International Agency for Research on Cancer

World Health Organization

PROPOSED FRAMEWORK FOR EVALUATING THE IMPLEMENTATION OF THE IARC MEDIUM-TERM STRATEGY (2016–2020)

Background

1.   The Governing Council, during its discussion on the IARC Medium-Term Strategy for 2016–2020 (MTS) in May 2015, highlighted the need for monitoring its implementation, and requested the Director to develop a framework of indicators for assessing progress in attaining the strategic objectives set out in the document.

2.   The Secretariat first developed a set of proposals on the general approach to the development of the MTS monitoring and evaluation framework that were discussed and endorsed by the Scientific and Governing Councils during their sessions in 2016 [see documents SC/52/10 and SC/52/12 (pages 17–18); GC/58/10 and GC/58/R7 (page 7)].

3.   The approved proposals included the establishment of a Working Group (WG) composed of members of the Scientific and Governing Councils, a representative of WHO, and three members of the IARC Secretariat. The WG has two main functions:

- in a first phase, in the latter part of 2016, the WG reviewed and advised on the set of indicators proposed by the Secretariat;

- in a second phase, in the latter part of 2018, the WG will review the Director's report containing the analyses of the data collected during the first half of the MTS implementation period.

4.   The recommendations of the WG will be submitted to the Scientific and Governing Councils and will guide their discussion on both phases of the process.

5.   This document presents the draft proposed framework of indicators for evaluating the MTS implementation, developed by the Secretariat and incorporating the input from the review and discussion by the WG. The present evaluation framework was discussed and endorsed by the Scientific Council during its 53rd session in January 2017, and is now submitted for review and approval by the Governing Council.

6.   The set of indicators approved by the Governing Council will be used to monitor and evaluate the implementation of the IARC MTS, in 2018, half-way through the full period covered by the strategy. The Director will prepare a report on progress against the IARC MTS, including a series of case studies illustrating key achievements in each of the main areas of the MTS and complemented by the quantitative data on the proposed indicators. Following review of the report by the WG and by the Scientific Council, the final report with the Director's response to the comments received will be presented to the Governing Council at its 61st session in May 2019.

7.   The present document is composed of two parts:

I.   The first part sets out the rationale and the proposed approach for the evaluation of the MTS implementation;

II.   The second part lists a set of proposed indicators and describes the plans for their implementation at IARC.

I.   Rationale for the development of the evaluation framework

8.   One of the methodologies that is most often used to structure the monitoring and evaluation of programme implementation, and more broadly of organizational strategies particularly in the context of international organizations, is the so-called *results-based management* model[1]. A *results framework* is created describing a logic sequence linking how the different projects contribute to attaining the organizational objectives. This was the approach employed in the development of the IARC Project Tree, a framework showing how each individual IARC project relates to the overarching principles of the Agency's mission.

9.   The breakdown of the activities into a sequence of effects generates a *results chain*, which provides a useful framework for the definition of a series of indicators for monitoring and evaluation of the organization's activities (Figure 1). The indicators are selected to allow assessment of the degree to which the different activities are producing the desired outputs, how in turn these result in a series of short- and medium-term expected outcomes, and finally how these are translated into long-term impact.

Figure 1 – The *results chain* as a framework for monitoring and evaluation (modified from[1]).
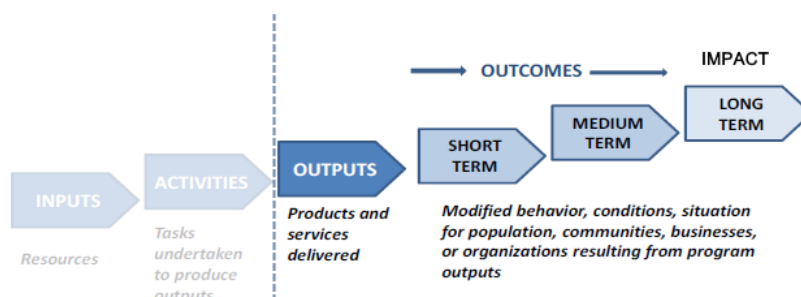
Output indicators	Outcome indicators	Impact indicators
what is produced by the organization	what are the direct results from its activities	what changes were implemented as a consequence
measure the specific products of the activities under a programme	assess the direct effects of a programme	assess how the effects of the programmes have contributed to reaching the organization's goals
quantitative	quantitative/qualitative	qualitative
short-term reporting	medium-term reporting	long-term reporting

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[1] Results Framework and Monitoring and Evaluation Guidance Note, World Bank OPSPQ, 2013. http://siteresources.worldbank.org/PROJECTS/Resources/40940-1365611011935/Guidance_Note_Results_and_M&E.pdf

10. As described above, the IARC Project Tree was developed in conjunction with the MTS, as a means for translating the Agency's strategic programme into a *results framework* model. The Project Tree is therefore formulated in terms of short-, medium- and long-term outcomes linked to the MTS, providing an appropriate framework for the definition of a set of output, outcome and impact indicators linked to the objectives and strategic goals of the Agency, and independent of the organizational structure.

Context and caveats

11. The proposed IARC MTS evaluation framework seeks to provide an informative but pragmatic assessment to the IARC senior leadership and to the Scientific and Governing Councils of the implementation of the MTS and impact of the Agency's activities. In developing the evaluation framework, a number of important points of context were recognized. These points helped shaped the framework and therefore are outlined briefly below.

12. The WG and the Scientific Council stressed the purpose of the global evaluation of the MTS implementation must be seen as complementary to and supported by the peer-review evaluation of individual Sections and Groups: while the broader evaluation framework aims to provide an assessment of the implementation of the MTS by the Agency as a whole, the peer-review remains the primary mechanism for assessing the alignment to the MTS and the scientific quality of the programmes of individual Sections and Groups.

13. The Agency has limited resources to dedicate to the collection and analysis of outputs, outcomes and impact. Therefore, where possible the measures incorporated into the framework are ones which can already be captured routinely, supplemented by a number of additional indicators where the value of the information collected was judged to justify the additional investment in staff time dedicated to this process, or which can be outsourced at modest cost. Overall the selected indicators should be prioritized around the unique features of the Agency. This approach was strongly endorsed by both the WG and the Scientific Council.

14. While outputs and the resulting outcomes are for the most part possible to measure, the impact of an organization's activities is more difficult to capture objectively. Impact is not a direct consequence of the organization's activities, but a downstream effect, separated by several steps from the primary outputs and often depending on external factors. This is particularly challenging in the context of a research organization such as IARC, where for most projects the outputs and outcomes are the creation of knowledge (e.g. scientific reports), rather than specific, tangible effects (e.g. improved cancer survival rates in a hospital). An additional challenge for IARC in capturing impact is the need to do so worldwide, as opposed to on a national or regional scale.

15. The new results-based management framework of WHO, for example, makes significant progress in improving accountability and showing how WHO's work contributes to improving public health globally, by providing a systematic way to monitor performance. The results chain links the work of WHO (outputs) to the health and development changes to which it contributes (outcomes and impacts), both in countries and globally. However, while WHO is solely accountable for the delivery of outputs, related outcomes and impact (measured by the improvement in the health of people) are a joint responsibility with Member States and partners.

16.   The main purpose of the MTS evaluation is to demonstrate the impact of the Agency's activities and their alignment to the MTS priorities. IARC proposes therefore to support the evaluation report with a series of representative case studies in different areas of the MTS, complemented by a framework of more quantitative indicators on outputs and outcomes. The timeframe of the evaluation, two-years after starting the MTS implementation, means that case studies will reflect the long-term effects of programmatic activities rather than strictly reflecting activities within the current MTS period, but given the importance of impact assessment it was decided to include them in the current evaluation.

17.   As mentioned above, the evaluation framework follows the same structure as the MTS to allow the clear matching of the strategic directions and their evaluation. There are a number of important indicators of the Agency's overall progress, such as the ability to generate resources through the Regular Budget by attracting new Participating States or to recruit and retain top quality scientists, which are not directly linked to specific areas of the MTS and are therefore not included in the evaluation, but are assessed in the context of other standard reporting to the Scientific and Governing Councils.

18.   Aside from monitoring activities against the MTS within the Agency, it could be informative to benchmark the selected indicators in different areas to that of other organizations with a similar type of activity. However, aside from a few bibliometric measures there is no standardized set of indicators that are applied across different research organizations with a consistent methodology. Where data do exist, the information and methodology are not usually made available outside the host organization, making this type of benchmarking impossible at the present time. Instead, the proposed framework will provide an internal benchmark, creating a baseline against which subsequent MTS will be evaluated.

19.   With the above context, the IARC MTS evaluation framework presented below attempts to provide a balanced view through a combination of two complementary approaches for assessment of short- and long-term effects of the Agency's activities.

Proposed approach and structure of the evaluation framework

20.   As defined by the Scientific and Governing Councils, the evaluation of the MTS implementation has two main objectives:

- to evaluate the overall progress in implementing the MTS by monitoring results and their alignment to the stated priorities;
- to assess the impact of the Agency's activities and their contribution towards fulfilling its high-level strategic objectives.

21.   We propose therefore to structure the MTS evaluation framework according to two complementary components:

- a narrative report from the Director on the key achievements in each of the main areas of the MTS, which will be supported and illustrated by a series of case studies on priority areas in order to provide evidence of the long-term impact of the Agency's activities;
- a framework of output and outcome indicators, structured according to the broader categories of the IARC Project Tree, to monitor results and their alignment to the MTS priorities (for simplicity, output and outcome indicators are presented together in the proposed framework).

22.   These case studies and indicators can be grouped into three broad categories, based on the structure of the top-level objectives of the Project Tree and on the types of activities, each in turn comprising a number of subcategories:

1.   Advancing knowledge for cancer prevention through research

    i.   describing the occurrence [PT level 2]

    ii.   understanding the causes [PT level 2]

    iii.   evaluating and implementing prevention and control strategies [PT level 2]

2.   Increasing the capacity for cancer research [PT level 2]

    i.   increasing human resources [PT level 3]

    ii.   developing new methodologies [PT level 3]

    iii.   providing the resources and infrastructure to support and enhance research [PT level 3]

3.   Providing strategic research leadership [PT level 2]

    i.   shaping the international cancer research agenda [no specific point in PT]

    ii.   enabling and supporting the efficient conduct and coordination of research [PT level 2]

23.   For the first group, some selected indicators will be applied to each of the subcategories (i–iii), to enable comparisons across the three major research domains of the Agency, whereas the second and third groups correspond to cross-cutting activities that would be evaluated for the Agency as a whole.

24.   The WG and the Scientific Council strongly advised that only a limited number of new indicators should be added to those already collected by the Agency, for the three major areas listed above, while prioritizing those that are most informative in highlighting IARC's unique contributions. Amongst the priorities to be highlighted, both through the indicators and through the case studies, were the international reach of the Agency's activities particularly in low- and middle-income countries, and the long-term impact of this work in building capacity for cancer research in those regions where it will be most needed in the future. The importance of IARC's work with respect to its impact in health policy, both at a national level and with respect to the global public health agenda should also be highlighted.

25.   Finally, it is important to emphasize that this is the first evaluation of its kind performed at the Agency level, and some of the desired indicators and case studies that could not be included in this proposal will be naturally deferred to subsequent exercises, with other forms of reporting to the Governing bodies in the short-term. For example, the WG concurred with the Agency on the value of assessing the impact its training has had in developing cancer research leaders. However, by definition, there is a delay between the training and becoming a leader. Therefore this proposal will be pursued outside the MTS evaluation framework, in the first instance through further consideration of an "IARC alumni" and assessment of the careers of past trainees.

Development of the indicators in the MTS evaluation framework

26.   The list of proposed indicators for the MTS evaluation framework presented in the table in the second part of this document draws on the methodology for impact evaluation in health research developed by the Canadian Institute of Health Research (CIHR) and later expanded by the Canadian Academy of Health Sciences (CAHS).[1] This was one of the few and most useful attempts at defining a comprehensive framework of indicators for evaluation of impact in biomedical research. Even though it was initially aimed at providing a model for assessment of the activities of funding agencies, its final scope was broader and many of the proposed indicators are applicable to the evaluation of biomedical research institutions.

27.   The framework of indicators for the MTS evaluation is being developed while its implementation is already underway. This poses a challenge in making comparisons to baseline data. For some indicators where historical data are available it may still be possible to measure the situation prior to the implementation, but for most others the collection of baseline data will not be feasible. However, this first assessment of the implementation of an IARC MTS should be seen as setting the basis from which future evaluations will evolve, and setting the baseline from which progress can be measured in future MTS.

28.   A team within the Agency, comprising of senior scientific and support staff reviewed and adapted the indicators from the CIHR/CAHS evaluation frameworks. The draft evaluation framework was assessed by the IARC Senior Leadership Team, with their inputs being incorporated into the proposed indicator list. A revised draft was prepared after the input of the WG and further discussion by the IARC Senior Leadership Team, followed by consideration by the Scientific Council.

29.   The Secretariat began by considering a wide variety of indicators that would complement and address some of the gaps in the traditional methodologies for research evaluation. However, many of the proposed indicators not only did not adequately capture the intended facets of scientific research, but their implementation would require the commitment of significant human and material resources which the Agency does not have available. The final list of selected indicators presented in the following pages are those that were considered most efficient in terms of the effort needed to collect them and the value of the information provided.

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[1] CIHR – http://www.cihr-irsc.gc.ca/e/40470.html and http://www.cihr-irsc.gc.ca/e/43016.html#s5
     CAHS – http://www.cahs-acss.ca/wp-content/uploads/2011/09/ROI_FullReport.pdf

II.   MTS EVALUATION FRAMEWORK – PROPOSED INDICATORS

Additional indicators collected specifically for this evaluation exercise are identified in italics.

IARC Reporting category	Category of outputs/outcomes to be measured	Proposed indicators – description and examples
Advancing knowledge for cancer prevention through research	Publications in scientific journals	**Bibliometric analyses:** - total numbers of papers (sub-categorized by peer reviewed articles; letters to the Editor or comments; invited reviews; editorials/news and other) - number/proportion of IARC papers published in top 20% of journals in their subject category - *number of papers published expressed by the number of IARC regular budget funded scientists* *Indicators from non-traditional sources (Altmetrics):* - *number of policy documents which have cited IARC's papers* *[including the option of case studies]*
	Other types of publications	**Access to IARC publications and resources:** - volume of sales of printed publications - *volume of sales of e-publications from IARC e-bookshop* - total revenue from sales of IARC publications (proportion of revenue from sales of Blue Books) - *number of access/downloads of online/pdf publications from IARC and external websites* - *number of visits to IARC online databases* *Indicators from non-traditional sources (Altmetrics):* - *number of policy documents which have cited IARC's publications* *[including the option of case studies]*
	Research competitiveness; ability to attract extrabudgetary funding	**Analyses of grant applications:** - total value and percentage of signed contracts (breakdown between grants and direct contracts) - value of signed contracts attributed to IARC - value of Voluntary Contributions as a proportion of regular budget for scientific programme - *total value of signed contracts expressed by the number of IARC regular budget funded scientists*

IARC Reporting category	Category of outputs/outcomes to be measured	Proposed indicators – description and examples
Increasing capacity for cancer research	Developing human resources	**Early Career and Visiting Scientists (ECVS)** - mapping of ECVS at IARC and breakdown by category (PhD students, fellows, postdocs, Senior Visiting Scientists) *by region/country* - mapping of IARC Postdoctoral Fellowships awarded *by region/country* - *proportion of ECVS* and Postdoctoral Fellowships from LMICs **Courses** - mapping of courses organized *by region/subject* - proportion of courses held in LMICs - total number of course participants *by region/subject* - *number of trainers trained (i.e. GICR, cancer screening, etc.)* *Training materials* - *list of published training manuals, guidelines, etc.* - *numbers of purchases/downloads/views of published training materials*
	Developing new methodologies	- *number of downloads of IARC open access tools*
	Developing collaborative networks	*International collaboration networks:* - *mapping of co-authorship of published papers [including the option of case studies]* - *mapping of international collaboration in the preparation of grant applications/successful grants [including the option of case studies]* *Management and participation in large international research consortia:* - *list of partnerships and consortia led by IARC [including the option of case studies]* - *list of consortia in which IARC is a partner [including the option of case studies]*
	Developing research infrastructure	*Support to the development of research infrastructures:* - *list of research platforms to which IARC provided support (by type of activity and type of support) [including the option of case studies]* - *mapping of site visits on cancer registries [including the option of case studies]*

IARC Reporting category	Category of outputs/outcomes to be measured	Proposed indicators – description and examples
Providing strategic research leadership – Shaping the international cancer research agenda	Developing institutional partnerships	*Institutional agreements:* *- mapping of MoUs, MoAs, CRAs, etc.*
	Supporting national and regional policy development	*- case studies on provision of expertise to governments on the implementation of cancer control programmes*
	Supporting global strategic initiatives	*- case studies on provision of expertise for policy development in global cancer control*
	Communication of key activities to stakeholders and the public	**Communications:** - number of visits to IARC websites - volume of downloads *- additional communication indicators (Altmetrics) both in traditional media and in new media*
Providing strategic research leadership – Enabling and supporting the efficient conduct and coordination of research	Ensuring the efficient management of research activities	*- compliance with the International Public Sector Accounting Standards (IPSAS) standards* *- compliance with the Project Management Institute/ WHO Project Management Centre of Excellence (PMCE) standards* *- number of outstanding audit recommendations*