - امن المعلومات
- الذكاء الاصطناعي و الروبتات
 - نظم دعم اتخاذ القرار

إدارة الاعمال

- إدارة الجدارات البشرية.
- الاتجاهات الحديثة في التسويق
 - إدارة الموارد البشرية
 - إدارة الجودة الشاملة

الطب

- السرطان: الثدي, القولون, البروستات
- الأسس الجزيئية وراء الإصابة بداء السرطان و انتشاره
 - عوامل الخطر الجينية و البيئية.
 - امراض القلب و الشرايين:
 - السمنة:
 - الاكتئاب و الإدمان:
 - التعليم الطبي:

Thanks