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ARVO International Advocacy Toolkit: India

1. Which organization(s) are significant sources of research funding? (e.g., national/local governments; private funding/foundations/charity groups; large non-governmental organizations (NGOs); industry/pharmaceutical companies)

- The University Grants Commission (UGC) promotes teaching and research in almost all areas of pure sciences, engineering, medical (including neuroscience and vision science) and agricultural sciences. They have two major schemes viz. major and minor research projects schemes. The objectives of the funding agency are:
    - To promote excellence in research in higher education by supporting research programs of University and College teachers in various disciplines.
    - Traditionally, universities have been the centers of research. Although, the Government has a network of science and technology laboratories for research and development, the major base of researchers in science and technology remains with the universities. Therefore, university and college teachers need to be supported to meet this requirement.

- All India Council for Technical Education (AICTE) performs regulatory, planning and promotional functions through its various domains including administration, finance, planning and coordination of undergraduate as well as postgraduate studies and research. AICTE also promotes faculty development and quality assurance. AICTE works under two main themes the major of which is the research and institutional development schemes. The goals of AICTE include promotion of excellence in research in higher education by supporting research programs of university and college teachers in various disciplines. AICTE also provides support to to equip technical institutions with modern infra-structural facilities in laboratory(s)/workshop(s)/computing facilities. They also support some dedicated schemes like:
    - Industry Institute Partnership Cell (IIPC)
    - Entrepreneurship Development Cells (EDC)
    - National Facilities in Engineering & Technology with Industrial Collaboration (NAFETIC)
    - Nationally Coordinated Project (NCP)

- Council of Scientific and Industrial Research (CSIR) promotes, guides, and coordinates scientific and industrial research in India. IT supports establishment or development of/and assistance to existing special institutions or departments for scientific study of problems affecting industries and trades (which also includes health sciences). CSIR awards fellowships also. Their programs include:
    - Research Schemes
    - Sponsored Schemes

  - Emeritus Scientist Scheme
  - Research Fellowships/Associateships
  - Other Science and Technology Promotion Programs
  - Seminar/ Workshops in India

- Defence Research and Development Organization (DRDO) supports extramural research in academic institutions and other laboratories through various grants-in-aid schemes and other sponsored projects.

- Department of Biotechnology (DBT) promotes and accelerates the pace of development of biotechnology in the country. DBT supports research in biotechnology in the broad areas of agriculture, health care, animal sciences, environment, and industry. DBT has many schemes operational to fund both basic as well as translational research which include bioinformatics, medical biotechnology, and basic research in biotechnology. DBT also supports programs for women and programs for rural areas and underprivileged population. DBT also has dedicated program of patent facilitation

- Department of Science and Technology (DST) promotes wide ranging activities from promoting high end basic research and development of cutting-edge technologies on one hand to service the technological requirements of the common man through development of appropriate skills and technologies on the other. The Department supports research through a wide variety of schemes specifically carved out to meet the requirements of different sections of the scientific and engineering community. Some of their schemes include:
  - Joint Technology Projects under STAC/IS-STAC
  - Pharmaceuticals Research & Development Support Fund (PRDSF) Program.
  - Science & Engineering Research Council (SERC)
  - Science & Society Programs (SSP)

- Indian Council of Medical Research (ICMR) promotes research in the country in the fields of medicine, public health and allied areas. The council promotes biomedical research through intramural research (through institutes totally funded by ICMR) and extramural research (through grants-in-aid given to projects in non- ICMR institutes). Schemes sponsored by ICMR include:
  - Ad-hoc Research Schemes: Open-ended Research (Ad-hoc Projects) on the basis of applications for grants-in-aid received from scientists in non-ICMR Research Institutes located in different parts of the country
  - Senior Research Fellowship/Research Associate
  - Junior Research Fellowships
  - Emeritus Medical Scientist Scheme (for retired medical scientists and teachers, the Council offers the position of Emeritus Scientist to enable them to continue or take up research on specific biomedical topics.)

- Short Term Research Studentship (for undergraduate medical students to encourage them to familiarize themselves with research methodologies and techniques)
- National Task Force Projects: which emphasize a time-bound, goal-oriented approach with clearly defined targets, specific time frames, standardized and uniform methodologies, and often a multicentric structure
- Centers for Advanced Research: setting up centers for Advanced Research in different research areas around existing expertise and infrastructure in selected departments of Medical Colleges, Universities and other non-ICMR Research Institutes
- Guidance for International Collaboration for Research in Biomedical Sciences
- ICMR International Fellowships for Biomedical Scientists from Developing Countries
- ICMR International Fellowships for Indian Biomedical Scientists
- ICMR Financial assistance to MD/MS/DM/MCH thesis program
- Grant-in-aid for organizing Seminars/Symposia/Workshops

2. What does the normal science funding/policy decision-making process look like?

The funding process in India is initiated by the PI where the PI comes up with a research proposal based on the expertise and preliminary research. The PI approaches the funding agency by submitting either the proposal or a “concept note” of the proposal in a prescribed format. If the PI submits the concept note, it is evaluated and reviewed through a blinded review process. If the concept note receives good reviews, the agency may then invite the full proposal. The full proposal can be submitted online, or the agency can ask for a hard copy depending on many factors. The proposal goes through the initial quality control review before it is sent out to experts for review. Some funding agencies then commission a meeting of the experts (which do not include the PI) to come up with a decision. In certain instances, the agency might take a decision based on the reviews it receives. Then the agency seeks the clearance from the relevant ethical and regulatory points of view. These clearances include ethical clearance from the registered institutional ethics committee, institutional review boards, biosafety committees, clinical trial registries.

Which groups/committee/person within the funding/policy-decision making process look like?

Every funding agency has different sections for different areas of research. Each section is managed by experts in the respective fields. There can be many experts working in coordination. Once a proposal is submitted, the in-house experts evaluate all the metadata and other regulatory issues. Then they identify experts in the country or outside the country to review the proposal. After the review process is complete, the experts may then organize a meeting to come up with a decision. These meeting may be presided by the Director or the section head.

What are the criteria the funding/policy organization(s) use to make their decisions?

Criteria for funding vary from agency to agency. The main criteria that have important bearings on the success of a proposal are (1) novelty and feasibility of the proposal (2) clear and achievable aims (3) expertise of the PI (4) preliminary work done by the PI and (5) importance of research question.

3. Which patient advocacy groups, if any, are active in the area?

There are many advocacy groups and foundations that work in the country. These foundations may be government agencies, non-governmental, private as well as not-for-profit organizations.

4. Are there existing national/regional organizations that work towards improving research funding/policy?

Every funding agency has its own quality control and development protocols which are developed by experts that meet on regular basis to look for shortcomings and propose improvements.

5. How do scientists currently contribute to the existing funding/policymaking/advocacy process, if at all?

Funding agencies often conduct seminars, workshops, meeting comprising of experts who provide their inputs to develop relevant guidelines.

6. When are science funding/policy decisions made?

There are mainly two methods. In one method the funding agencies accept proposals all through the year and periodically commission meetings to come up with a decision. In the other method, the funding agencies invite research proposal with certain deadlines. These deadlines may vary.

7. What kinds of opportunities exist for scientists to interact with funders and policymakers?

Can scientists invite decision makers to their lab/institution to see their work firsthand?

This is possible in certain instances where the PI might approach the funding agency and the funding agency might provide its decision or suggest any change.

Do the funding/policy organizations hold open meetings or solicit comments from the public that researchers can participate in?

The funding agencies oftentimes organize meetings where they invite the researcher/investigator/institution heads and experts in various fields to participate and serve in panels which leads to policy making. The researchers are meticulously chosen

on by people who have experience in the relevant field and the invitations are sent to well established researchers throughout the country.

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