

Applying the Strategic Planning Process to a Large Research Consortium: The Example of the National Cancer Institute Cohort Consortium

Chinonye E. Harvey¹, Susan M. Gapstur², Camille A. Pottinger³, Joanne W. Elena¹, and Kathy J. Helzlsouer¹



ABSTRACT

Strategic planning is conducted by many organizations to systematically evaluate and assess their current state, establish or update their mission and/or goals, and identify strategies and activities to achieve the goals. The National Cancer Institute (NCI) Cohort Consortium is a collaborative network of 62 prospective cohort studies and their affiliated investigators that focus on cancer etiology and outcome research. The organization's membership grew markedly from 10 cohort studies at its inception in 2001 to 59 cohort studies at the time of the launch of the Consortium's strategic

planning in 2017. This paper describes the strategic planning process that was conducted to establish organizational goals and to develop strategies and activities consistent with the Consortium's mission. The process involved a 2-year iterative approach combining surveys and in-person meetings. The resulting goals focus on communication, career development, research facilitation, scientific gaps, and common scientific challenges. The NCI Cohort Consortium's strategic plan and evaluation of its progress will advance new initiatives in cancer etiology and survivorship research.

Introduction

Strategic planning is a forward-looking process to set priorities, focus resources on common goals, strengthen operations and maintain vitality of an organization; it is “a deliberative, disciplined approach to producing fundamental decisions and actions that shape and guide what an organization or other entity is, what it does, and why” (1). Ideally, an organization integrates periodic evaluations and assessments of goals and activities that align with its vision and mission.

Strategic planning was conducted within the National Cancer Institute (NCI) Cohort Consortium, an international, collaborative organization that has grown from 10 cohort studies in 2001 (2) to 62 cohorts in 2021 (3). The mission of the NCI Cohort Consortium is “to foster communication among investigators, promote collaborative research projects for topics not easily addressed in a single study, and identify and address common challenges in prospective observational research designs” (4). Participating cohorts have multiple affiliated researchers from fellows and early career investigators to senior level investigators. The Consortium holds an annual meeting attended by over 200 individuals, open to both Consortium members as well as others who are interested in collaborating and leveraging resources of the Consortium.

Over the course of the Consortium's existence, more than 50 scientific projects were initiated with varying progress and success.

In recent years, there has been a notable slowing of project proposals. Information on ongoing and complete projects, and associated publications, can be accessed through the newly developed Project Hub (5). The Consortium's rapid growth posed some challenges regarding: the incorporation of new member cohorts into ongoing projects; opportunities for early stage investigators to participate; and the development and support of new projects. Thus, a formal strategic planning process was conducted to establish goals and strategies consistent with the NCI Cohort Consortium's mission. The process engaged investigators from all member cohorts and focused on ensuring inclusiveness. This commentary outlines the multistep approach used to conduct strategic planning in this large, diverse, scientific-focused collaborative organization, the results of the process, and completed and ongoing activities.

The strategic planning process and approach

Overview

The NCI Cohort Consortium is supported logistically and scientifically by NCI staff along with a steering committee composed of between 9 and 13 representatives of the Consortium membership (6); the strategic planning process was initiated with approval by the steering committee. A sub-committee composed of the Executive Director, the voting NCI staff member, and a cohort representative (C.E.H., K.J.H., S.M.G.), was formed to plan and lead the strategic planning. **Figure 1** shows the timeline of the Consortium's strategic planning.

Online surveys

To identify primary themes for in-person discussion at the annual meetings, the strategic planning process included online surveys (Supplementary Materials and Methods) conducted 6 months prior to the 2017 and the 2018 annual Consortium meetings. The surveys included both closed and open-ended questions soliciting ideas for administrative organization and operations, communications, and scientific direction. The suggestions were collated and organized into themes to facilitate efficient in-person roundtable discussion at the subsequent annual meeting.

¹Division of Cancer Control and Population Sciences, NCI, Bethesda, Maryland. ²Consultant, Tiffin, Iowa. ³The Scientific Consulting Group, Inc., Gaithersburg, Maryland.

Corresponding Author: Chinonye E. Harvey, NIH, 6705 Rockledge Drive, Room 812G, Bethesda, MD 20817. Phone: 240-205-3423; E-mail: harveyn@mail.nih.gov
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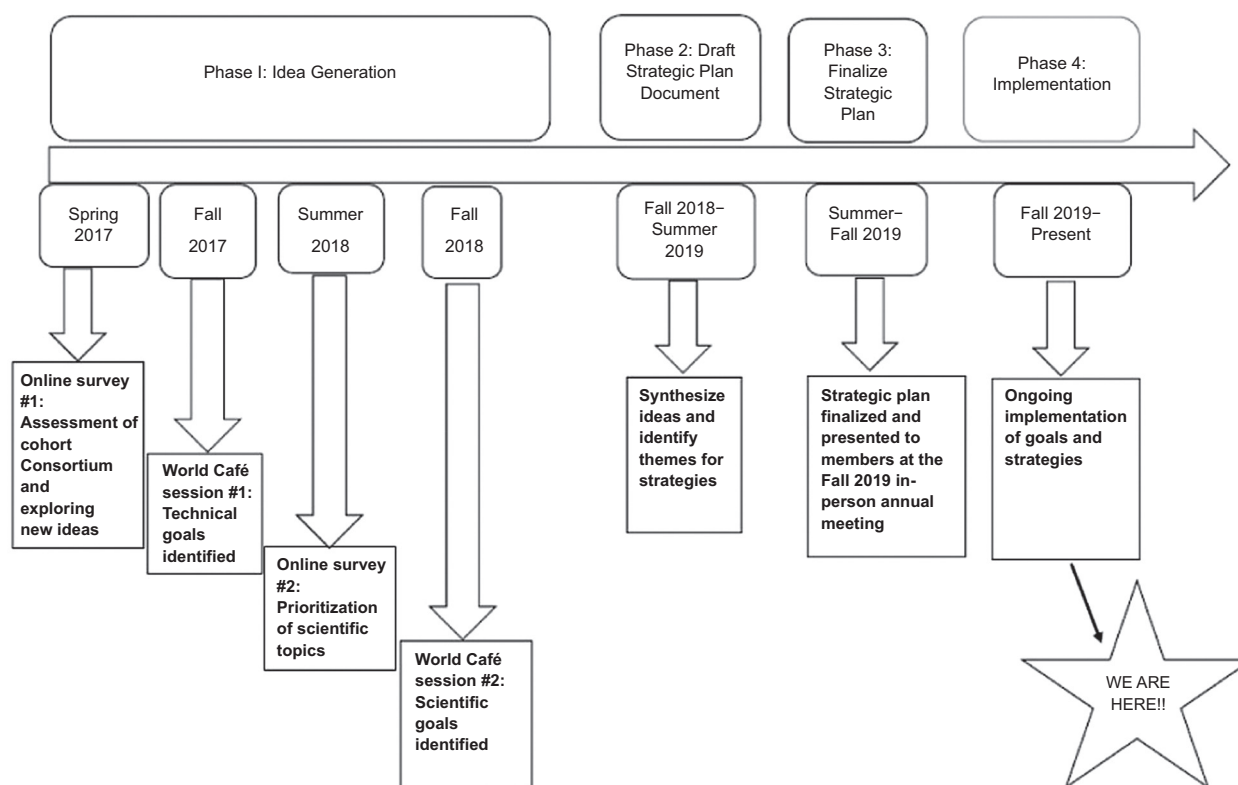


Figure 1.

Timeline of the NCI Cohort Consortium's strategic planning between 2017 and 2019, with the process captured in four phases: idea generation, development of a draft strategic plan document, development of a final strategic plan, and the implementation of the final plan.

In-person discussions

The time allotted at the annual meetings for in-person discussion was limited to 3 hours given the tight annual meeting agenda that typically includes Consortium business, scientific project meetings, and presentations. Critical to the success of the strategic planning process was the facilitated interactive in-person brainstorming sessions, guided by an independent facilitator to provide unbiased oversight in the process and ensure all viewpoints raised were respected and recorded. The in-person sessions used the World Café method, a technique for structuring effective collective and collaborative dialogue for large groups (7, 8).

The World Café Method is based on seven design principles: set the context, create hospitable space, explore questions that matter, inclusive contribution, connect diverse perspectives, listen for patterns and insights, and share collective discoveries (9). Table hosts facilitate rounds of timed conversations among small groups, and scribes record the information and ideas discussed. After a specific amount of time, all except the table hosts and scribe move on to different tables with a different mix of individuals for new and/or deeper insights on specific items of interest. At the end of several rounds, a summary of the most common themes and ideas generated on each table topic is presented to the larger group and all ideas and questions are captured in a way that is visible for all to see. Indeed, through deliberate discussions, the members are able to shape, contribute to and address priorities based on their interest and expertise. For the Consortium's World Café, the approximately 200 meeting attendees were assigned to discussion tables in groups of 10 using systematic randomization to ensure representation in

the groups by cohort, career stage, and expertise. There were three timed rounds at the first World Café and two rounds at the second World Café.

The in-person discussions generated a considerable amount of information with overlapping themes. The sub-committee reviewed, collated, and organized this information into individual thematic goals and strategies to achieve the goals. Ultimately, the draft strategic plan goals and strategies were then reviewed and edited by the Consortium's steering committee. In addition, the entire membership was given an opportunity to provide final feedback before approval by the steering committee in 2019.

Results

The first survey was administered in 2017 to the 59 cohorts that were current Consortium members at the time of the survey. Responses were received from at least one individual from 44 of the 59 cohorts (74.6%) for the first survey. The second survey was administered in 2018 for input on prioritizing scientific goals and a response was received from 35 of the 59 cohorts (59.3%). The World Café sessions involved all annual meeting attendees (approximately 200 individuals at each meeting).

The World Café discussions addressed operational and scientific goals and strategies. Five scientific themes emerged: circulating biomarkers, data linkages, molecular patho-epidemiology, rare cancers, and survivorship research. The resulting strategic plan is summarized in **Table 1**. The three operational goals centered on communication, career development and research facilitation. The

Table 1. NCI Cohort Consortium strategic initiatives (2018–2021).

GOALS				
Communication	Career development	Research facilitation	Address common challenges	
		Leverage cohorts to fill scientific gaps		
Increase the exchange of information and enhance member engagement	Provide networking and educational opportunities for early career investigators	Advance cohort consortia specific research.	Identify and address common methodologic challenges in cohort research	
STRATEGIES				
Increase the exchange of information at the annual meeting by including interactive sessions and more time for discussion during working group meetings.	Create opportunities for leadership roles within the steering committee and working groups for early career investigators.	Enhance technology infrastructure to support data sharing and harmonization, including CEDCD ^a , CMR ^b , controlled-access data repositories, and other options (e.g., cloud-based files that can be queried).	Identify and address specific research gaps across the cancer continuum. Develop, validate and share linkage algorithms for a variety of exposures and outcomes from a variety of sources (e.g., electronic medical records, registries, geospatial databases).	
Promote data sharing through CEDCD ^a , CMR ^b , and accessible controlled-access data repositories, via website, portal, and at scientific meetings.	Assess feasibility (and implement if appropriate) of creating a centralized cohort tissue repository.		Develop and share algorithms for harmonization of commonly used data elements.	
Provide regular updates in a monthly newsletter and a centralized portal about: <ul style="list-style-type: none"> Governance, steering committee activities and decisions; members' roles; proposal review and approval; and working group expectations regarding timelines, data use, data sharing, and completion and archiving of activities. Information about new members, working group activities, best practices, lessons learned, guidelines, and available expertise in the Consortium. 	Support opportunities for early career investigators to be invited speakers at the annual meeting.	Provide templates of standardized data sharing agreements (DTA ^c ; DUA ^d , MTA ^e) and informed consent language regarding data sharing.	Identify and address research gaps for: <ul style="list-style-type: none"> Rare cancers Cancer subtypes Cancer outcomes Rare exposures Diverse populations (*Examples ^f of potential topic areas of interest)	Develop and validate new methodologies. Apply existing methodologies to study rare cancers, cancer subtypes, cancer outcomes, and rare exposures.
	Develop a process for fostering collaboration between early career and senior investigators (i.e., matching them in working groups at the annual meeting).	Leverage cloud-based technology to provide comprehensive lists of data that have been harmonized, including which working groups have harmonized data.		Develop procedures for validation of measurement instruments, including questionnaire and biomarker data.
	Develop and implement, as appropriate, incentives to encourage involvement of early career investigators in working groups.	Assess feasibility (and implement if appropriate) of creating a centralized data repository.		Develop standard procedures for calibration in pooled analyses.
Evaluate the feasibility (and implement if appropriate) of developing a new cohort/member orientation video.	Develop publication policy for acknowledgement of the NCI Cohort Consortium projects and working groups.			Identify and share best practices for participant engagement and retention.

(Continued on the following page)

Table 1. NCI Cohort Consortium strategic initiatives (2018–2021). (Cont'd)

GOALS		
Communication	Career development	Research facilitation
		Leverage cohorts to fill scientific gaps
		Promote collaborative research, particularly on cancer incidence and outcomes for rare cancers, cancer subtypes, and rare exposures, not easily addressed in a single cohort study
	Provide networking and educational opportunities for early career investigators	Advance cohort consortia specific research.
		Identify and address common methodologic challenges in cohort research
Increase the exchange of information and enhance member engagement		
Support webinars and other mechanisms to foster exchange of best practices (e.g., data, biospecimen and tissue collection, and data harmonization) and provide working group progress updates.		
		STRATEGIES
	Support novel approaches and methods to support project managers, and data harmonization for new and existing work groups.	
		Incentivize data sharing and preparation.
		Develop a system to track project activities, publications, and for submission of new project proposals.

^aCEDCD: Cancer Epidemiology Descriptive Cohort Database.

^bCMR: Cohort Metadata Repository.

^cDTA: Data Transfer Agreement.

^dDUA: Data Use Agreement.

^eMTA: Material Transfer Agreement.

Examples of Topic Areas of Interest

- Rare cancers, multiple primaries or cancers with changing incidence over time.
- Rare exposures or exposures that change over time.
- Health disparities.
- Molecular heterogeneity within cancer types and common molecular signatures across different types of cancer.
- Use of geospatial data in cohort study research.
- Gene-environment interactions, especially for rare cancers or cancer subtypes.
- Impact of co-morbidities (e.g., diabetes) and their treatment on cancer outcomes.
- Understanding the different dynamics of exposures - aging vs. change in exposure (e.g., early-age weight gain vs. older-age weight loss).
- Accelerated aging among cancer survivors and the long-term effects of treatment.
- Other “omic” exposures (e.g., metabolome, microbiome, epigenome).
- Potential use of cohorts for the study of early detection biomarkers.
- Long-term outcomes among cancer survivors.

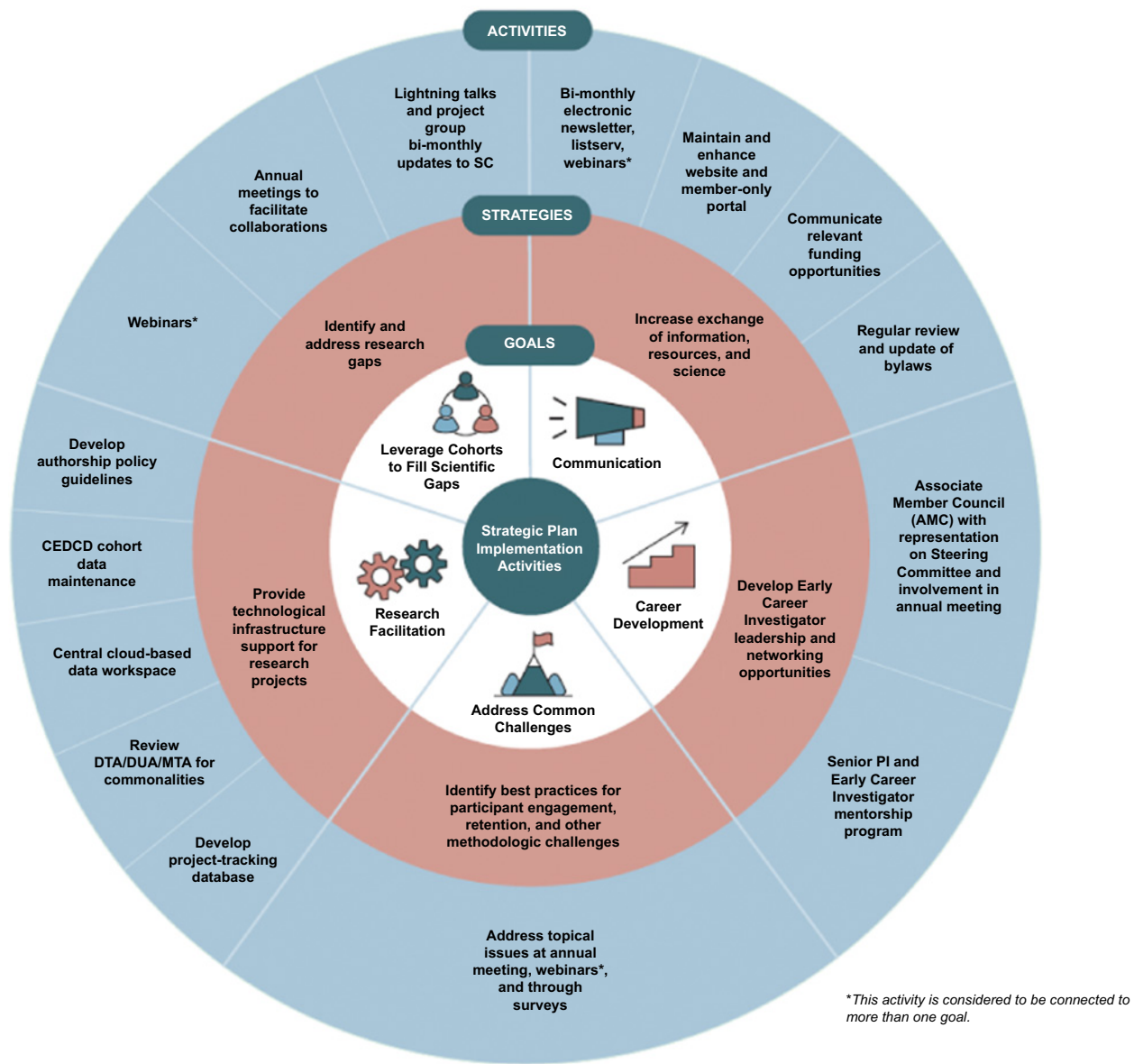


Figure 2. Completed and ongoing activities that support the implementation of goals and strategies established in the NCI Cohort Consortium’s final strategic plan, between 2017 and 2021.

two scientific goals focused on scientific gaps and common scientific challenges. Within each of the goals are specific strategies that were based on ideas generated during the planning process. The concise format of the document facilitates tracking of achievement of the goals.

Ultimately the success of the strategic planning process resides in the implementation of the strategies and fulfillment of the identified goals. To this end, the chair of the NCI Cohort Consortium steering committee, which rotates annually, adopts a specific goal and its strategies to implement during their leadership term. In the two years since finalizing the plan, some activities have been completed and others are ongoing (see Fig. 2) in multiple goal areas including communication, career development, research facilitation, identifying

common methodologic challenges and leveraging cohorts to address scientific gaps.

Conclusion

The strategic planning process for the NCI Cohort Consortium was undertaken to develop goals and strategies consistent with the Consortium’s mission. The process provided the opportunity to assess scientific priorities and inspire future projects, create a sustainable culture of evaluation and collaboration, enhance research operations, engage new investigators, leverage existing resources, and capitalize on cost-effective technologies. The accomplishments to-date noted in Fig. 2, such as the formation of an

“early investigator” associate member group to enlist the next generation of researchers, are important steps to revitalizing the Consortium’s activities.

The process followed incorporated elements of both strategic “thinking”, the creative synthesis of ideas, and strategic “planning,” the programmatic, analytic aspects (10, 11). “Strategic thinking” was integrated with bidirectional engagement of members through surveys and the World Café to brainstorm ideas followed by systematic analysis of information synthesized into a final planning document outlining specific goals and strategies. The process was spread over two years, necessitated by the time constraints of the annual in-person meetings. The interspersed surveys allowed for ongoing engagement and input from membership. Key take-aways and lessons learned from the Consortium’s strategic planning process include understanding the importance of (i) getting early buy-in from both the Consortium leadership and members, (ii) engaging the members early and throughout the process, (iii) ensuring transparency in how decisions are made, and (iv) leveraging the diverse perspectives of the group to inform the best approach and outcome.

The NCI Cohort Consortium is a model of team science to advance cancer epidemiologic research. With a strategic plan developed through a collaborative approach, combined with ongoing communication, evaluation, and implementation of the strategies, the organization has been revitalized with new goals and purpose.

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Authors’ Disclosures

No disclosures were reported.

Disclaimer

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Note

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