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Public Health
SEEEPHI
harmonization, employability,
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REPORT OF WP3:

MAPPING OF THE COMPETENCY PROFILES OF THE ISRAELI SCHOOLS AND PROGRAMMES OF PUBLIC HEALTH

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THE HEBREW
UNIVERSITY
OF JERUSALEM

University College Cork

ASPHER
The Association of Schools of Public Health
in the European Region

EXECUTIVE SUMMARY

Introduction:

This Report represents the output and research conducted by Work Package 3 (WP3) of the SEEEPHI Project, mapping the competency profiles of the Israeli Schools and Programmes of Public Health. The SEEEPHI Project addresses the challenge of harmonizing public health training to meet the public health workforce needs. WP3, conducted by the Hebrew University of Jerusalem in collaboration with University College Cork, maps the competency profiles of Israel's five Public Health educational institutions that offer Master of Public Health (MPH) and Bachelor level public health degrees. The following report presents the competency profiles of Master of Public Health (MPH) and Bachelor level degree training offered by Israeli Health Education Institutions (HEIs) to identify areas of focus and gaps in the curriculum.

Methods:

A survey instrument based on the ASPHER's European List of Core Competences for the Public Health Professional – 5th Edition was designed, tested, and implemented to map the profiles and analyse the findings. The ASPHER list comprises a detailed inventory of competences across six generic domains: Methods in Public Health (Methods); Socioeconomic Determinants of Health (SES); Environmental Determinants of Health (Environment); Health Policy, Economics, & Organization (Policy & Econ); Health Promotion and Prevention (Promotion); and Ethics. Retaining the six-domain structure, a data-collection tool consisting of 57 competences was developed, piloted by WP3 partners at the University College Cork, and subsequently adapted based on feedback.

This tool contains measures of the theoretical and applied learning of competences within each educational programme. For each educational offering, competences addressed and the relative coverage of those competences addressed are calculated for the core, elective, and overall curriculum across the six competency domains. Applied learning opportunities were also assessed. Each HEI also was asked to provide information regarding the programme structure and curricula of each of their educational offerings, providing important context for the analysis of the competences of each HEI.

Results:

Bachelors of Arts (BA) in Public Health Programme:

AAC offers the sole bachelor level programme in Israel. The programme consists of a three-year, mandatory curriculum that addresses the majority of competences in the Methods, SES, Promotion, and Ethics domains. Policy & Econ and Environment competences are less emphasized domains within AAC's courses. A final practicum over the course of the third-year of students presents students an opportunity to apply the knowledge and skills.

Masters of Public Health (MPH) Programmes:

Four Israeli HEIs offer MPH degrees: Ben Gurion University (BGU), Hebrew University of Jerusalem (HUJI), Tel Aviv University (TAU) and University of Haifa (UoH).

BGU offers five MPH specializations: Health Promotion, Infectious Disease Prevention, Mother & Child Health, Environmental Health, and Health Services Management. The School has a broad MPH core curriculum that is shared across all tracks and specializations. Students in the research track enroll in one elective course while those in the clinical track have greater course selection autonomy with up to one-fifth of the curriculum comprised of elective courses. Across all specializations, BGU's curricula emphasize the Methods and SES competency domains. It also addresses a high percentage of Ethics competences but with a lower relative coverage score. The extent to

which other domains are addressed by BGU differs widely between specializations. Environment and Policy & Econ competences are largely not addressed by the core or elective courses, with the exception of the specialization focusing on that domain. Across all specializations, the elective courses only address one or two additional competences that are not also addressed by core courses. Relative to other HEIs, BGU's specializations consistently address the lowest number of competences with lower relative coverage scores.

HUJI offers four MPH specializations: Health Administration & Economics, Health & Enviroment, Epidemiology & Biostatistics, and Health Promotion. HUJI's MPH programme is characterized by its broad core curriculum in which all MPH students enroll. Across all specializations, all competences domains are addressed to a high percentage with the exception of Ethics. However, HUJI's broad core curriculum comes at the expense of course selection autonomy, especially for those students in the research track. The various research tracks consist of very few, restricted electives. Non-research track students have greater autonomy to enroll in elective courses, both restricted and non-restricted. HUJI's lack of core courses addressing Ethics competences are addressed by its elective offerings. However, a student's ability to enroll in those elective courses varies based on their chosen specialization and track. Overall, HUJI's specializations address the greatest percentage of competences of all HEIs, with little differentiation in metrics between its various offerings.

TAU offers three MPH specializations: a General programme, Health Promotion, and Health Systems Administration. All three specializations have a broad, shared MPH core curriculum. Its core course offerings focus largely on competences in the Methods and SES domains and less within the Policy & Econ and Promotion domains. For students in the Health Promotion or Health Systems Administration specializations, the shortcomings within those knowledge domains are overcome by the addition of specialization specific core courses. The elective courses within TAU's structure rely heavily on restricted electives. Research track students, in particular, have little opportunity to enroll in elective courses outside their chosen specialization. The results of TAU's three specializations are nearly identical with the exception of Health Promotion addressing more Promotion competences and Health Systems Administration addressing more Policy & Econ competences. The Health Promotion specialization also offers students applied learning opportunities through fieldwork and workshops.

UoH offers seven MPH specializations: Epidemiology, Community Health, Health Promotion, Environmental Health and Occupational Hygiene, Biostatistics, Health Systems Management, and Mental Health Services. Over the past five years, UoH has graduated the greatest number of MPH graduates. UoH's programme structure consists of a small shared MPH core shared by all MPH students and a more extensive specialization-specific core curriculum. The core courses of all specializations primarily address Methods, SES, and Ethics domains with Environment, Policy & Econ, and Promotion competences largely not addressed except by the specializations that focus on that respective subject matter. UoH's programme structure enables students to enroll in a greater number of elective courses than the other HEIs, with electives consisting of up to one-third of the research track curriculum and up to one-half of the non-research track curriculum. These elective courses address an equal number of competences to those covered within UoH's core courses. UoH's programmes, especially its Health Promotion specialization, provide additional applied learning opportunities such as workshops and fieldwork.

All the universities require students to complete a final paper, project, or thesis for graduation presenting an applied learning opportunity to all MPH students regardless of HEI, specialization, or track. In total, 19 MPH specializations are offered across the universities. Only five of these are unique in that no other HEI offers a specialization on the specific topic. The report presents the other 14 specializations alongside similar specializations offered by other HEIs to allow for direct comparison between their educational offerings.

Discussion:

The research reveals vast differences in programme structure among the five HEIs. UoH's MPH programme relies on a small shared MPH core, and broad specialization specific core and elective offerings. Elective courses consistently make up a greater portion of UoH's curriculum as compared with the other HEIs. Elective courses contribute between one-third to one-half of the study curriculum, often double the number of comparable programmes offered by the other HEIs. BGU, HUJI, and TAU rely on much more extensive MPH core curricula with varying amounts of elective courses based on specialization and track. AAC's BA programme structure consists entirely of core courses. These differences are vastly important to the interpretation of the results. While all students in a specialization may be expected to gain expertise in the competences addressed in the core curriculum, each student's choice of electives determines the total number and set of competences to which they will be exposed. As such, there may be wide differences in the toolbox of MPH and BPH graduates in Israel. These differences in programme structure may reflect differences in education philosophy between institutions.

The varying programme structures and curricula are also reflected in the competency profiles of each HEI. All HEIs focus primarily on the Methods and SES domains. Ethics competences are also well addressed albeit less uniformly across HEIs. The extent to which the other domains are addressed varies across HEIs and specializations. Across all specializations, HUJI, AAC, and TAU address the most competences across all their educational offerings. AAC's results are largely comparable to those offered by MPH programmes. The survey did not assess the level of detail or complexity of competences addressed and as such, it is prudent to use caution in the interpretation of these results for comparing the quality of education or graduates of the different HEIs.

Strengths and Limitations:

The research conducted represents, to the best of our knowledge, the first systematic competences mapping of MPH and BPH training in Israel. However, the results presented must be interpreted with caution for the purposes of directly comparing the quality of the education or graduates of the different HEIs. The survey represents the competences that are taught but not necessarily those learned and internalized by students. As discussed above, the aim of the survey was to quantify the number and percent of competences addressed, but not the level of detail or complexity. There was little consistency among HEIs regarding how the survey instrument was completed.

The scope of the survey was limited to Bachelor of Public Health and Master of Public Health programmes only, excluding other public health related educational programmes (such as Master of Health Administration). The exclusion of these other frameworks limits the ability to comprehensively characterize the public health workforce training opportunities offered in the country.

Conclusions:

This report highlights the diverse array of public health educational opportunities offered by Israeli HEIs raising commonalities and differences in structure and curricula, as well as mapping the competency profiles of the various programmes and specializations. Methods and SES competences are areas of common focus across all HEIs and specializations. The findings of this Report will serve to guide the next steps of the SEEEPHI project and serve as a basis for discussions towards harmonizing public health training across Israel.

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INTRODUCTION

The SEEPHI project addresses the challenge of harmonizing public health training to meet public health workforce needs. Public Health Schools in Israel have partnered with Schools of Public Health in the European Region, to examine curricula training and field qualifications required by Public Health employers.

Public Health training and education has undergone a radical transformation in the past 50 years. We have moved from formal curricula designed to complement medical education with specialist training in sanitation and hygiene to dynamic, responsive curricula committed to laying a strong foundation for public health professionals, active in many areas of health work, in multiple settings, grounded in health promotion and disease prevention across the life-course.[1] Our project was guided by the extensive research on professional roles and competences in Europe and North America, in particular the 5th Edition of ASPHER's European List of Core Competences for the Public Health Professional.[2] These 'roadmaps' address the applicability of learned knowledge, skills and attitudes to public health practice. Competences provide clearly-defined goals and objectives for global professional development in public health.

Our Joint Project (Work Package 3), in collaboration with University College Cork, maps the competency profiles of Master of Public Health (MPH) and Bachelor level degree training offered by Israeli schools and programs in public health to identify areas of focus and gaps in curricula. Nested within the larger three-year SEEPHI project, Work Package 3 was tasked to map Public Health competency profiles of Israel's five Public Health institutions. As reported below, we designed and tested the survey instrument, implemented the instrument to map the profiles and analysed the findings.

As stated in our initial proposal, the Joint Project supports Israel's National Priorities in Public Health education and employment "to improve the quality of higher education in Israel and enhance its relevance for the labour market and society." (SEEPHI Proposal, p. 11) Collaboration with European partners, sharing educational and professional experience, will strengthen the Public Health workforce in Israel and harmonize workforce training and development throughout the European region. Our Work Package project benefits from collaboration with colleagues at the University of Cork, Republic of Ireland.

Our Health Education Institutional partners, surveyed in this project, are described below. They include four universities with master-level programs in Public Health: Ben Gurion University, University of Haifa, Hebrew University of Jerusalem and Tel Aviv University, and Ashkelon Academic College which offers a bachelor-level degree in Public Health.

[1] Julio Frenk, David J. Hunter, and Ian Lapp. "A Renewed Vision for Higher Education in Public Health." *American Journal of Public Health* 105, no. S1 (March 1, 2015): S109-S113. https://doi.org/10.2105/AJPH.2014.302468

[2] "ASPHER's European List of Core Competences for the Public Health Professional." *Scandinavian Journal of Public Health* 46, no. 23_suppl (November 2018): 1-52. https://doi.org/10.1177/1403494818797072.

HEI Backgrounds

Ashkelon Academic College (AAC):

Founded in 2014 as Israel's first bachelor's degree in public health, Ashkelon Academic College (AAC) seeks to equip the students with basic knowledge in public health and allied topics and to provide a pathway to Master's degree in public health, health administration and other health related professions. Since the graduation of its inaugural class in 2017, 80 students have graduated from the programme with a Bachelor of Arts (B.A.) in Public Health. The student population is a mixture of students seeking to enter the health field as well as those already working in the health fields such as nurses, dental hygienists, and administrative workers. The programme seeks to provide students with educational opportunities for career advancement. The programme is part of the School of Health Sciences which also grants baccalaureate degrees in nursing and nutrition.[3] The School is a member of the Association of Public Health Schools in the European Region (ASPHER).

Ben Gurion University (BGU):

Founded in 1973 as part of the Faculty of Health Services, the Department of Public Health at Ben Gurion University (BGU) has offered MPH studies since 2000. In 2017, the Department was upgraded to a School of Public Health, merging the Department of Public Health and the Department of Health Policy and Management. The School offers a bachelor's degree in Health Administration (BA) as well as the following graduate degrees: Master of Public Health (MPH), Master of Science in Epidemiology (MSc), Master of Science in the Sociology of Health (MSc), Master of Health Administration (MHA), Master of Gerontology (MA), and Master in Emergency Medicine: Readiness and Response to Emergencies and Disasters (MEM). Doctoral level studies and joint MD-MPH and MD-MHA are offered. Located in Beer-Sheva, a large city in the southern Negev desert, the School places a special emphasis on promoting and enhancing the quality of life in the Negev region. The School is a member of the Association of Public Health Schools in the European Region (ASPHER).

Hebrew University of Jerusalem (HUJI):

Founded in 1961, the Hebrew University-Hadassah Braun School of Public Health and Community Medicine (HUJI) is the oldest school of public health in Israel. Its mission is to "strive toward improving the physical, mental, and social welfare commitment towards excellence in multidisciplinary and interdisciplinary public health research, training and practice."[4] The School, located within the Faculty of Medicine, offers four Master level degrees: Master of Public Health (MPH), Master of Science in Clinical Epidemiology (MSc), Master of Health Administration (MHA), and a Master of Veterinary Public Health (MVPH) as well as a joint MD-MPH programme and a doctoral degree programme. The School also has offered a one-year English-language International MPH since 1970, focused on training health professionals primarily from lower-income regions of the world. The School is a member of the Association of Public Health Schools in the European Region (ASPHER). The School and its MPH programmes are accredited by the Agency for Public Health Education Accreditation (APHEA).

Tel Aviv University (TAU):

Founded in 2005, the School of Public Health at Tel Aviv University (TAU) resides within the Sackler Faculty of Medicine and consists of four academic departments: Disaster Medicine, Environmental & Occupational Health, Epidemiology & Preventive Medicine, & Health Promotion. The school offers 6 Master level degrees: Master of Public Health (MPH), Master of Science in Epidemiology and Preventative Medicine (M.Sc.), Master of Exercise Physiology (M.Sc.), Master of Occupational Health (M.Occ.H), Biostatistics (M.Sc.), and Master of Disaster Management (M.DM.), as well as a joint MD-MPH programme and doctoral degree programme. The School runs several English language programmes including a one-year International Master of Disaster Management and a 3 week-long Summer Institute in Advanced Epidemiology &

[3] https://www.aac.ac.il/en/school-health-sciences/b-public-health/

[4] https://medicine.ekmd.huji.ac.il/en/publicHealth/about/Pages/default.aspx

Preventative Medicine taught in collaboration with the Johns Hopkins Bloomberg School of Public Health. The School is recognized as a World Health Organization (WHO) Collaborating Center for Disaster & Emergency Medicine, Management and Research.

University of Haifa (UoH):

Founded in 2003, the School of Public Health at the University of Haifa (UoH) draws on an interdisciplinary approach to address the wellbeing of Israel's population and advanced global health issues. Located in northern Israel, the School places a special emphasis on vulnerable populations. The School of Public Health is located within the Faculty of Social Welfare and Health Sciences. The University also has a collaborative agreement with Rambam Hospital and an affiliation with the Haifa district of the Ministry of Health. The School offers three Masters level degrees: Master of Public Health (MPH), Master of Health Administration (MHA), and a Master of Applied Nutrition (MAN) as well as a doctoral degree programme. As of 2016, the School offers an MD-MA degree jointly with The Technion-Israel Institute of Technology. The School has also offered a one-year English-language international MPH programme since 2015. This programme focuses on health systems administration and global health leadership. The School is a member of the Association of Public Health Schools in the European Region (ASPHER).

METHODS

To map the competences taught in MPH and B.A. in Public Health curricula of Israeli public health educational institutions, we developed a data-collection tool based on the **ASPHER's European List of Core Competences for the Public Health Professional** – 5th edition.[5] The questionnaire was sent to the four HEIs that offer MPH degrees and the one HEI that offers a BPH degree.

Questionnaire Development:

The ASPHER list of Core Competences comprises a detailed inventory of competences across six generic domains: Methods in Public Health (Methods); Socioeconomic Determinants of Health (SES); Environmental Determinants of Health (Environment); Health Policy, Economics, & Organization (Policy & Econ); Health Promotion and Prevention (Promotion); and Ethics. To increase the response likelihood, a more user-friendly list was created by collapsing the original into 57 competences, while retaining the six-domain structure. Each of the 57 competences includes multiple sub-competences that map to the original ASPHER list (Appendix A). A data-collection tool was developed and piloted by WP3 partners at the University College Cork and subsequently adapted based on feedback (Appendix B).

The tool contains measures of theoretical and applied learning of competences within the curriculum. Respondents were asked to indicate the number of core and/or elective courses in which the theoretical aspects of each competency are addressed. To assess the practical/applied learning opportunities within the curriculum, respondents were instructed to indicate whether each of the following learning opportunities were available to students for each competency: course exercises, course exam, thesis, capstone project or paper, workshop, fieldwork.

Respondents were asked to rank the relative coverage of each competency on a Likert-scale ranging from 1 (very low coverage – mentioned in one or more courses but not necessarily accompanied by an exercise or exam questions) to 4 (very high coverage – addressed in detail in one or more courses and accompanied by an exercise and/or exam questions), or leave the relative coverage score blank if the competency is not addressed at all in the programme's curriculum.

The questionnaire was to be completed individually for each Master/Bachelor of Public Health programme offered, and for each specialization.

Respondents were asked to describe the programme structure for each specialization, as well as the number of graduates of each specialization for the past 5 years.

Questionnaire Distribution:

Each of the four Israeli SEEEPHI-partner HEIs [University of Haifa (UoH), Hebrew University of Jerusalem (HUJI), Ben Gurion University (BGU), and Ashkelon Academic College (AAC)] participated in the competences mapping, as did Tel Aviv University (TAU) although not a SEEEPHI partner. Each HEI appointed a contact person for the study who received the competences questionnaire via email and oversaw its completion.

A member of the WP3 team was available to answer questions and assist in completing the questionnaire. A reminder and offer to assist in completion of the questionnaire (via email, phone or teleconference) was sent if a response was not received by the initial deadline. The WP3 research staff person conducted follow up conversations with respondents to troubleshoot and clarify as needed.

[5] "ASPHER's European List of Core Competences for the Public Health Professional." *Scandinavian Journal of Public Health* 46, no. 23_suppl (November 2018): 1-52. https://doi.org/10.1177/1403494818797072.

Analysis:

Analysis of the results, which focused primarily on competences addressed and relative coverage, stratified by HEI and by specialization, was performed using Microsoft Excel. Each MPH specialization was analysed individually and subsequently compared to other MPH specializations within the same HEI, and equivalent specializations offered by other HEIs.

Programme Structure and Curricula:

The programme structure and curricula were analysed to determine the respective core and elective curricula of each specialization. For the purposes of our research, a specialization is referred to as the sub-focus of an MPH degree. While enrolling in an MPH programme, students choose a subject matter to focus their studies on such as Health Promotion or Epidemiology. HEIs also offer a choice of research or non-research tracks. Research tracks typically require students to complete a final research thesis while non-research tracks require students to enroll complete a final paper or project.

Each track and specialization was analysed for the following components: MPH core courses, specialization core courses, specialization elective courses, and school elective courses. MPH core courses consist of the mandatory courses in which all students studying within an HEI are required to enroll regardless of their track or specialization. Specialization core courses consist of the mandatory courses in which all students studying a specialization (such as Health Promotion or Environmental Health) are required to enroll. Specialization electives, or 'restricted electives', are courses chosen by students from a list of preferred elective courses for a specialization. School electives, or 'open electives,' are those elective courses open to MPH students from which students have complete autonomy to choose. These are largely not 'restricted' to a list and are chosen from each School of Public Health's respective elective offerings.

The proportion of core to elective courses was calculated for each specialization and track. Within the report, we have elected to refer to all school structures as using 'credits.' While some HEIs use "credits" and others "semester hours," the meaning is the same across HEIs: 1 credit is equal to 1 hour of class time per-week over the course of a semester. Of note, an Israeli credit or semester hour are not equivalent to the European Credit Transfer and Accumulation System (ECTS). The programme structures and curricula provide important context for the analysis of the competences of each HEI.

Competences Addressed:

Competences addressed were calculated as a dichotomous variable - addressed by one or more courses vs. not addressed in a course. For each domain, a sum total and percent of competences addressed $\left(\frac{Number\ of\ Competences\ Addressed\ by\ Courses\ in\ Domain}{Total\ Number\ of\ Competences\ in\ Domain} \times 100\right)$ was calculated for core courses only, elective courses only, and any course. For the whole curriculum, if a competency was addressed by both a core and elective course, it was only counted once. For each MPH track or specialization, a summative total of competences addressed and percent competences addressed was calculated $\left(\frac{Number\ of\ Competences\ Addressed\ by\ Core\ or\ Elective\ Courses}{57\ Competences} \times 100\right)$. These competences represent those addressed within the core and elective courses of the HEIs respective specializations.

Relative Coverage:

Respondents were asked to rank the relative coverage of each competency on a Likert-scale ranging from 1 (very low coverage – mentioned in one or more courses but not necessarily accompanied by an exercise or exam questions) to 4 (very high coverage – addressed in detail in one or more courses and accompanied by an exercise and/or exam questions), or leave the relative coverage score blank if the competency is not addressed at all in the programme's curriculum. Competences not addressed by any course within the curriculum were manually assigned a score of 0. The proportion of competences addressed within a course that received a high relative score (3 or 4) $\left(\frac{Number\ of\ Competences\ that\ Recieved\ a\ 3\ or\ 4\ Relative\ Score\ within\ a\ Domain}{Number\ of\ Competences\ Addressed\ by\ Courses\ within\ \ a\ Domain} \times 100\right)$ was calculated for each academic programme. For MPH programmes, relative coverage was calculated for both core and overall course curricula.

Practical/Applied Learning:

Competences addressed by course exercises and course exams were calculated as dichotomous variables (addressed or not addressed). For each domain, a sum total and percent of competences addressed $(\frac{Number\ of\ Competences\ Addressed\ by\ Course\ Exercise}{Number\ of\ Competences\ Addressed\ by\ Any\ Course} \times 100)$ and $(\frac{Number\ of\ Competences\ Addressed\ by\ Course\ Exam}{Number\ of\ Competences\ Addressed\ by\ Any\ Course} \times 100)$ was calculated. For the whole curriculum, if a competency was addressed by both a core and elective course, it was only counted once. For each MPH track or specialization, a summative total of competences addressed and percent competences addressed was calculated $(\frac{Number\ of\ Competences\ Addressed\ by\ Course\ Exercise/Exam}{Total\ Number\ of\ Competences\ Addressed\ by\ Any\ Course\ in\ Specialization} \times 100)$. If one or more opportunities (other than course exercise) such as thesis, capstone project or paper, workshop, and fieldwork were endorsed, the competency was considered to have an applied learning opportunity.

For each HEI, summary percentages of competences addressed, relative coverage, and practical learning were calculated representing the total programme of each HEI across all specializations and tracks.

RESULTS

BACHELOR OF ARTS (BA) IN PUBLIC HEALTH PROGRAMMES:

Ashkelon Academic College (AAC):

Programme Structure and Curriculum:

The programme's curriculum consists of 6 main modules: introductory science courses, methodological skills, healthcare organization and management, core contents of public health and integrative courses, epidemiology, and a research practicum conducted in the third and final year of studies.[6] In the final year of studies, students also conduct a group research project. All courses included in the 3-year curriculum are mandatory.

Competences Addressed:

AAC's curriculum addresses 45 of the 57 (79%) competences. All competences in the Methods (12 of 12), SES (8 of 8), and Ethics (5 of 5) domains, and all but one (10 of 11) in the Promotion domain are addressed by the curriculum. Environment (4 of 11) and Policy & Econ (6 of 10) domains are addressed to a lesser extent. See Figure 1.

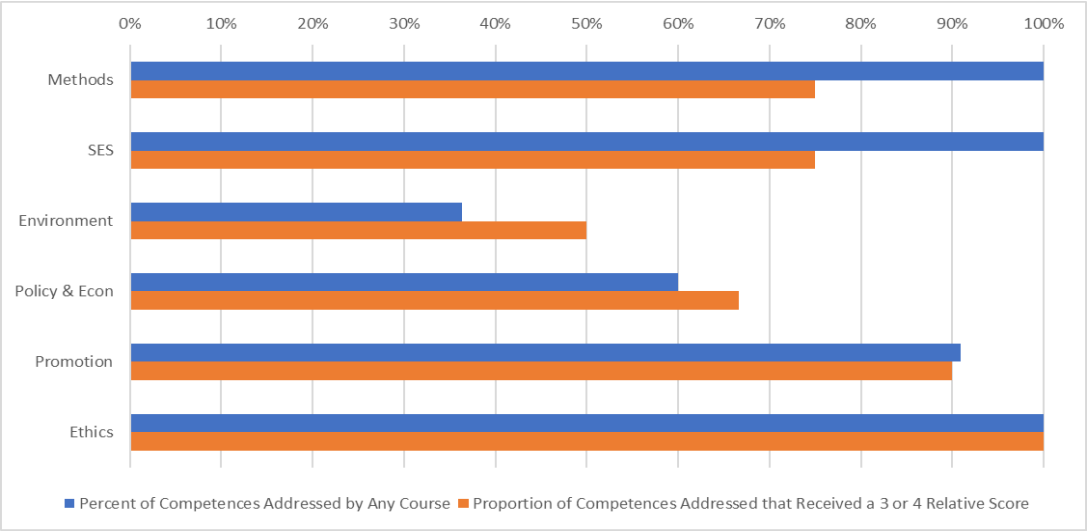

Figure 1: AAC - Percent of Competences Addressed & Percent of Competences Addressed that Received a High Relative Coverage Score

Relative Coverage:

Of the 45 competences addressed, 35 (78%) are covered within one or more courses and accompanied by class exercises or exams. Over 75% of the competences addressed within Methods (9 of 12), SES (6 of 8), Promotion (9 of 10), and Ethics (5 of 5), are covered in detail, scoring a high relative coverage score. However, Environment (2 of 4) and Policy & Econ competences (4 of 6) addressed within the curriculum are covered in less detail. See Figure 1 above.

Teaching Methods & Applied Learning Opportunities:

Of the 45 competences addressed within the curriculum, 34 are covered with an exam (76%) and 29 with an exercise (64%). None of the Environment or Policy & Econ competences addressed in the curriculum are accompanied by course exercises. Through the final practicum, students are afforded the opportunity to apply the skills learned to the implementation of a research project. Similarly, students are afforded the opportunity of fieldwork within the Methods,

[6] Bashkin, Osnat, and and Theodore Herzl Tulchinsky. "Establishing undergraduate public health education: process, challenges, and achievements in a case study in Israel." *Public Health Reviews* 38, no 11 (April 2017). *Doi: 10.1186/s40985-017-0057-4*

SES, Policy & Econ, and Ethics domains. Some courses within the final year are integrative in nature, including the seminar on public health and the One Health course. All students must participate in a practicum throughout the final year of the programme. Working in pairs under the supervision of a faculty member, students undertake a research project on a public health topic, design and develop a health promotion intervention, or conduct a survey examining a public health issue. Students write periodic reports and present their final project at the end of year. This practicum provides students the opportunity to apply their knowledge and skills within field settings such as regional hospitals or community clinics. In particular, the practicum provides an opportunity for applied learning for Methods, SES, Promotion, and Ethics Competency domains.

Summary of AAC:

AAC's BA in public health, the only bachelor level programme in Israel, offers students a comprehensive education. The programme consists of a three-year, mandatory curriculum that aims to train students for entry level positions and advanced studies in the field. The course curriculum includes several introductory courses which are largely not required in the MPH degrees (e.g., basic science courses). The programme's strengths lie within the Methods, SES, Promotion, and Ethics, addressing the majority of competences in these domains with high relative coverage. Policy & Econ and Environment competences are domains less emphasised within the curriculum although Health Organization and Management is one of the core modules of AAC's curriculum. The final practicum provides students the opportunity to apply their skills and knowledge, and can serve as a public health profession networking entry point.

The breadth of competences addressed within AAC's curriculum is largely comparable with those offered on the MPH level. AAC offers a comprehensive education, providing a unique offering as Israel's sole bachelor level public health degree.

MASTER OF PUBLIC HEALTH (MPH) PROGRAMMES

Programme Structures & Core MPH Curricula

Ben Gurion University (BGU)

Studies are condensed to one day a week over the course of two years to allow students to continue working during the course of their studies. All MPH students take a shared core curriculum of 10 courses (24 credits). The shared core curriculum focuses primarily on epidemiology and biostatistics. Notably, as part of this core, students choose between courses on Environmental Health or Health Promotion and Health Economics or Health Systems.

The School offers two MPH tracks - a 'research track' and a 'clinical track'. In the research track, students enroll for a total of 30 credits of courses and are required to write and defend a research thesis. Within the research track, students enroll in an additional biostatistics or epidemiology course (3 credits), a scientific writing course (0 credits), and a research seminar (1 credit). In total, all research track students enroll in a shared core curriculum of 13 courses (28 credits). Thesis (research track) students also enroll in 2 credits of elective courses.

Students in the clinical track study a total of 46 credits and may choose to specialize in one of five specializations: Health Promotion, Infectious Disease Prevention, Mother & Child Health, Environmental Health, and Health Services Management. Unlike the other specializations, Health Policy & Management is open to all MPH students (research and clinical tracks) regardless of enrollment in another specialization. This ability to combine two specialization is only possible if one enrolls in Health Policy. Within the clinical track, all students enroll in two additional courses: Seminar on Applied Epidemiology (2 credits) and Applied Epidemiology Workshop (6 credits). In total, all clinical track MPH students at BGU enroll in a shared curriculum of 12 mandatory core courses (32 credits). See Table 1 on the following page.

*Table 1: BGU MPH Tracks Core Curriculum**

	Research Track		**Clinical Track**	
	Courses	*Credits***	*Courses*	*Credits***
Track Core Curriculum	Biostatistics 3 - **OR –** Epidemiology 3	3	Seminar on Applied Epidemiology	2
	Effective Writing of Scientific Papers	0	Applied Epidemiology Workshop	6
	Research Seminar	1		
MPH Core Curriculum	10 Courses	24 Credits	10 Courses	24 Credits
Total	13 Courses	28 Credits	12 Courses	32 Credits
*MPH Tracks core curriculum consist of the mandatory courses in which all students studying within a track are required to enroll in regardless of specialization. **1 credit = 1 hour class time per-week over the course of a semester				

Hebrew University of Jerusalem (HUJI)

Courses in the Hebrew-language MPH programme are taught one day a week over the course of two years (4 semesters) to allow students to continue working during the course of their studies. All students are required to attend an introduction to public health preparatory course prior to the start of the 1st semester (no credits). All MPH students take a shared 1st year core curriculum of 10 courses (22 credits). The shared core curriculum is broad, including courses on epidemiology, statistics, research methods, environmental health, health organization and economics, and health promotion. In year 2, students choose a specialization and the option of continuing on a research track (open to students with a course average of at least 85% in year 1) or a non-research track.[7] In the research track, students enroll for a total of 34-36 credits and are required to write and defend a research thesis and enroll in two courses: logistic regression (2-credits) and 'Research Forum' (2-credits). Students in the non-research track study a total of 42-44 credits, participate in a 2-credit 'Integrative Workshop'. See Table 2.

*Table 2: HUJI MPH Tracks Core Curriculum**

	Research Track		**Non-Research Track**	
	Courses	*Credits***	*Courses*	*Credits***
Track Core Curriculum	Logistic Regressions	2	Integrative Workshop	2
	Research Forum	2		
MPH Core Curriculum	10 Courses	22 Credits	10 Courses	22 Credits
Total	12 Courses	26 Credits	11 Courses	24 Credits
*MPH Tracks core curriculum consist of the mandatory courses in which all students studying within a track are required to enroll in regardless of specialization. **1 credit = 1 hour class time per-week over the course of a semester				

[7] Medicine.ekmd.huji.ac.il/he/education/curriculumPublicHealth/Pages/MPH.aspx

HUJI offers four MPH specializations: Epidemiology, Health Promotion, Health & Environment, and Health Administration & Economics. The Health & Environment specialization is a joint programme between the School of Public Health and the Advanced School for Environmental Studies with courses offered on both campuses.

Tel Aviv University (TAU)

Studies are condensed to two days a week over the course of two years to allow students to continue working during the course of their studies. All MPH students take a shared core curriculum of 11 courses (20.5 credits). The majority of courses are focused on epidemiology, biostatistics, and research methods, although the core curriculum also includes courses on health systems, economics, and ethics. The 'Public Health: From Theory to Practice' course addresses (among other topics) subject matter within the Environment and Promotion domains. Students without a medical or pre-medical background are required to complete "Introduction to Physiology and Pathology of Diseases." This 2-credit course is considered a pre-requisite and does not count towards the credits necessary for the degree. At the beginning of the 2nd year of studies, students choose between continuing on a research track with a thesis or a non-research track. By the first week of year 2, students are required to submit a research thesis or final project proposal. In the research track, students write and defend a research thesis and enroll in a scientific writing course (2 credits). Students in the research track enroll in a total of 29-39 credits (according to the specialization). Students in the non-research track study a total of 39-45 credits (according to the specialization). See Table 3.

In order to be eligible to enroll in the research track, students must meet the following criteria:[8]

- General average of 80 or higher for year 1
- A passing grade and a weighted average of 80 or higher in the following courses:
    - Introduction to Epidemiology
    - Biostatistics 2
    - Survey and Research Methods in Epidemiology (80 or higher if using data base)
    - Epidemiological Research Planning and Writing Research Proposals (80 or higher if thesis is using an existing data base)
    - Advanced Statistical Methods – General Track (only if thesis is using an existing data based)

*Table 3: TAU MPH Tracks Core Curriculum**

	Research Track		**Non-Research Track**	
	Courses	*Credits***	*Courses*	*Credits***
Track Core Curriculum	Scientific Writing	1.5	N/A	N/A
MPH Core Curriculum	11 Courses	20.5	11 Courses	20.5
Total	12 Courses	22 Credits	11 Courses	20.5 Credits
*MPH Tracks core curriculum consist of the mandatory courses in which all students studying within a track are required to enroll in regardless of specialization. **1 credit = 1 hour class time per-week over the course of a semester				

TAU offers three MPH specializations: Health Promotion, Health Systems Administration and "General" specialization.

[8] *TAU SPH Master Thesis Committee Regulations*

University of Haifa (UoH)

Studies are condensed to one day a week over the course of 2-3 years to allow students to continue working during the course of their studies. All MPH students take a shared core curriculum of 4 courses (8-10 credits). This curriculum focuses on epidemiology, biostatistics, and research methods. The 'Introduction to Public Health' course addresses subject matter within the SES, Environment, Policy & Econ, Promotion, and Ethics domains. At the end of the 1st year of studies, students must choose between continuing on a research (thesis) track or a non-research track. By the first week of the year 3, students in the research track must submit a research thesis or final project proposal. In the research track, students enroll in 36 credits and must write and defend a research thesis and enroll in an additional biostatistics course (4 credits). Students in the non-research track study a total of 42 credits and have to submit the final project by the end of the 2nd year. Additionally, students whose thesis or final project includes qualitative methods are required to enroll in a 2-credit qualitative methods course. In the 2nd year of studies, all students enroll in a 2-credit course to assist them in preparing their thesis or final project. See Table 4.

In order to be eligible to enroll in the research track, students must meet the following criteria:[9]

- A minimum average grade of 85 in the following courses: Research Biostatistics, Epidemiology & Research Methods 1 & 2
- A minimum average of 80 for all Year 1 courses
- A grade of at least 70 in all Year 1 courses

*Table 4: UoH MPH Tracks Core Curriculum**

	Research Track		**Non-Research Track**	
	Courses	*Credits***	*Courses*	*Credits***
Track Core Curriculum	Biostatistics 2	4	Guidance for Final Project#	2
	Guidance for Thesis	2		
MPH Core Curriculum	4 Courses	10	4 Courses	10
Total	6 Courses	16 Credits	5 Courses	12 Credits

*MPH Tracks core curriculum consist of the mandatory courses in which all students studying within a track are required to enroll in regardless of specialization.
**1 credit is equal to 1 hour of class time per-week over the course of a semester

Students in the (Hebrew-language) MPH programmes may choose from seven specializations: Epidemiology, Community Health, Health Promotion, Environmental Health and Occupational Hygiene, Biostatistics, Health Systems Management, and Mental Health Services. A new specialization is opening in the 2022-2023 academic year: Physical Activity, Exercise and Health.

See Table 5 on the following page for the respective MPH core curricula of each HEI presented side by side.

MPH core courses consist of the mandatory courses in which all students studying within an HEI are required to enroll regardless of track or specialization.

[9] publichealth.haifa.ac.il/he/candidates-info/candidates-info-ma

Table 5: Core Curricula of MPH by HEI

Competency Domain	BGU		HUJI		TAU		UoH	
	Course Name	**Credits**	**Course Name**	**Credits**	**Course Name**	**Credits**	**Course Name**	**Credits**
Methods in Public Health	Epidemiology 1	3	Epidemiology & Research Methods 1	2	Introduction to Epidemiology	2	Epidemiology and Research Methods	6
	Epidemiology 2	3	Epidemiology & Research Methods 2	2	Survey & Research Methods in Epidemiology	2		
			Interpretation of Epidemiological Data	3	Epidemiological Research Planning and Writing Research Proposals	1		
	Biostatistics 1	3	Statistical Methods for Public Health	4	Biostatistics A and Computer Lab	4	Biostatistics 1	2
	Biostatistics 2	3			Biostatistics 2	3		
	Introduction to SPSS	2						
Social Determinants of Health	Introduction to Sociology of Health	2	Sociology of Health and Illness	2	Psychosocial Aspects of Health and Illness	2		
Environmental Determinants of Health	Introduction to Environmental Health **– OR –** Introduction to Health Promotion	3 **– OR –** 0	Environmental and Occupational Health	2				
Health Policy, Economics, & Organization	Health Systems in Israel **– OR –** Introduction to Health Economics	3	Organization & Management: Public Health Services	2	Introduction to Health Systems Administration	2		
			Health Economics	2	Introduction to Health Economics	2		
Health Promotion	Introduction to Health Promotion **– OR –** Introduction to Environmental Health	3 **– OR –** 0	Health Promotion	3				
Ethics					Ethics of Medical Research	0.5		
Miscellaneous	Introduction to Public Health	2	Introduction to Public Health	0	Public Health: From Theory to Practice*	2	Introduction to Public Health*	2
	Knowledge of the law and regulations against sexual harassment (tutorial)	0			Library Resources for the Biological and Medical Sciences	0	Scientific Writing	0
Total Core Courses	**10 courses**	**24**	**10 courses**	**22**	**11 courses**	**20.5**	**4 courses**	**10**

* UoH's "Introduction to Public Health" and TAU's "Public Health: From Theory to Practice" courses address subject matter in the 'unaddressed' domains

Summary of HEIs

MPH Programmes:

There are 19 unique MPH specializations offered by BGU, HUJI, TAU, and UoH. In the interest of brevity, the following section presents a summary of the results of each HEI's MPH specializations. A report on the individual specializations offered by each HEI is available upon request. See Appendix C for the data tables presenting the results of each of the 19 specializations. Appendix D graphically presents the percent of competences addressed across all specializations within each respective HEI.

BGU Summary:

BGU's programme structure is unique relative to the other HEIs. Students within the research track do not enroll in a specialization (although they may simultaneously also enroll in the Health Services Management specialization) and those with a 'specialization' are not afforded the option of writing a research thesis. The research track enrollment is substantial, graduating 102 students over the past 5 years. Of the four non-research 'clinical track' specializations, those not offered in other HEI's, BGU's Mother & Child Health and Infectious Diseases specialization, have the greatest number of graduates over the past 5 years. Overall, from 2017-2021, the school graduated 241 MPH graduates. While students in the research track enroll in 1 elective course, those in the clinical track are given greater autonomy with up to ⅕ of the curriculum comprising elective courses. Notably, all students in the clinical track may enroll in up to 3 unrestricted elective courses.

The School has a shared broad core curriculum across all tracks and specializations. Students choose between enrolling in an introductory course on environmental health or health promotion and between health systems and health economics. Environment and Policy & Econ competences are largely not addressed by the core or elective courses, with the exception of the specialization focusing on that domain (Figure 2). Across all specializations, the elective courses only address one or two additional competences that are not also addressed by core courses. Overall, the programme emphasises the Methods and the SES competences with each specialization emphasizing its own specific domain area (Figure 3). While the Ethics domain is addressed to a high percentage, other competences addressed receive low relative coverage. Relative to other HEIs, BGU's specializations consistently address the lowest overall number of competences and lower relative coverage scores. While students are required to write a final project or paper, additional opportunities for applied learning are largely absent from all specializations with the exception of Health Services Management. Overall, BGU offers several MPH specializations that provide students an education focused primarily on Methods, SES and the specialization's specific domain area.

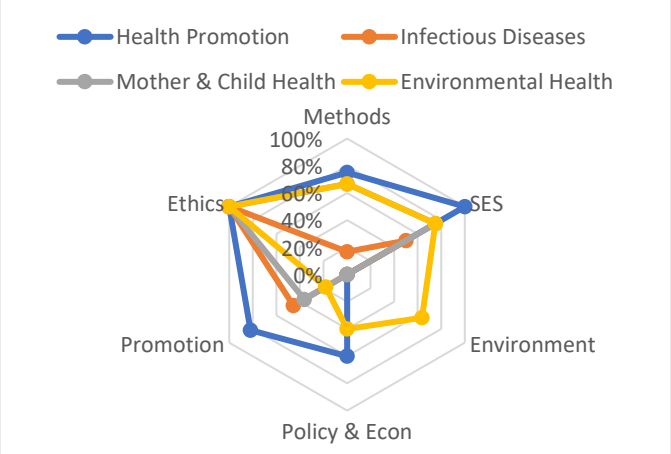

Figure 2: BGU - Percent of Competences Addressed by Core Courses

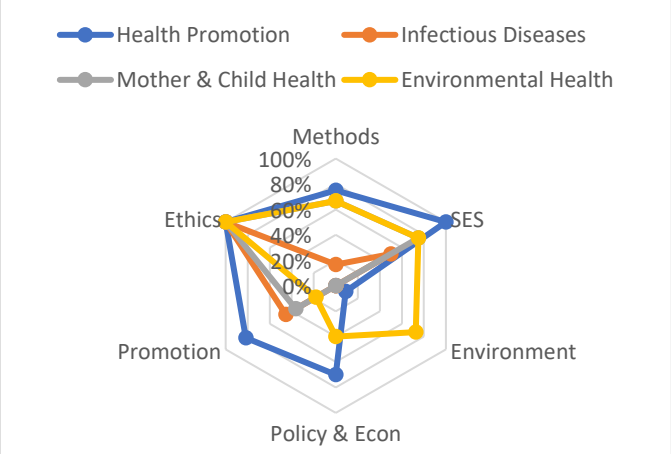

Figure 3: BGU - Percent of Competences Addressed by Any Course

HUJI Summary:

The Hebrew University-Hadassah Braun School of Public Health and Community Medicine is characterized by a broad core curriculum in which all MPH students enroll. This robust, shared curriculum ensures that all students receive a comprehensive public health grounding regardless of their chosen track or specialization.

The core curricula of HUJI's 4 MPH specializations address all competency domains to a high percentage with the exception of Ethics (Figure 4). For all specializations, Ethics competences are not included in the core curriculum, however, the School does offer elective courses that address the majority of these competences. With the extensive shared core, the various specializations are nearly identical in all metrics (Figure 5). In fact, the mapping exercise failed to show much difference in the offerings between the specializations. For example, the Health & Environment specialization reported one less Environment competency addressed by its core curriculum than the Health Promotion specialization. This could either be due to the broad, shared core curriculum that all students study through the first year, or the survey failed to distinguish the differences in core offerings between the specializations.

HUJI's broad core curriculum comes at the expense of student autonomy, especially for students in the research track. Research track students enroll in up to 3 restricted elective courses depending on their specialization. Within the Health & Environment specialization, all courses are mandatory. Non-research students are generally given much greater autonomy regarding elective course choices, but there is great variation between specializations. In the Health Administration and Economics specialization, electives are used to deepen advanced knowledge of the specialization, whereas in the Health & Environment and Health Promotion specializations, students are generally free to enroll in any elective offered within the School of Public Health.

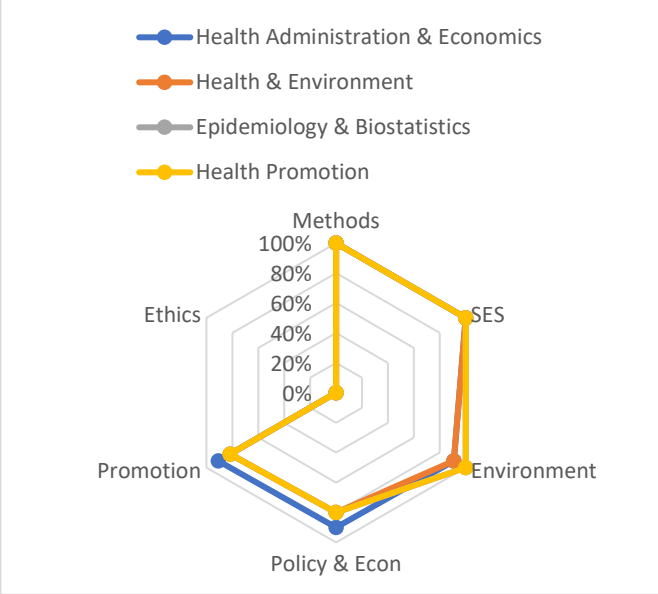

Figure 4: HUJI - Percent of Competences Addressed by Core Courses

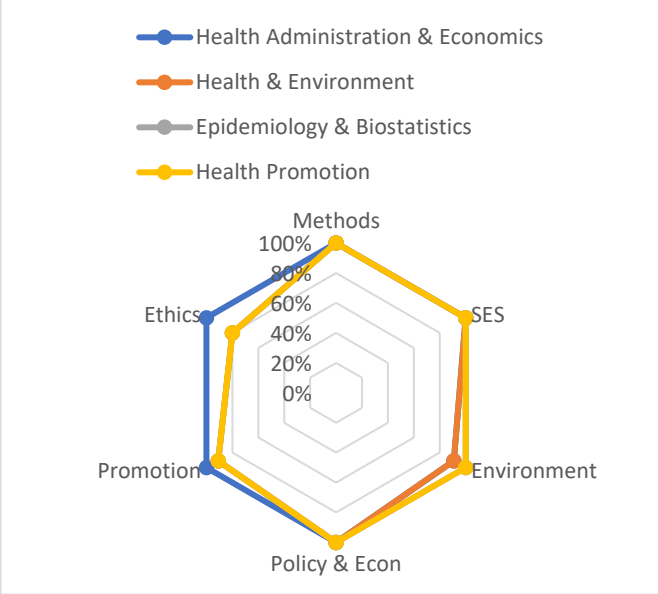

Figure 5: HUJI - Percent of Competences Addressed by Any Course

Over the past 5 years (2017-2021), 160 students have graduated from HUJI with an MPH degree including 33 MD-MPH students. Of note, 18 of the MD-MPH graduates earned a non-specialized MPH degree. The vast majority of HUJI's graduates are from the Health Promotion and Health Administration and Economics specializations. Health & Environment, albeit a relatively new specialization (opened in 2018), has graduated 4 students to date.

All HUJI MPH students either write a research thesis or participate in a summative workshop, providing them the opportunity to apply their knowledge and skills. Other modes of applied learning such as fieldwork and workshops are largely absent from the curricula. Overall, HUJI offers four MPH specializations that rely on the broad core curricula to provide a comprehensive public health education.

TAU Summary:

TAU's MPH programmes are primarily targeted towards physicians, nurses, and other health professionals. Students without a medical or paramedical background are required to enroll in a course on physiology and pathology. The shared core curriculum for all core programmes ensures that students receive a broad education regardless of their chosen track and specialization. The core curriculum focuses largely on Methods (especially epidemiology) and less on Policy & Econ and Promotion domains (Figure 6). For students in the Health Promotion or Health Systems Administration specializations, the shortcomings within those knowledge domains are overcome by the addition of specialization specific core courses. However, students in the Health Promotion specialization have little opportunity for exposure to Policy & Econ and vice-versa. Research track students in particular have little opportunity to enroll in elective course outside of their chosen specialization. Students, especially those in the research track, have little opportunity to take courses that address Promotion or Policy & Econ competences. Students instead enroll in elective courses to delve into these areas of study offering them a certain degree of course selection autonomy. Students in the research track are largely limited to 'advanced' elective courses which focus primarily on Methods.

Considering the core curricula and all potential electives in which students may enroll, the footprint of all three specializations is nearly identical with the exception of Health Promotion addressing more Promotion competences, and Health Systems Administration addressing more Policy & Econ competences (Figure 7). All students must write either a research thesis or a final project, during which they receive one-on-one mentoring, which addresses those competences not addressed within core or elective courses. The Health Promotion specialization is the sole TAU specialization with fieldwork and workshop opportunities. Overall TAU offers three comprehensive MPH specializations targeted towards health professionals, that ensure a broad education within all domains.

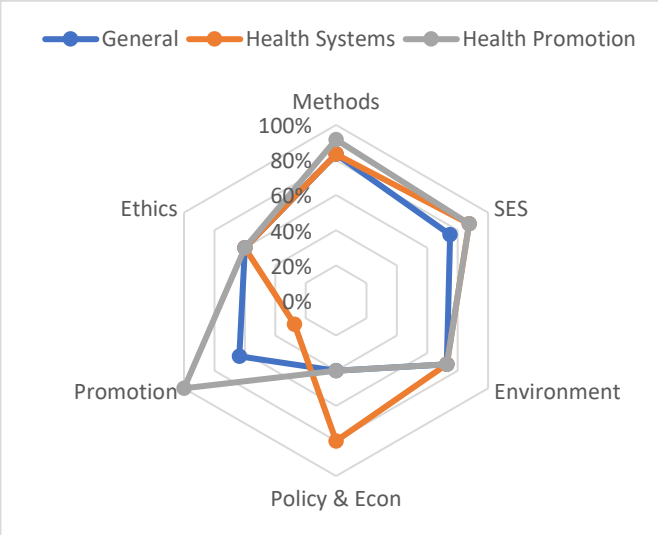

Figure 6: TAU - Percent of Competences Addressed by Core Courses

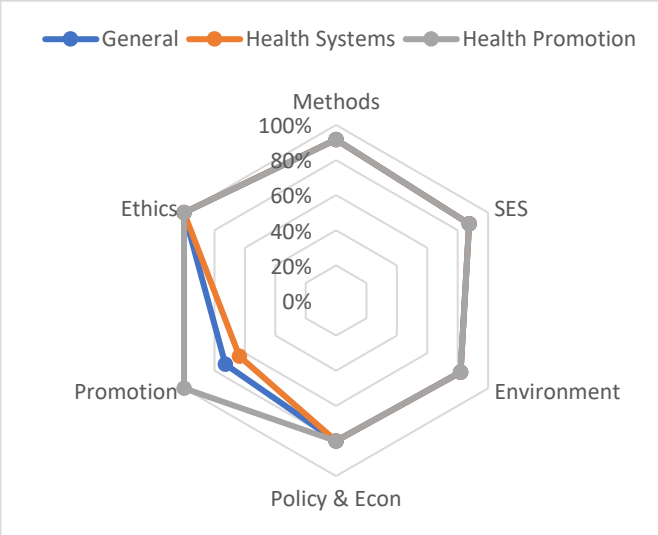

Figure 7: TAU - Percent of Competences Addressed by Any Course

UoH Summary:

UoH offers the most varied offerings of all the HEIs, including several specializations that address niches otherwise not available in other institutions. Two of the 'niche' specializations, Biostatistics and Mental Health Services, are relatively new with no reported graduates as of yet. UoH, notably, also has the most graduates of all the HEIs graduating 346 MPH graduates over the past 5 years. Each specialization offers an extensive specialization-specific core curriculum whereas the shared MPH core (for all MPH students) comprises only four courses. These courses focus primarily on Methods, specifically epidemiology, statistics, and research methods. The core curricula of all specializations comprehensively address the Methods, SES and Ethics domains. Environment, Policy & Econ and Promotion competences are largely absent from the core curricula of all specializations except for those respective specific specializations (Figure 8). UoH's more limited shared MPH core curriculum provides students with broad elective course-selection autonomy. Within the research track, electives make up between one-fifth to one-third of the curriculum, varying between specializations. Within the non-research track, between one-third and one-half of courses are electives, including many 'open' electives. This course-selection autonomy offers students the opportunity to explore domains outside their specialization (Figure 9). UoH's programmes stand out in their applied learning opportunities, such as workshops and fieldwork, especially in their Health Promotion specialization. Overall, UoH offers seven MPH specializations that provide students broad autonomy to tailor their studies to their own educational interests, while also providing opportunities for applied learning.

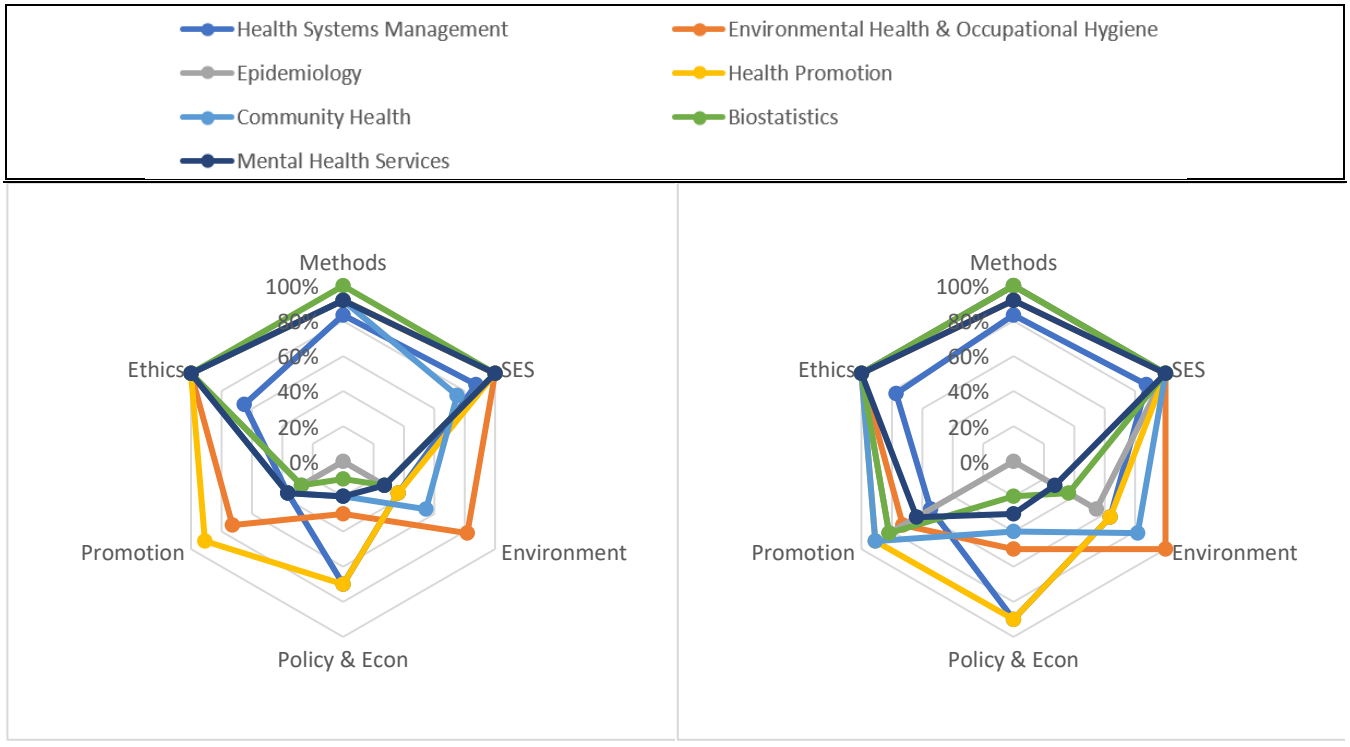

Figure 8: UoH - Percent of Competences Addressed by Core Courses

Figure 9: UoH - Percent of Competences Addressed by Any Course

Results by MPH Specialization

In the following section, the results of each MPH specialization are presented, comparing similar specializations offered by the HEIs. The overall structure of each specialization is presented only where it differs from the shared MPH core curriculum for individual HEIs. Please reference the previous section as necessary for additional details regarding the overall structure of individual HEI programmes.

Health Systems Specializations:

All HEIs granting MPH degrees have a specialization focusing on health systems, organization, and economics. In BGU the Health Policy & Management specialization is a potential 'add-on' (an additional 3-4 courses) available to all students regardless of their enrollment in another specialization, whereas in UoH, HUJI, and TAU it constitutes a distinct and separate specialization. Due to its distinct nature, BGU's Health Policy & Management specialization focuses solely on the Policy & Econ domain as shown in the results presented below.

Health Systems - Total Number of Graduates:

Over the past 5 years, UoH has the graduated the greatest number of students with an MPH specializing in health systems, organization, and economics followed by HUJI and BGU. See Table 6.

Table 6: Total Number of Graduates (Past 5 Years) – Health Systems Specializations

	HEI			
	BGU	**HUJI**	**TAU**	**UoH**
Research Track	5	25 (including 18 MD-MPH)		*
Non-Research Track	1 (combined with Mother & Child Health)	52		*
Total	6	77	Graduation figures not available	122
* UoH graduation breakdown by track not available				

Health Systems - Programme Stucture:

The research tracks of HUJI and TAU Health Systems specializations are heavily weighted towards their core curricula, allowing students to enroll in only 1-2 restricted electives. UoH however, with its more pared down core curriculum, relies heavily on electives (one-third of its curriculum).

While all three HEIs allow many more electives in their respective non-research tracks, they approach it quite differently. HUJI retains the same core curriculum, adding additional restricted electives that must be selected from a list of specialization-specific recommended courses. HUJI students in the non-research track may also enroll in up to 2 credits in open electives not on this list. UoH similarly retains its core curriculum, adding additional electives that may be fulfilled either within or outside of the specialization. TAU, while adding both specialization specific and open electives, also adds an additional 6 credits mandatory core courses into which all non-research students must enroll. As such, both HUJI and UoH offer much more autonomy to non-research track students to determine their courses with one-quarter and one-half of their respective curricula consisting of elective credits. However, HUJI largely dictates which elective courses students are allowed to enroll in, while UoH allows students to enroll in any elective offered by the School (see Table 7 on the following page).

Table 7: Programme Structure – Health Systems Specializations

		Research Track				Non-Research Track			
		BGU	**HUJI**	**TAU**	**UoH**	**BGU**	**HUJI**	**TAU**	**UoH**
Total Course Credits for MPH Degree		**12***	**36**	**36**	**36**	**12***	**42**	**45**	**42**
	MPH Core Credits		26	22	14***		24	20.5	8***
	Specialization Core Credits	12**	6	12	12	12**	6	18	12
	Specialization Elective Credits		4	2	4		10	2.5	4
	School Electives Credits		0	0	6***		2	4	18***

*Total credits for completion of BGU Health Systems Specialization, not MPH Degree
**BGU credit breakdown not available
**2 additional MPH core credits and 2 less school elective credits if using qualitative methods in thesis/final project

Health Systems - Core Curriculum:

Competences Addressed:

Addressing 49 of the 57 competences (86%), the core curriculum of HUJI is the broadest relative to the other HEIs. TAU and UoH's core courses address 39 (68%) and 37 (65%) of competences, respectively. HUJI's mandatory courses address over 90% of all competences in all domains with the exception of Ethics. No Ethics competences are addressed by HUJI's core curriculum. TAU's core addresses between 60-88% of competences for all domains except for Promotion (27%). While particularly comprehensive in Methods (83%) and Policy & Econ (80%), and SES (88%), it is less so relative to the other HEIs in the Promotion domain. UoH's core addresses over 70% of competences in Methods, SES, Policy & Econ, and Ethics. This core offering is particularly comprehensive in the Methods (83%) and SES (88%) domains but lags behind in the Promotion and Environment domains addressing only 36% of competences in each. Of the 10 competences that comprise the Policy & Econ domain the HUJI's core courses address the greatest number (9), followed by TAU (8), UoH (7), and BGU (6). See Figure 10.

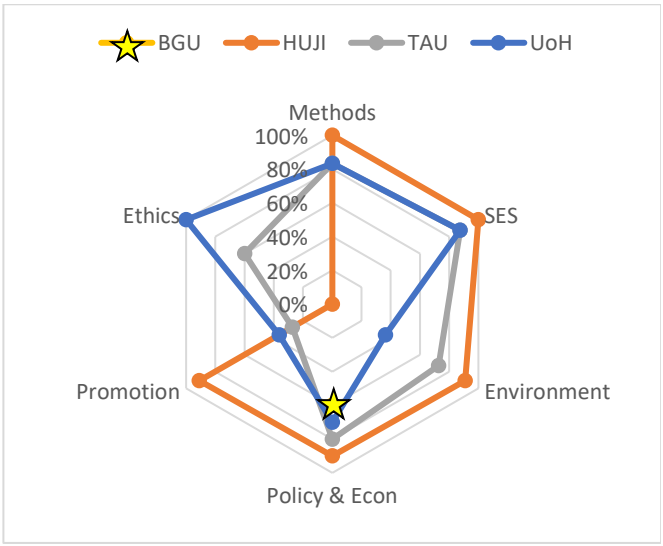

Figure 10: Health Systems Specializations - Percent of Competences Addressed by Core Courses

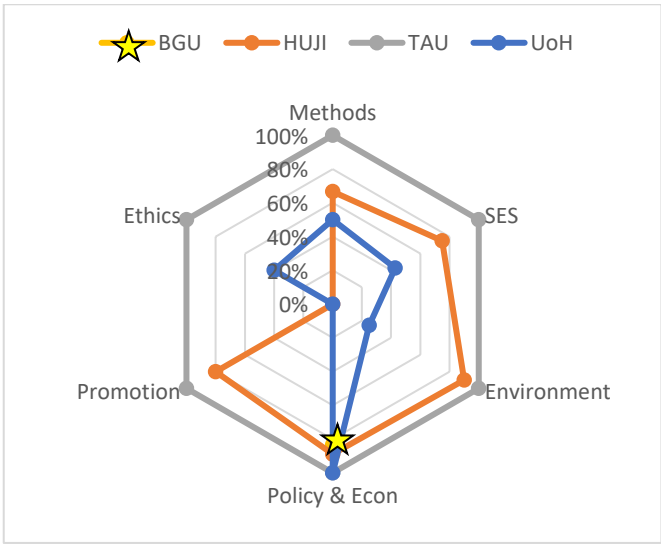

Figure 11: Health Systems Specializations - Percent of Competences Addressed by Core Courses that Received a High Relative Score

Relative Score:

Of those competences addressed within the core curricula, TAU reported the highest relative coverage with 34 of 34 competences (100%) rating a 3 or higher. HUJI reported 39 of 49 (80%) competences covered in great detail. UoH reported the lowest relative coverage - 18 of 37 (49%) competences rating a 3 or higher. Whereas TAU and HUJI's core focus broadly,

addressing in depth the vast majority of competences included in their respective core curricula, UoH focuses more narrowly on Policy & Econ. Of the competences addressed by UoH, Policy & Econ is the sole competency area in which a majority of competences addressed received a high relative score (7 of 7). For all programmes, Policy & Econ competences addressed within the core curricula were considered in detail with each HEI scoring over 80% of competences as 3 or greater (see Figure 11 on the previous page).

Health Systems - Elective Courses:

Competences Addressed:

All programmes' elective offerings address approximately the same number of competences focusing on largely the same domains. UoH's elective offerings address 29 competences (51%) while both HUJI and TAU address 26 (46%). In the domain of SES, HUJI addresses only 1 competency compared to TAU and UoH's 4. Similarly in the domain of Policy & Econ, TAU's electives address only two competences. Within this same domain, UoH and HUJI's elective courses address 8 competences and BGU's, 7 competences. TAU's elective courses address competences in the Promotion domain more comprehensively than its peers, addressing 6 competences compared to the 2 competences addressed by UoH and HUJI. See Figure 12.

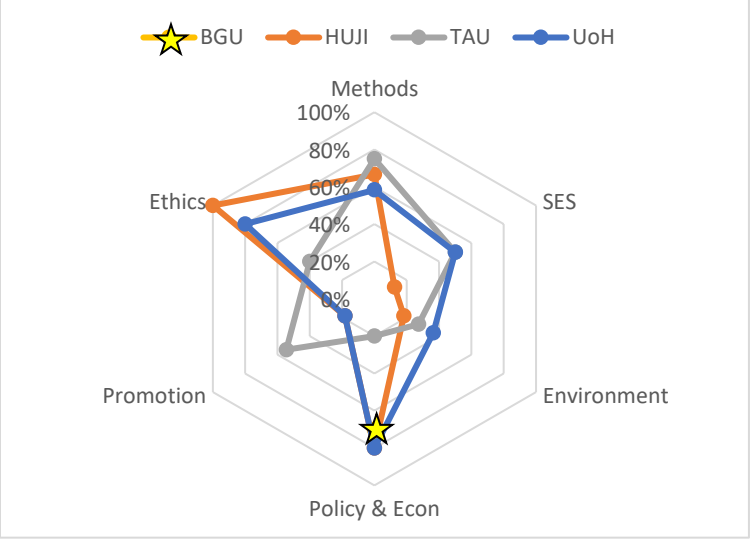

Figure 12: Health Systems Specializations - Percent of Competences Addressed by Elective Courses

Health Systems - Overall Curricula:

Competences Addressed:

All universities offer a comprehensive curriculum addressing over 75% of competences. HUJI's curriculum addresses all competences except for one. UoH and TAU's curricula address 44 (77%) and 47 (82%) competences respectively. Within all three HEIs, the elective courses address roughly the same amount of competences previously unaddressed by the respective core curricula. TAU's elective courses address 8 additional competences while HUJI and UoH's elective curricula address 7 additional competences . These competences are spread across all domains but especially increase the number of Promotion competences addressed by TAU (4 of 11). All HEIs report addressing over 80% of competences within the Methods, Policy & Econ, and Ethics domains. Within the domain area of Policy & Econ, both HUJI and BGU address all 10 competences while UoH and TAU address 9 and 8, respectively. See Figure 13 on the following page.

Relative Coverage:

A score of 3 or greater was reported for all competences addressed by core and elective courses in TAU's curriculum and 98% of those in HUJI's curriculum. Of those competences addressed within UoH's curriculum, 41% are addressed in great detail. Policy & Econ is the sole domain in which a majority of UoH's competences score a high relative coverage score

with 7 of the 9 competences addressed by either core or elective courses being covered in depth. Both HUJI and TAU cover in depth all Policy & Econ competences addressed within their respective curricula. BGU covers in depth 8 of the 10 competences addressed by its Health Services Management specialization. See Figure 14.

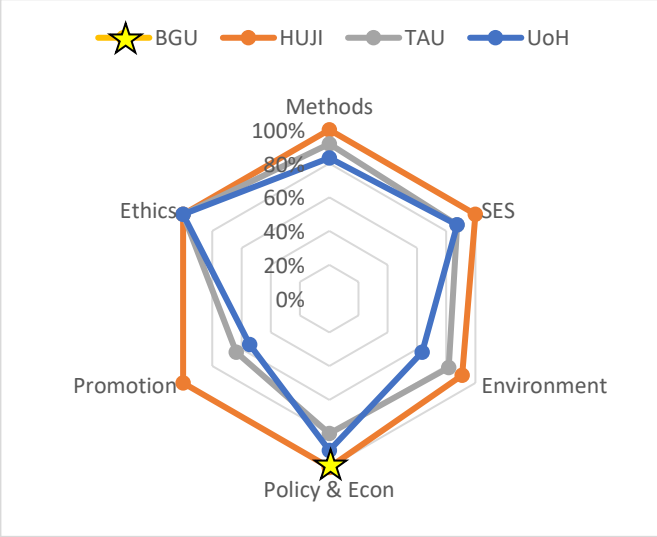

Figure 13: Health Systems Specializations - Percent of Competences Addressed by Any Course

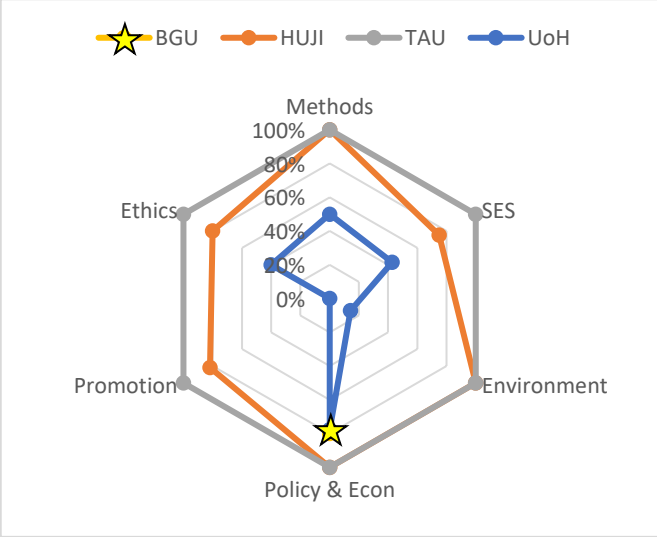

Figure 14: Health Systems Specializations - Percent of Competences Addressed by Any Course that Received a High Relative Score

Teaching Methods & Applied Learning Opportunities:

TAU broadly uses exams and in-class exercises to assess and provide opportunities for students to practice their knowledge and skills. Of the 47 competences addressed by the curriculum, 45 are reportedly assessed via exams (96%) and 44 of the 47 competences covered in course exercises (94%). Over half of competences addressed by HUJI and UoH are assessed by exams and approximately three-quarters of competences included in course exercises for both institutions. Students in the research and non-research tracks of all institutions must apply their knowledge and skills in the writing of a thesis or final project. During this process, students receive extensive mentoring from faculty. All competences not addressed within courses, specifically those related to programme implementation and analysis, development of research protocols and projects, and the implementation of public health research, are addressed and covered in depth through this mentoring process. As for applied learning opportunities other than theses/final projects, UoH offers workshops and fieldwork and HUJI offers workshops, whereas such opportunities are not available at TAU.

Health Systems - Summary:

HUJI, TAU and UoH offer broad and comprehensive Health Systems specializations that address the core competences. Given the similar number of competences addressed by electives, the main difference between the programmes is HUJI's broad core curriculum. HUJI's specialization offers the most overall breadth and depth of all competences. Notably however, HUJI lacks Ethics competences in its core curriculum. TAU and UoH offer similar curricula in terms of competences addressed. Yet, while TAU covers all domains in depth, UoH focuses more narrowly on Policy & Econ. Promotion, in particular, is an area of less emphasis within UoH's specialization, addressing only 55% of competences of which none scored a high relative score. The two programmes also differ in their structure with UoH offering students wide autonomy to enroll in elective courses both inside and out of the specialization. TAU on the other hand offers a broader core curriculum with considerably less elective courses in both its research and non-research tracks. Within the domain of Policy & Econ, BGU's Health Systems Management specialization is largely comparable to those of HEI's on a macrolevel. BGU's programme is unique in that students enrolled in other MPH specializations may enroll in Health Systems Management as well. This option opens the field of Health Systems to students who may otherwise have little exposure to the field.

Environmental Health Specializations:

Three HEIs offer MPH degrees with an Environmental Health specialization: UoH, HUJI, and BGU.

Environmental Health – Total Number of Graduates

Over the past 5 years, UoH has graduated the greatest number of students with an MPH specializing in Environmental Health followed by HUJI and BGU. See Table 8.

Table 8: Total Number of Graduates (Past 5 Years) – Environmental Health Specializations

	HEI		
	BGU	**HUJI**	**UoH**
Research Track	N/A	0	*
Non-Research Track	4	4	*
Total	4	4	40
* UoH graduation breakdown by track not available			

Environmental Health - Programme Structure

HUJI and UoH offer a specialization focusing on Environmental Health as both research and non-research tracks whereas BGU's Environmental Health specialization is offered only as a non-research track. HUJI's Health & Environment specialization is a joint programme between the School of Public Health and the Advanced School for Environmental Studies with courses offered on both campuses.

The core courses of each respective HEI remain largely constant between the research and non-research tracks. However, the content differs vastly between HEIs. UoH's Environmental Health and Occupational Hygiene specialization core curriculum has an intensive focus on occupational health. Conversely, HUJI's core courses in its Health & Environment specialization focus on environmental health, research methods, and environmental aspects of health policy and economics. BGU's Environmental Health specialization's core courses largely focus on environmental epidemiology.

HUJI's Health & Environment specialization research track contains no elective course. In UoH's research track, 8 of the 36 credits necessary for graduation are elective courses. While all three HEIs allow many more electives in their respective non-research tracks, their approaches differ greatly. HUJI retains the same core curriculum, adding one restricted elective and as well as 10 credits of open electives that may be selected from any of the School of Public Health's offerings. BGU's Environmental Health specialization expands on its broad core curriculum, requiring 4 credits of core environmental courses, as well as 10 elective credits: 4 restricted electives and 6 credits open to enrollment from any of the School's offerings. UoH similarly retains its core curriculum, adding additional electives that may be fulfilled either within or outside of the specialization. While UoH allows students the most autonomy in choosing their courses relative to the other HEIs, both HUJI and BGU also allow their non-research students to choose 20%-25% of their courses respectively. See Table 9.

Table 9: Programme Structure - Environmental Health Specializations

		Research Track		**Non-Research Track**		
		HUJI	**UoH**	**BGU**	**HUJI**	**UoH**
Total Course Credits for MPH Degree		**36**	**36**	**46**	**46**	**42**
	MPH Core Credits	26	16*	32	24	12*
	Specialization Core Credits	10	12	4	10	14
	Specialization Elective Credits	0	4	4	2	4
	School Electives Credits	0	4*	6	10	12*
*2 additional MPH core credits and 2 less school elective credits if using qualitative methods in thesis/final project						

Environmental Health - Core Curriculum:

Competences Addressed:

The HUJI core curriculum addresses 47 of the 57 (82%) competency groups followed by UoH (44 competences – 77%) and BGU (32 competences – 56%). HUJI & UoH's core curriculum broadly addresses the vast majority of competences, although HUJI's does not address any Ethics competences and UoH only addresses 3 of the 10 Policy & Econ competences. BGU similarly addresses only 4 of the 10 Policy & Econ competences in its core courses. HUJI's core is unique, addressing double the Policy & Econ competences (8 of 10) of the other HEIs.

All HEIs focus on Methods, SES and Environment. While UoH addresses over 80% of these competences and HUJI over 90%, BGU addresses the competences broadly but to a lesser extent than other HEIs - addressing between 64%-75% within each domain. Promotion is largely absent in BGU's core, addressing 2 of the 11 competences (18%). However, in the Ethics domain, BGU's core addresses all 5 competences. See Figure 15.

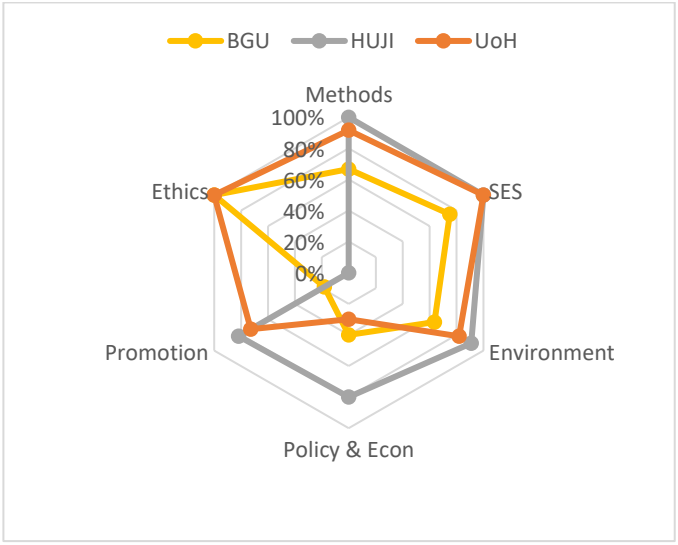

Figure 105: Environmental Health Specialization - Percent of Competences Addressed by Core Courses

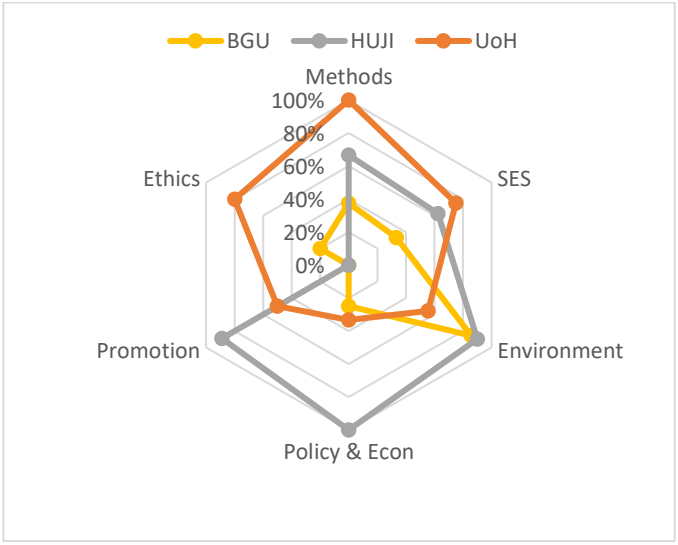

Figure 11: Environmental Health Specializations -Percent of Competences Addressed by Core that Received a High Relative Score

Relative Coverage

Of those competences addressed by the core curricula, HUJI and UoH reported high relative scores. 31 of the 44 competences (70%) reported by UoH, and 38 of the 47 competences (81%) by HUJI are covered in great detail within one or more courses and accompanied by class exercises or exams. BGU reported lower relative coverage with 13 of the 32 competences (41%) scoring a relative coverage score of 3 or higher.

The BGU curriculum provides comprehensive coverage in the Environment domain with 6 of the 7 (86%) Environment competences covered by its core courses scoring 3 or higher. All other domains in the BGU curricula have lower coverage with less than 40% of competences covered in depth. Conversely, UoH and HUJI each report one competency area with minimal relative coverage.

Of the 11 competences that constitute the Environment domain, the core curricula of UoH, HUJI, and BGU address 82%, 91%, and 64% respectively. However, of those competences addressed, HUJI and BGU reported a greater proportion to receive high relative scores (100% and 88%) than UoH (45%).

HUJI differs from other HEIs in its wide coverage of Policy & Econ, addressing double the number of competences through its core curriculum (8) as compared with UoH (3) and BGU (4). HUJI's lack of offerings in Ethics is an outlier with respect to the robust offerings of other HEIs.

BGU differs from UoH and HUJI in its lack of offerings addressing Promotion or Policy & Econ. Of the 11 Promotion competences, only basic Health Promotion concepts and emergency planning and management are addressed within the BGU curriculum. Of these, neither have a high relative coverage score. See Figure 16 on the previous page.

Environmental Health - Elective Courses:

UoH's broad elective offerings address 37 of the 57 (65%) competences. This is much greater than the competences addressed in elective courses by HUJI (27 competences) or BGU (15 competences). The electives largely address competences also included to some degree in the HEI's respective core courses. HUJI offers few elective courses that address Environment competences (18%), focusing its elective offerings on Methods (67%), Policy & Econ (70%), Promotion (45%), and Ethics (80%). Conversely, BGU's elective offerings focus primarily on Environment (55%), SES (50%), and Methods (42%) competences. UoH's elective offerings address the majority of all domains with the exception of Promotion (18%). See Figure 17.

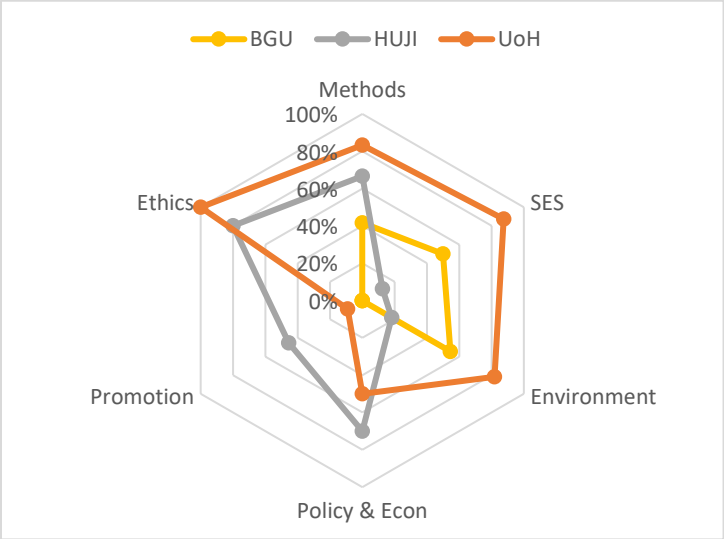

Figure 17: Environmental Health Specializations - Percent Competences Addressed by Elective Courses

Environmental Health - Overall Curricula:

Competences Addressed:

HUJI, UoH, and BGU core and elective courses address 54 (95%), 48 (84%), and 33 (58%) of total competences. In addition to the 47 competences addressed by HUJI's core courses, its elective course offerings address seven additional competences in the Policy & Econ, Promotion, and Ethics domains. HUJI's core and elective courses address over 90% of competences in all domains except Ethics (80%). UoH's programme is quite similar to HUJI's but lacks core courses addressing Policy & Econ. UoH elective courses address an additional two competences in each of the Environment and Policy & Econ domains. UoH's core and elective courses address over 90% of competences in Methods, SES, Environment, and Ethics domains and 73% of Promotion competences. However, only half of Policy & Econ competences are addressed within its specialization. The BGU specialization primarily addresses competences in Methods (67%), SES (75%), Environment (73%), and Ethics (100%) and, to a lesser extent, Policy & Econ (40%) and Promotion competences (18%). BGU elective courses in this specialization contribute one additional competence. See Figure 18 on the following page.

Relative Coverage:

Of the 54 competences addressed by core or elective courses in HUJI's specialization, 50 are covered in depth (93%). Over 90% of the competences addressed in all domain areas are covered in depth with the exception of SES competences (63%). Of the 48 competences addressed by UoH's courses, 31 are covered in depth (65%). A greater proportion of the Methods

(100%), SES (75%), and Ethics (80%) competences addressed by UoH are covered in depth than in the Environment (45%), Policy & Econ (20%), & Promotion (50%) domains. BGU's curriculum focuses more narrowly on the Environment domain. Of the 33 competences addressed by core and elective courses in BGU's Environmental Health specialization, 13 are covered in depth (42%). Environment is the sole domain in which over half the competences addressed are covered in depth (88%). See Figure 19.

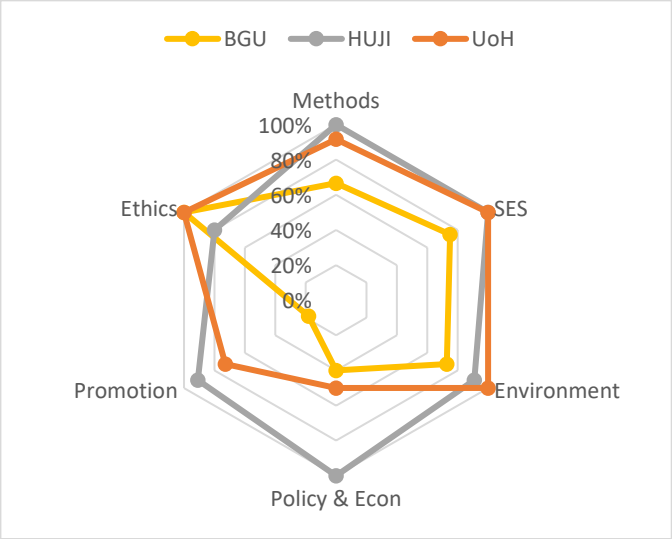

Figure 18: Environmental Health Specializations - Percent of Competences Addressed by Any Course

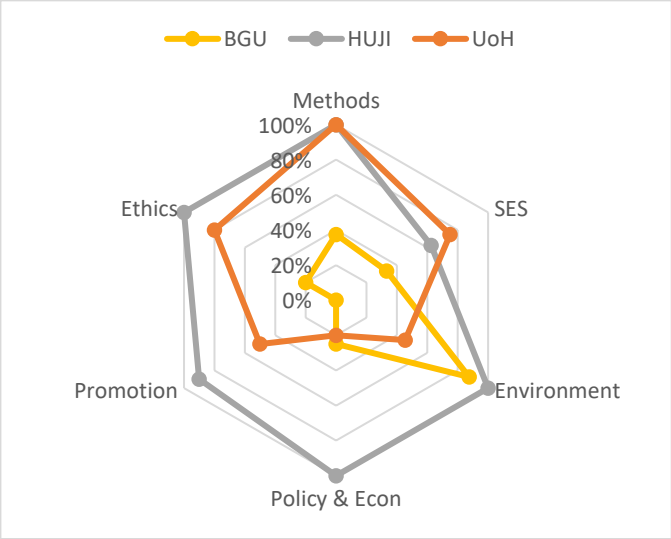

Figure 19: Environmental Health Specializations - Percent of Competences Addressed that Received a High Relative Score

Teaching Methods:

All three HEIs use exams to assess approximately half of the competences addressed within their respective curricula. However, the percentages of competences addressed that are included in course exercises are much greater for UoH and BGU than HUJI. 85% of competences addressed by BGU and 73% of those addressed by UoH's curriculum, are included in course exercises. Of the competences addressed by HUJI's Health & Environment specialization, only 56% are included in course exercises. Students in the research and non-research tracks of all institutions apply their knowledge and skills in the writing of a thesis or final project. Students at HUJI and UoH also have additional applied learning opportunities to practice Methods competences through workshops. BGU, however, offers no additional applied learning opportunities to students beyond the mandatory final projects.

Environmental Health - Summary:

While all three Environmental Health programmes offer students the opportunity to focus on the Environment domain, HUJI and UoH present broad curricula that comprehensively address public health competences within and external to environmental health. HUJI's programme offers a more comprehensive curriculum addressing Policy & Econ, including courses specific to environmental aspects of these competences. HUJI's unique programme structure offers students the opportunity to interact and work in cross-disciplinary teams. UoH's programme has a much stronger focus on occupational health than the other programmes. UoH, in particular, offers a wide array of elective courses allowing students to tailor their education. For students seeking a narrower focus on environmental health, BGU may present an appropriate fit.

Epidemiology & Biostatistics Specializations:

UoH and HUJI offer Epidemiology and Biostatistics specializations. Whereas at HUJI, there is one Epidemiology & Biostatistics specialization, UoH treats the two as separate entities offering an Epidemiology specialization and a Biostatistics specialization

Epidemiology & Biostatistics - Total Number of Graduates

Over the past 5 years, UoH's Epidemiology specialization has graduated the greatest number of students with an MPH specializing in epidemiology and/or biostatistics. See Table 10.

Table 10: Total Number of Graduates (Past 5 Years) - Epidemiology & Biostatistics Specializations

	HUJI	UoH Biostatistics	UoH Epidemiology
Research Track	9	0	**
Non-Research Track	N/A	0	**
Total	9	0*	41
*The Biostatistics specialization opened in the 2020-2021 academic year and therefore no graduates to date ** UoH graduation breakdown by track not available			

Epidemiology & Biostatistics - Programme Stucture:

While both UoH's tracks are open to students in either the research or non-research tracks, all students in HUJI's Epidemiology & Biostatistics specialization must complete a research thesis. Students at HUJI who wish to enroll in the specialization must hold at least a grade of 85 in all first-year courses to be eligible to enroll.

UoH's Biostatistics specialization coursework has a heavy focus on biostatistics and statistical methods. Conversely, although focusing on epidemiology and research methods, the coursework of UoH's Epidemiology specialization and HUJI's Epidemiology & Biostatistics specialization also includes courses that address a variety of subjects. However, the two HEIs' approach is quite differently. HUJI uses its broad core curriculum to address a wide range of subjects across public health, with an additional specialization core and restricted electives to delve deeper into more advanced epidemiology, and various methods of research and statistics. UoH's Epidemiology specialization's core curriculum focuses more narrowly on epidemiological, statistics, and research methods using its broad elective offerings to supplement within other subjects. However, for UoH's non-research students, both Biostatistics and Epidemiology specializations allow greater freedom in choosing elective courses from any of the School of Public Health's offerings. See Table 11.

Table 11: Programme Structure Epidemiology & Biostatistics Specializations:

		Research Track			Non-Research Track	
		HUJI	**UoH Epidemiology**	**UoH Biostatistics**	**UoH Epidemiology**	**UoH Biostatistics**
Total Course Credits for MPH Degree		**36**	**36**	**36**	**42**	**42**
	MPH Core Credits	26	16*	16*	16*	14*
	Specialization Core Credits	4	10	12	10	12
	Specialization Elective Credits	6	8	4	8	4
	School Electives Credits	0	2*	4*	8*	12*
*2 additional MPH core credits and 2 less school elective credits if using qualitative methods in thesis/final project						

Epidemiology & Biostatistics - Core Curricula:

Addressing 48 of the 57 competences (84%), the core curriculum of HUJI is the broadest relative to those offered by the other HEIs. UoH's Epidemiology and Biostatistics core curricula address 32 (56%) and 30 (53%) competences respectively. All three tracks' core curricula address over 90% of all Methods and SES competences. HUJI's Epidemiology & Biostatistics specialization strongly covers Environment (100%), Policy & Econ (82%) and Promotion (82%). UoH's respective tracks address 27% of Environment and Promotion competences. Both tracks particularly fail to address Policy & Econ competences with the Biostatistics specialization addressing 1 and the Epidemiology specialization failing to address any competences within this area. Yet both tracks' core curricula address all 5 Ethics competences, while HUJI's address none (see Figure 20).

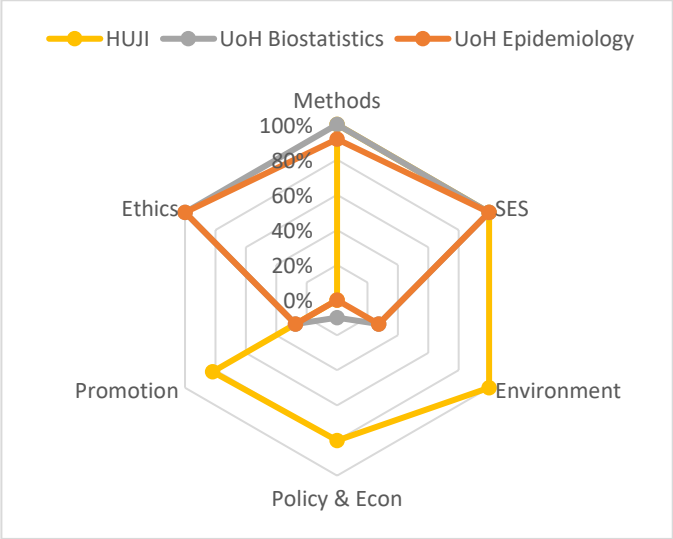

Figure 20: Epidemiology & Biostatistics Specializations - Percent of Competences Addressed by Core Courses

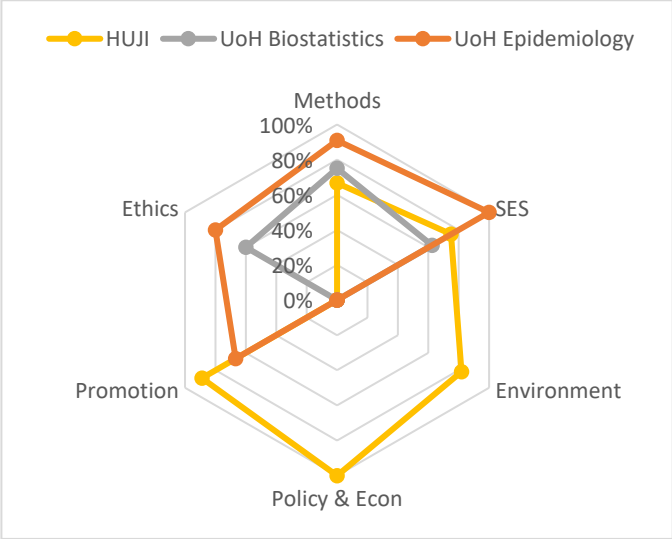

Figure 21: Epidemiology & Biostatistics Specializations - Percent of Competences Addressed by Core that Received a High Relative Score

Relative Score:

Of those competences addressed within the core curricula, HUJI reported the highest relative coverage 39 of 48 competences (81%) with a rating of 3 or higher. UoH's Epidemiology specialization has similar coverage with 24 of 32 competences (80%) addressed by its core curriculum. Of the competences addressed by UoH's Biostatistics core curriculum, only 17 of the 30 competences (53%) rate highly. While 75% of Methods and 63% of SES core competences were rated 3 or higher, no competences within Environment, Policy & Econ, or Promotion are addressed with that rating. UoH's Epidemiology specialization also fails to address Environment competences in depth. However, the specialization does comprehensively cover the Methods (91%) and SES (75%) domains. HUJI's specialization is largely similar to UoH's Biostatistics in the relative coverage of its Methods (67%) and SES (75%) competences. It also addresses Environment (100%), Policy & Econ (100%) and Promotion (89%) competences in depth, unlike both of UoH's specializations (see Figure 21 above).

Epidemiology & Biostatistics - Elective Courses:

Competences Addressed:

Of all the tracks, UoH's Epidemiology specialization's elective offerings address the most competences, 37 of the 57 (65%) of all competences. UoH's Biostatistics specialization and HUJI's Epidemiology & Biostatistics specialization address 27 (47%) and 24 (42%) competences respectively. While the UoH Epidemiology specialization's electives primarily focus on Methods (100%), SES (88%), and Ethics (100%), it also addresses 55% of Environmental and 64% of Promotion competences. UoH's Biostatistics specialization's elective offerings focus especially on Methods addressing 83% of competences, with significant portions of SES (63%), Promotion (53%), and Ethics (60%). However, both UoH's specializations offer few electives that address Policy & Econ competences, with the Epidemiology specialization

addressing none and the Biostatistics specialization addressing one competency (10%). Conversely, HUJI's electives particularly focus on this area addressing 70% of Policy & Econ competences and a high percentage of Ethics competences (80%) (see Figure 22).

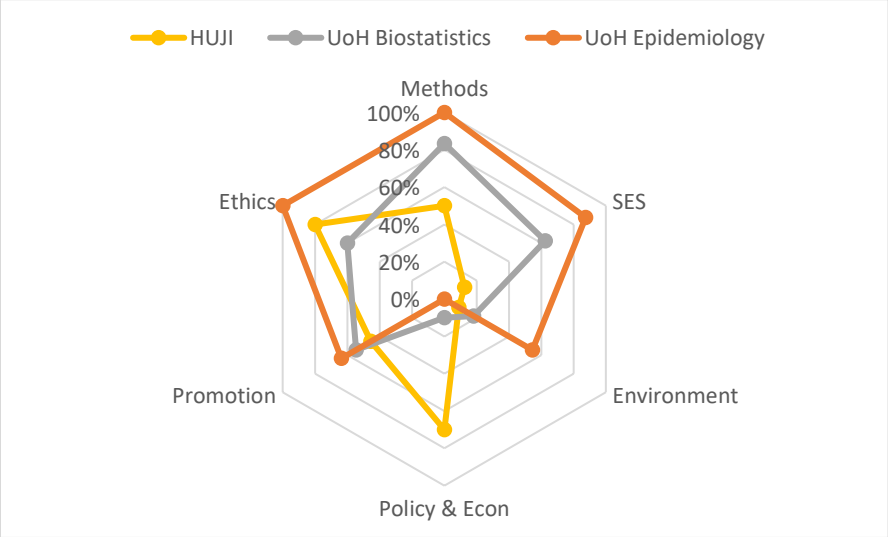

Figure 22: Epidemiology & Biostatistics Specializations - Percent of Competences Addressed by Elective Courses

Epidemiology & Biostatistics - Overall Curricula:

Competences Addressed:

All HEIs offer a comprehensive curriculum addressing over 70% of competences. HUJI's curriculum addresses all competences except for two; one in Promotion and one in Ethics. UoH's two specializations address 40 competences (70%). UoH's Epidemiology specialization benefits the most from elective courses, with an additional 10 competences addressed. The elective courses of the UoH Biostatistics specialization and HUJI's Epidemiology & Biostatistics specialization address 8 and 7 competences respectively which were previously unaddressed by the core curricula. For both UoH specializations, 6 of the added competences were in the Promotion domain. 4 of the competences added in HUJI's curriculum are in the Ethics domain. Overall, the three specializations address all competences in the Methods and SES areas. Where the programmes most differ is in the Environment and Policy & Econ domains. While HUJI's curriculum addresses all competences in these areas, UoH's Epidemiology addresses 55% and 0% and the Biostatistics specialization addresses 36% and 20% respectively (see Figure 23 on the following page).

Relative Coverage:

93% of the competences addressed by core and elective courses in HUJI's curriculum scored 3 or higher. However, of those competences addressed within UoH's Epidemiology and Biostatistics curricula, only 60% and 43% respectively were addressed in great detail. Of the competences addressed by HUJI, over 90% are addressed in depth for all domains with the exception of SES (75%). UoH's Epidemiology specialization covers the Methods, SES, and Ethics competences in depth, with over 80% of competences addressed achieving high relative coverage. The Biostatistics specialization similarly focuses on Methods, SES, and Ethics but to a lesser extent with 60-75% of competences addressed in depth. Notably, none of the Environment or Policy & Econ competences addressed in UoH's specialization received a high relative coverage score. Similarly, only 2 of the 9 (22%) Promotion competences addressed in the Epidemiology specialization, and 0 of those addressed in the Biostatistics specialization scored 3 or higher (see Figure 24 on the following page).

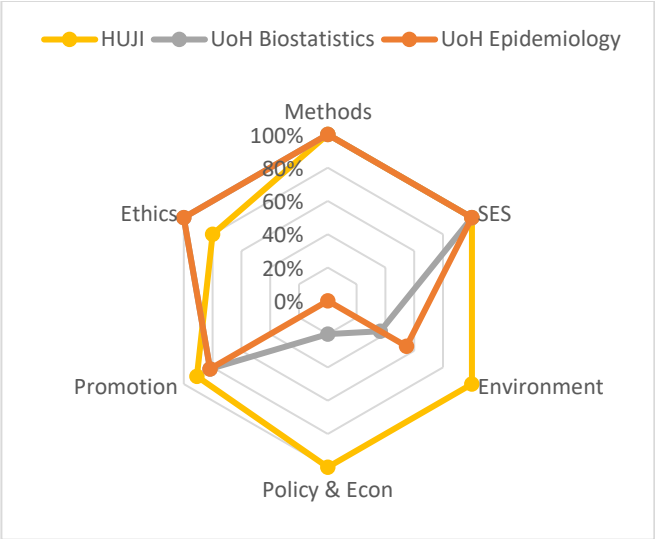

Figure 23: Epidemiology & Biostatistics Specializations - Percent of Competences Addressed by Any Courses

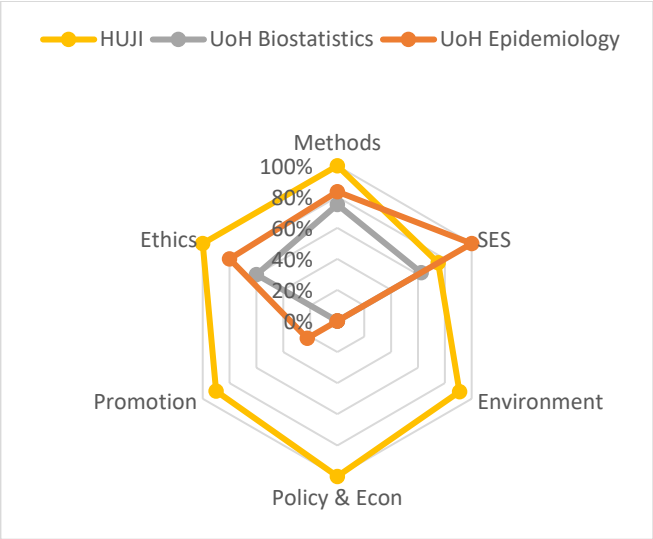

Figure 24: Epidemiology & Biostatistics Specializations -Percent of Competences Addressed that Received a High Relative Score

Teaching Methods & Applied Learning Opportunities:

All three specializations use exams to assess and practice the competences in their respective curricula. 58% of competences addressed in UoH's Biostatistics specialization, 55% of those addressed in its Epidemiology specialization, and 51% of those addressed in HUJI's specialization are included in class exams. However, UoH's two specializations report a much higher percentage of competences addressed included in course exercises with 83% of those included in the Biostatatistics curriculum (23 of 40) and 78% in the Epidemiology curriculum (22 of 40). Within HUJI's Epidemiology & Biostatistics specialization, 55% of the competences addressed (28 of 55) are included in course exercises.

Students in all specializations must apply their knowledge and skills in the writing of a thesis or final project. While HUJI's students are offered no additional opportunities for practical applied learning, UoH's students have the opportunity to practice competences in the Methods and SES areas through workshops and, within the Epidemiology specialization, in fieldwork.

Epidemiology & Biostatistics - Summary:

UoH and HUJI both offer specializations that address epidemiology and biostatistics at length, however they greatly differ in their overall approach to addressing domains outside of Methods and SES. HUJI offers a broad curriculum that addresses all competences, using its elective courses to focus on advanced epidemiological and research methods. These electives similarly address the main weakness of its core curriculum-- the lack of Ethics competences. UoH's two programmes focus primarily on Methods and SES with minimal focus on Policy & Econ and Environment. Although the two programmes' results are nearly identical to one another, there are several differences between the two. While in UoH's Epidemiology specialization, students have more freedom to enroll in diverse electives, in the Biostatistics specialization students are more restricted to courses in statistics and research methods. Overall, HUJI's Epidemiology & Biostatistics specialization offers a comprehensive curriculum giving students a broad public health programme that allows freedom to specialize in advanced epidemiological skills. UoH's Epidemiology specialization offers a narrower curriculum with a strong focus in Methods and the SES areas and greater choice of elective courses. UoH's Biostatistics specialization is unique as the sole specialization purely focused on biostatistics. It offers a highly specific curriculum focused on the Methods and SES with more specialized elective courses.

Health Promotion Specializations:

All four HEIs offer MPH degrees with a Health Promotion specialization.

Health Promotion – Total Number of Graduates:

Over the past 5 years, UoH has graduated the greatest number of students with an MPH specializing in health promotion, followed by HUJI and BGU (see Table 12).

Table 12: Total Number of Graduates (Past 5 Years) - Health Promotion Specialization

	BGU	HUJI	TAU	UoH
Research Track	N/A	14		*
Non-Research Track	22	41		*
Total	22	55	Graduation figures not available	100
* UoH graduation breakdown by track not available				

Health Promotion - Programme Stucture:

While HUJI, TAU, and UoH specializations are open to students in either the research or non-research tracks, BGU's Health Promotion specialization is offered solely as a non-research track.

The BGU, HUJI and TAU Health Promotion specializations consist of broad core curricula that are supplemented by varying numbers of elective courses. UoH, with its less extensive core curriculum, relies heavily on its elective courses to deliver its programme curriculum. Approximately ¼ of courses in UoH's research track are electives. Within both HUJI and TAU's research tracks, approximately $\frac{1}{10}$ of courses are electives. Within the non-research tracks, UoH similarly offers a higher porportion of elective courses representing ½ of the curriculum. TAU offers the next highest proportion of elective courses in the curriculum (⅓) followed by HUJI (¼) and BGU (⅙).

Within the Health Promotion domain, all three HEIs allow many more electives in their respective non-research tracks with variations in core/elective course programming. HUJI retains a cross-specialization core curriculum, adding additional electives that must be selected from a list of recommended courses for the specialization. HUJI students in the non-research track may also enroll in up to 2 credits in electives not on this list. UoH similarly retains its core curriculum, adding additional electives that may be fulfilled either within or outside of the specialization. TAU, while adding both specialization specific and general electives, also adds an additional 6 credits to the core curriculum. As such, both HUJI and UoH offer more autonomy in course selection to non-research track students. While HUJI largely dictates which elective courses students are allowed to enroll in, UoH gives students more freedom to enroll in any elective offered by the School of Public Health (see Table 13).

Table 13: Programme Structure - Health Promotion Specializations

		Research Track			Non-Research Track			
		HUJI	TAU	UoH	BGU	HUJI	TAU	UoH
Total Course Credits for MPH Degree		**36**	**34**	**36**	**46**	**42**	**42**	**42**
	MPH Core Credits	26	22	16*	32	24	20.5	10*
	Specialization Core Credits	6	8	10	6	6	8	10
	Specialization Elective Credits	4	4	8	2	4	8	8
	School Elective Credits	0	0	2*	6	8	5.5	14*
*2 additional MPH core credits and 2 less school elective credits if using qualitative methods in thesis/final project								

Health Promotion - Core Curriculum:

Competences Addressed:

Addressing 48 of the 57 competences (84%), HUJI's core curriculum is the broadest relative to the other HEIs. UoH and TAU offer a similarly comprehensive core addressing 45 (79%) and 44 competences (77%) respectively. BGU's core courses address 37 (65%) competences. While all HEIs core curricula address over 75% of all Methods, SES, and Promotion competences, their curricula differ considerably with respect to the other domains.

For Environment, HUJI (100%) and TAU (73%) address over half the domain competences. UoH's core courses address 36% of Environment competences and BGU does not address any. HUJI addresses 80% of Policy & Econ competences. UoH and BGU address 70% and 60% of Policy & Econ competences respectively. TAU's core largely does not address the subject, only addressing 40% of the domain's competences. The one domain not addressed in HUJI's core is Ethics. Conversely, both UoH and BGU address all 5 of the domain competences, and TAU addresses 3 of the 5 (60%) (see Figure 25).

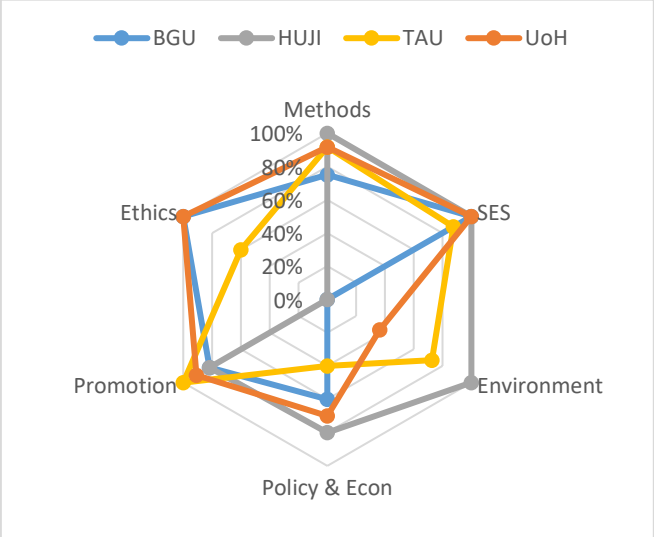

Figure 25: Health Promotion Specializations - Percent of Competences Addressed by Core Courses

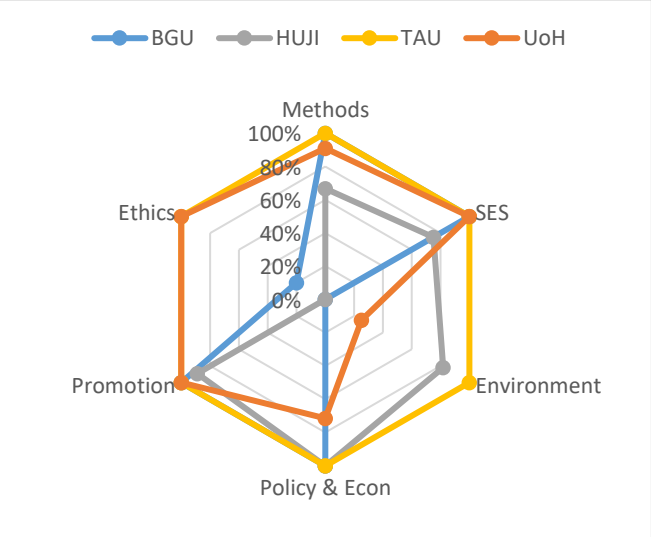

Figure 26: Health Promotion Specializations - Percent of Competences Addressed by Core that Received a High Relative Score

Relative Score:

Of those competences addressed within core curricula, TAU reports the highest relative coverage with all 39 competences addressed, rating a 3 or greater (100%). BGU (89%) and UoH (87%) report similarly high relative coverage. 39 of the 48 competences (81%) addressed by HUJI are covered in detail. All HEI's cover over 90% of Methods and SES core competences with the exception of HUJI which covers 67% and 75% of the competences addressed in detail. With regard to Ethics competences addressed in the core curricula, BGU covers 20% in depth while UoH and TAU cover 100%. UoH places less emphasis on the Environment and Policy & Econ covering 25% and 71% of the core competences in depth. HUJI and TAU cover in depth over 80% of the Environment competences addressed. BGU, HUJI, and TAU cover over 80% of Policy & Econ competences addressed (see Figure 26 above).

Health Promotion - Elective Courses:

Competences Addressed:

UoH's elective offerings address twice the number of competences addressed by HUJI and TAU, and four times those addressed by BGU. Of the 57 competences, UoH's elective courses address 48 competences (84%), including at least half of the competences in each domain. TAU and HUJI address 26 (46%) and 24 competences (42%) respectively, and BGU's elective courses address 12 competences (21%). HUJI's electives primarily address Methods (6 of 12), Policy & Econ (7 of

10), Promotion (5 of 11), and Ethics (4 of 5). TAU's electives primarily address Methods (8 of 12) and Policy & Econ (6 of 10). BGU's electives primarily cluster in SES addressing 6 of the 11 competences (See Figure 27).

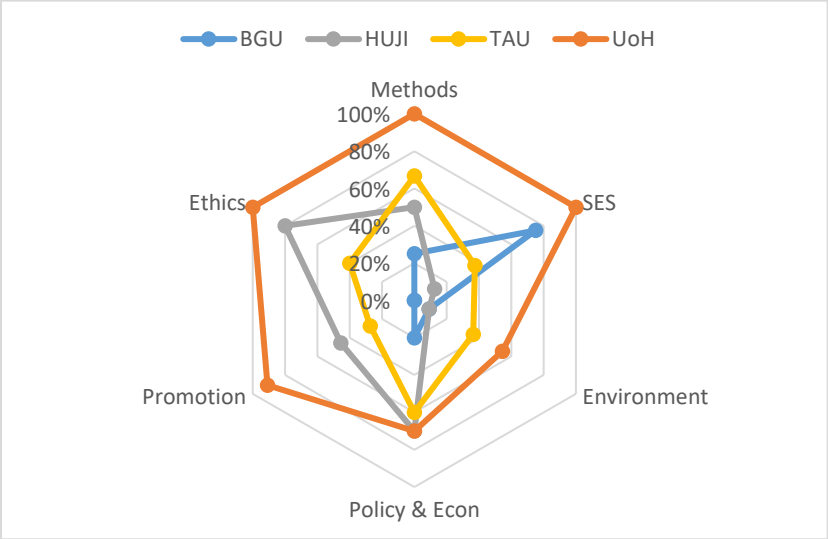

Figure 27: Health Promotion Specialization - Percent of Competences Addressed by Elective Courses

Health Promotion - Overall Curricula:

Competences Addressed:

Overall, HUJI offers the most comprehensive curriculum addressing 55 of the 57 competences (96%). The two competences not addressed are in the Promotion and Ethics domains. UoH and TAU offer comprehensive curricula that address 51 (89%) competences. BGU's Health Promotion specialization addresses 39 of the 57 competences (68%). BGU's elective offerings only address 2 competences that are not addressed by its core courses. The elective courses offered by UoH address an additonal 6 competences, and HUJI and TAU's elective courses each address 7 competences that are not addressed by their core courses. Overall, all HEIs focus on Methods, SES, Promotion, and Ethics addressing over 75% of competences in each domain. All HEIs similarly excel in the Policy & Econ, with all HEIs addressing over 70% of all competences in the domain. Notably, both HUJI and TAU address over 80% of competences in all domain areas while UoH addresses over 90% in all domains except Environment. UoH's core and elective course offerings address 7 of the 11 Environment competences (64%). Environment is similarly the domain with the least number of competences addressed for BGU with only 1 competency (9%) addressed by either core or elective courses (see Figure 28 on the following page).

Relative Coverage:

All of the competences addressed by core and elective courses in TAU's curriculum, and 93% of those in HUJI's curriculum are covered in detail with a relative coverage score of 3 or greater. 87% of the competences addressed by BGU and 76% of those addressed by UoH are covered in detail. All HEIs provide strong coverage in Methods, SES, and Promotion addressing over 75% of the competences in depth. HEIs achieve similar relative coverage of over 85% for Environment and Policy & Econ with the exception of UoH's Health Promotion specialization which addresses 14% and 56% in these domains respectively. BGU covers 20% of the Ethics competences in depth, while 100% of the competences addressed by the other three HEIs have high relative coverage scores (see Figure 29 on the following page).

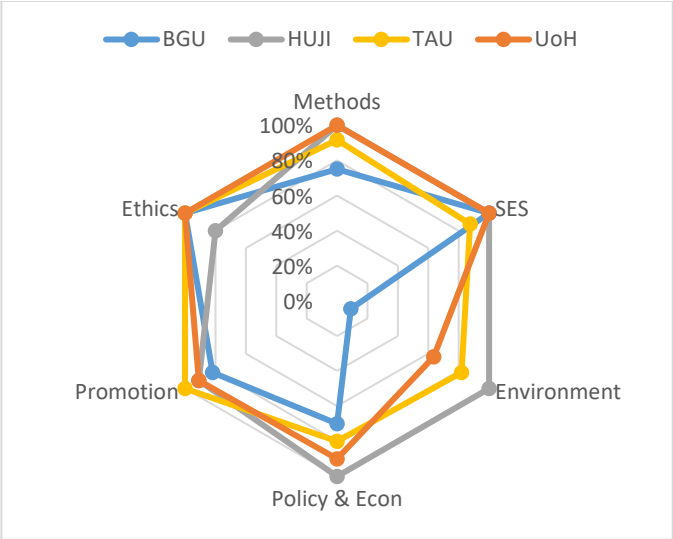

Figure 28: Health Promotion Specializations - Percent of Competences Addressed by Any Course

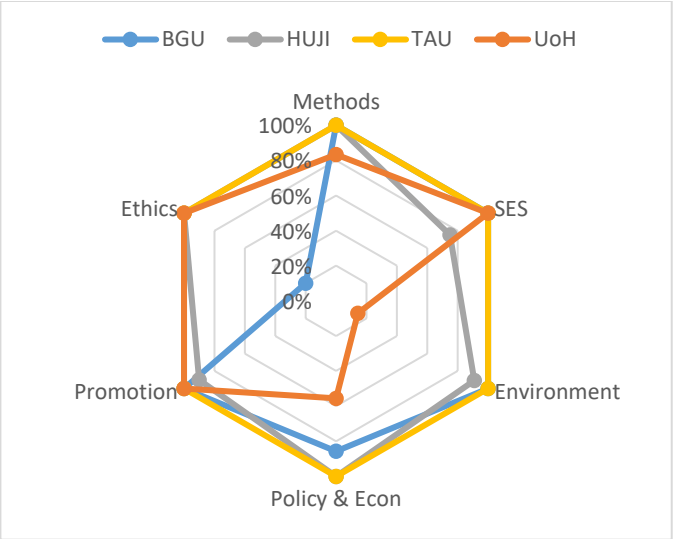

Figure 29: Health Promotion Specializations - Percent of Competences Addressed that Received a High Relative Score

Teaching Methods & Applied Learning Opportunities:

The HEIs widely differ in their use of exams and class exercises for teaching and assessing competences. TAU broadly uses exams and in class exercises to assess and provide opportunities for students to practice their knowledge and skills. Of the 51 competences addressed by TAU's curriculum, 44 are assessed via exams (86%) and 43 included in course exercises (84%). At UoH, 43% of addressed competences are included on exams and 73% on class exercises. Approximately half of the competences addressed by HUJI are on exams or class exercises. While BGU similarly includes half of its addressed competences through class exercises, 15% are included in exams. Notably, none of the Policy & Economics competences addressed in BGU's curriculum are included in exams. Students in the research and non-research tracks of all institutions must apply their knowledge and skills in the writing of a thesis or final project during which they receive personalized mentoring. In TAU, all competences not addressed within core or elective courses, specifically those related to programme implementation and analysis, development of research protocols and projects, and the implementation of public health research are addressed and covered in depth through this mentoring process. Students at UoH and TAU have the opportunity to engage in applied learning of competences through workshops and fieldwork, while HUJI students have access to workshops. The BGU programme offers no additional applied learning opportunities.

Health Promotion - Summary:

BGU, HUJI, TAU, and UoH all offer broad and comprehensive Health Promotion specializations. The main differences between the programmes emerge from their programme structure. HUJI's specialization addresses the largest number of competences. It lacks, however, Ethics competences in its core curriculum, a shortcoming that is addressed by its elective offerings. TAU and UoH's specializations similarly offer broad curricula. TAU's core addresses the majority of competences in all domains with the exception of Policy & Econ, a shortcoming that is overcome by its elective offerings. UoH's core similarly addresses all domains broadly with the exception of Environment, which, even with its extensive elective offerings, remains a domain of less focus (relative to the other domains and to TAU and HUJI). UoH's structure offers much greater student autonomy relative to other HEIs, allowing students to enroll in at least double the number of elective courses than in other HEI curricula. These more expansive elective offerings address the vast majority of competences and double the amount addressed by any other HEI. UoH and TAU offer students the opportunity to engage in field work, a unique feature to their programmes. BGU's Health Promotion specialization offers a broad curriculum that addresses all domains except for Environment, which is nearly absent from BGU's specialization. Within BGU's MPH core curriculum, students must choose between enrolling in Health Promotion or Environmental Health courses . BGU is also the most

restrictive of the HEIs regarding student course selection, allowing students to enroll in the fewest electives of all the HEIs and addressing the fewest number of competences with its elective courses. Overall, all four HEIs offer generally comprehensive Health Promotion specializations that broadly address the domain areas.

Results Across All Specializations offered by HEIs

Core Curriculum:

Competences Addressed:

As seen in Figure 30, HUJI's core courses address 84% of competences across all its specializations, greater than AAC (79%), TAU (71%), UoH (64%), and BGU (45%). The core courses of all HEIs address the vast majority of competences in the Methods and SES domains. The other domains are addressed to a lesser extent and with greater variance between HEIs. HUJI and TAU's core courses address over three-quarters of Environment competences across their respective specializations, greater than BGU (16%) and UoH's (42%) core, or AAC's curriculum (36%). Policy & Econ competences are also more comprehensively addressed by HUJI (83%) followed by AAC (60%), TAU (53%), BGU (32%) and UoH (31%). Nearly all Promotion competences are addressed by AAC's courses (91%). HUJI's core curriculum addresses 84% of Promotion competences, and TAU addresses 64%. UoH and BGU address less than half of the Promotion competences - 47% and 45%, respectively. All HEIs, except HUJI, address Ethics within their core courses. AAC, BGU, and UoH address all Ethics competences across their respective core offerings and TAU addresses 60% of the Ethics competences.

Relative Score:

100% of the competences addressed by TAU's core are covered in detail, scoring a high relative score (score of ≥3). HUJI (84%) and AAC (78%) similarly cover in detail high percentages of the competences addressed by their respective curricula. 69% of the competences addressed by UoH's core programme and 53% of those addressed by BGU's are covered in detail.

Elective Courses:

Competences Addressed:

Across its entire MPH programme, UoH's elective courses address the greatest percentage of competences of all HEIs. 63% of competences, including over 80% of those in the Methods, SES, and Ethics domains are addressed by elective courses in UoH's curricula. All other HEIs address less than half of competences in their respective elective courses. TAU and HUJI address 49% and 44%, respectively, and 17% are addressed by BGU. AAC's curriculum does not include elective courses. TAU's elective courses primarily address Methods competences (72%), 40-47% of SES, Policy & Econ, Promotion, and Ethics competences, and 33% of Environment. HUJI's elective courses largely fill the Ethics gap in their core courses, addressing 85% of competences in the domain. HUJI electives also address 58% of Methods, 39% of Promotion, and 73% of Policy & Econ. The domains of SES and Environment are barely addressed by HUJI's electives with only 13% and 14% addressed, respectively. The only domain in which over half of competences are addressed by BGU's elective courses is SES (56%), with about 20% of Methods, Environment and Policy & Econ competences being addressed. No competences within the Promotion or Ethics domains are addressed by BGU's elective courses.

Overall Curriculum:

Competences Addressed

Overall, HUJI offers the most comprehensive course offerings addressing 85% of competences across all its specializations. Over 90% of competences are addressed by core or elective courses in all domains except for Ethics (85%). TAU's programme similarly addresses the domains broadly with over 85% addressed by its core or elective courses. Over ~80% of competences are addressed in all domains of TAU's programme. AAC's BA programme similarly addresses 79% of competences, with a particular focus on Methods (100%), SES (100%), Promotion (91%), and Ethics (100%), and to a lesser extent Policy & Econ (60%) and Environment (36%). UoH's MPH programme also focuses on Methods (95%), SES (98%),

and Ethics (100%), and addresses 61% and 77% of Environment and Promotion competences, respectively. BGU's programme is the only HEI to address less than half of competences (47%) across all courses. Its programme particularly focuses on SES (75%) and Ethics (100%) and to a lesser extent Methods (56%).

Relative Score:

TAU (100%) and HUJI (92%) cover in detail (score of ≥3) high percentages of the competences addressed by their respective programmes courses. AAC (79%) and UoH (77%) similarly cover in detail high percentages of the competences addressed by their programme's courses. Less than half (47%) of competences addressed by courses in BGU's programme are covered in detail.

Teaching Methods:

The HEIs widely differ in their use of exams and class exercises for teaching and assessing competences. Nearly all of TAU's taught competences are assessed by exams (91%) and in-class exercises (89%). At UoH, 79% of addressed competences are supported by in-class exercises and 52% included in exams. Approximately half of the competences addressed by HUJI are included in exams and/or class exercises. BGU similarly supports half of its addressed competences through class exercises, and 15% are included in exams.

Summary:

Across all HEIs, Methods and SES domains are areas of emphasis, with 86% and 90% of the competences in these domains being addressed by core courses across all specializations and HEIs. The other domains are addressed to a lesser extent and with greater variance between HEIs.

Figure 30 on the following page and Figure 31 (Appendix D) present the aggregated domain results of all specializations and tracks offered by each HEI.

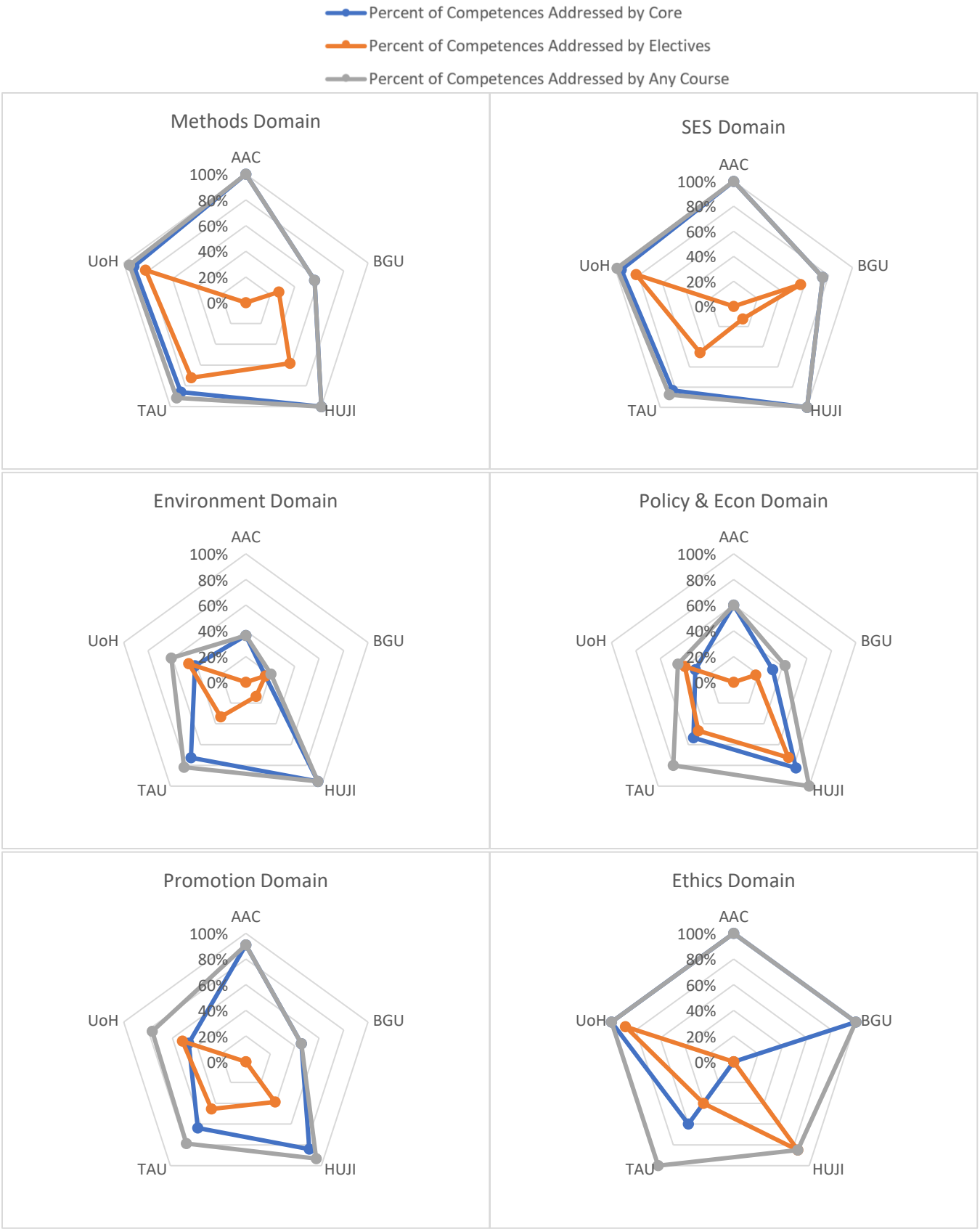

Figure 30: Domain Competences Addressed by Core, Elective, and Any Course across all Specializations of each HEI

DISCUSSION

The results reveal marked differences in programme structure across the five HEIs surveyed. The largest difference is seen between UoH whose core curriculum relies heavily on specialization courses, and the other HEIs that provide a broad common core curriculum which is mandatory for all students, regardless of specialization. This difference in programme structure may reflect differences in educational philosophy and the relative value of a broad vs. specialized education, and/or the importance of student autonomy within academic settings.

UoH's curriculum also relies on elective courses to a greater extent than other HEIs. As such, across all specializations, UoH's elective offerings address the largest percentage of competences of the HEIs. In fact, the total number of competences addressed by UoH's core and elective courses are nearly identical. This is unlike the other HEI's, where the number of competences addressed by their respective core courses vastly outnumber those addressed by elective courses.

These differences in programme structure are reflected in the percent of competences addressed by the respective core and elective curricula. Offering the broadest MPH core curricula, HUJI's and TAU's core curricula address the most competences across the domains. HUJI's MPH core curriculum addresses competences in all domains with the exception of Ethics. Within BGU's MPH core curriculum, students choose between enrolling in a Health Promotion or Environmental Health course. As such, the percent of Promotion competences and Environment competences addressed by BGU's core curricula varies greatly across specializations. While the Health Promotion specialization's core focuses on the Promotion domain to the exclusion of Environment competences, the Environmental Health specialization's core focuses on Environment domain to the exclusion of Promotion competences. Despite BGU's programme structure providing a broad MPH core curriculum, the results indicate that BGU's specializations have a narrower focus on specific domain areas than HUJI and TAU's curricula that broadly address competences in all domain areas.

These differences in the relative role of core and elective curricula are important in the interpretation of the results. All students studying within a specialization will be expected to gain expertise in all the competences addressed in the core curriculum. The student's choice of electives determines the total number and set of competences to which he/she will be exposed. In light of the differences in the curriculum structure across the HEIs and specializations, there is considerable heterogeneity in the competences tool-box of graduates of public health training in Israel.

Overall, all HEIs focus primarily on the Methods and SES domains. All but one of the 19 specializations in all five HEIs address over half of the competences in these domain areas, with nearly all addressing over 75% of the Methods and SES competences. The percent of competences addressed within the other domains varied much more across HEIs and across specializations within each HEI. Generally, HUJI, AAC, and TAU offer the most comprehensive curricula respectively addressing 84%, 79%, and 71% of the total competences across all specializations.

The breadth of competences addressed within AAC's curriculum is largely comparable with those offered in the master-level programmes offered by the other HEIs. It must be noted that the aim of this survey was to quantify the number and percent of competences in the different domains that are addressed in each HEI's curriculum. The survey did not assess the level of detail or complexity of each competency addressed. The results presented

herein, do not therefore contribute meaningful information to the ongoing discussion about the relative role of baccalaureate and masters level programmes in training public health professionals. This is an issue that the HEIs, public health agencies and other employers, together with the Council of Higher Education will continue to discuss

As mentioned above, across all HEI's, the Methods and SES domains are the main foci of curricula, with the vast majority of competences in these domains addressed by core and elective courses. Ethics competences are also well addressed, albeit less uniformly across HEIs. Whether the focus on these domains stems from a perception that the competences included in these domains are more essential to a public health education and career than the Environment, Policy & Econ and Promotion domains, or from some other reason, remains to be examined.

This emphasis on Methods and SES domains may reflect the skillsets and competences that each HEI feels are most are relevant. Preliminary results from WP2's employer survey indicate that EPHO 1 (Surveillance of Population Health and Wellbeing) and EPHO 10 (Advancing Public Health Research to Inform Policy and Practice) are the EPHOs most relevant to employers in the academic sphere. These EPHOs largely overlap with the Methods and SES competency domains. Conversely, EPHO 2 (Monitoring and Response to Health Hazards and Emergencies), EPHO6 (Assuring Governance for Health and Wellbeing), EPHO 8 (Assuring Sustainable Organizational Structures and Financing), and EPHO 9 (Advocacy Communication and Social Mobilization for Health) appear to be of less relevance to academic employers. These are precisely the EPHOs that largely map onto the Environment, Policy & Econ, and Promotion competency domains that are less comprehensively addressed by HEI's core curricula.

Employers in the academic sphere reported a greater skills deficit in the areas of collaboration & partnerships, leadership & systems thinking, One Health & health security, law, policy & ethics, and promoting health, than Science & Practice. These areas map to those domains less addressed within the HEI's respective curricula, suggesting a possible dissonance within academic institutions - between their role as educators and their role as employers and an imperfect match between public health training programmes and local market needs. This highlights the need for integration of the findings of the employer survey (conducted by WP2) and WP3's competences mapping survey presented herein in order to achieve the SEEEPHI project goal of enhancing the level of professionalization of the public health workforce in Israel.

Strengths and Limitations:

This survey is, to the best of our knowledge, the first systematic competences mapping of public health training in Israeli HEIs and covered all MPH and BPH programmes offered in the country. As mentioned above, the survey addresses the competences that are taught, but not necessarily the competences learned and internalized by the students, nor did the survey assess the level of detail or complexity of each competency addressed. As such, it is prudent to use caution in the interpretation of these results for the purposes of comparing the quality of education or graduates of the different HEIs.

Furthermore, the scope of the survey was limited to Bachelor of Public Health and Master of Public Health programmes only. Other public health related degree programmes (e.g., Master of Health Administration) and non-degree training programmes (such as summer schools) offered by the HEIs were not covered in this competency mapping exercise. Exclusion of these other academic training frameworks limits our ability to comprehensively characterize the public health workforce training experiences offered in the country.

The competences list was based on **ASPHER's European List of Core Competences for the Public Health Professional**. The data collection instrument was developed by the WP3 team for the purposes of this project, and was pre-tested at University College Cork. Implementation would likely have benefitted from an in-country pilot test, however as all HEIs participated, we did not want to bias potential respondents by conducting a pilot among our study population. Multiple indicators were used to assess the competences included in the six main competency domains, and while this provided richer information, it also introduced a certain element of complication in completing the questionnaire. Specifically, the metrics used to evaluate the specializations may not have accurately captured the educational opportunities provided by the thesis/capstone project. Ongoing communication between the WP3 team and the respondents, and repeated offers of assistance were essential to facilitate accurate completion of the questionnaire.

There was little consistency across HEIs in how the survey instrument was completed. Participating HEIs were instructed to appoint a focal person for each competency domain, someone very familiar with the material taught in the relevant core and elective courses and workshops. However, only one HEI did so. In other HEIs one or two persons provided information about competences addressed in the entire curriculum. Some respondents did not feel competent providing information for any courses beyond their own courses.

Finally, the use of different competences frameworks by WP3 and WP2 presents a challenge to the subsequent SEEPHI work in harmonizing the findings of the two work packages and drawing meaningful conclusions to move forward. Efforts are underway to map the two competency lists to EPHOS which may best serve the needs of WP4 in developing the online workforce platform.

Conclusions:

Israeli HEIs offer a diverse array of educational opportunities to people interested in careers in the field of public health. This report highlights commonalities and differences in the structure and curricula of the HEIs, as well as in the scope of competences addressed in the various programmes and specializations. Across all HEIs and specializations, the Methods and SES competency domains are the most comprehensively covered. The findings of this report will serve as the basis for discussions by the HEIs in harmonizing public health training in the country and considering the development of inter-institutional courses. Together with findings from the employer-survey conducted by WP2, information gained from this competency mapping will be used to help guide the next steps of the SEEEPHI project.

Appendix A: Abridged ASPHER's European List of Core Competences for the Public Health Professional

METHODS IN PUBLIC HEALTH				
	Intellectual Competences		**Practical Competences**	
Definitions of Health & Public Health	A.1.1.1 – A.1.2.1, A.1.3.1 – A.1.3.3; B.1.3.1	Definitions/Models/ Concepts of Health and Disease Definitions/Theories of Philosophy of Science		
Basic Epidemiologic/Demographic Concepts	A.1.4.1. – A.1.4.3 A.1.4.4.1 - A.1.4.4.23; A.1.4.6 B.1.1.1.1 – B.1.1.3.6 A.1.4.4.41 – A.1.4.5 A.1.4.13.14 – A.1.4.13.17 A.1.4.14.1 – A.1.4.14.5 A.1.4.9 – A.1.4.11	Definitions of Epidemiology Morbidity/Mortality Measures; Association Measures; Impact Measures Morbidity/Mortality Measures Validity & Reliability Associations (confounding, interaction) Causal Thinking Surveillance Systems	A.2.2.1.1 – A.2.2.2.5 A.2.2.3.14, A.2.2.4.10 - A.2.2.4.13 A.2.2.7	Calculate/Estimate Epidemiological Measures Confounding Correction Design & Implement Surveillance /Monitoring
Epidemiologic Study Designs: Observational	A.1.4.4.24 – A.1.4.4.33; A.1.4.4.37		A.1.4.4.36; A.2.2.3.1 – A.2.2.3.9	Apply Study Design Concepts
Epidemiologic Study Designs: Experimental	A.1.4.4.34 – A.1.4.4.35.1; A.1.4.4.39		A.2.2.3.10 – A.2.2.3.13	Apply Study Design Concepts
Statistical Concepts	A.1.4.12; A.1.4.13.1 – A.1.4.13.34;		A.2.2.4 – A.2.2.9; A.2.2.4.14 – A.2.2.4.19	Apply Statistical Concepts

METHODS IN PUBLIC HEALTH (CONTINUED)				
	Intellectual Competences		**Practical Competences**	
Disease Classification Systems	A.1.4.7.1 – A.1.4.7.5			
Qualitative Research Methods	A.1.5.1 – A.1.5.3; A.2.3.1		A.2.3.2 – A.2.4.1	Design & Implement Qual Research
Questionnaire Design & Scaling	A.1.6.4.2 – A.1.6.5		A.2.2.5 - A.2.2.6	Design and Implement Questionnaire
Sociologic Research	A.1.6.1 – A.1.6.5			
IT & Data Handling	A.1.7.1 – A.1.7.1.3 A.1.4.8 B.2.1.1; C.2.5 F.1.6	IT handling Data collection instruments and tools Public health databases/systems Ethics of Data	A.2.5.1 F.2.3	Perform Common IT function Apply ethics to data protection and confidentiality
Scientific Writing & Reading	A.1.8.1 – A.1.8.1.3; A.1.4.4.40; A.2.1.1	Literature Review Systematic Reviews/Meta-analyses Analysis of text	A.2.2.8 – A.2.2.10 A.2.6.1 – A.2.6.4 A.2.6.5 – A.2.6.6 A.2.7.3 – A.2.7.3.9 F.2.5	Literature Quality Assessment Perform Lit Search Meta-Analysis Write Scientific Report Ethics of Scientific Writing
Develop & Conduct PH Research Protocol			A.2.7.1 – A.2.7.1.6; A.2.2.5-A.2.2.5.2 A.2.7.2	Develop Research Protocol Conduct PH Project

POPULATION HEALTH - Social/Economic Determinants of Health				
	Intellectual Competences		**Practical Competences**	
Basic Population Health Definitions & Concepts	B.1.1.1.1. - B.1.1.1.2.3. B.1.1.2. -B.1.1.2.2. B.1.1.3. -1.1.3.6; B.1.3.1; B.1.3.3; B.1.3.4	Population Health Morbidity/Mortality indicators Disease Indicators Health Expectancy/Demographic Indicators National/International trends and levels	B.2.1.1.1	Calculate/Estimate Epidemiological Measures
Sociological Concepts	B.1.2.1. – B.1.2.1.30.			
Socioeconomic Indicators	B.1.2.2 – B.1.2.2.12			
Health Behavior Indicators	B.1.2.3 – B.1.2.3.11.11			
Models of Social determinants of Health	B.1.3.2 - B.1.3.2.5			
Social determinants of Health Research	B.1.3.3.1-B.1.3.3.3 B.1.3.3.5-B.1.3.3.13	Associations and Trends of health and determinants Social/Political Determinates	B.2.1.1.2 - B.2.1.1.4	Apply concepts to identify and analyse trends of health and social, economic, political determinants
Engagement with Israel and Global PH community stakeholders	B.1.3.3.4 B.1.3.5	Partnership building Research programs		

POPULATION HEALTH - Environmental (chemical…) Determinants of Health				
	Intellectual Competences		**Practical Competences**	
Basic Environmental Health Definitions and Concepts	C.1.1 – C.1.3	Basic Concepts and Terminology		
Environmental Exposures/Risk Factors	C.1.5 - C.1.6.17 C.1.7 - C.1.10; C.1.16	Environmental Exposures Health Outcomes of exposure	C.2.2	Perform risk and health impact assessments
Environmental Measurement/Surveillance	C.1.4 C.1.11 C.1.12 C.1.14	Basic Environmental Risk Estimation Measurement and Monitoring Governance and Standards Surveillance Systems	C.2.1 C.2.5-2.5.3	Monitor exposures Calculate Epidemiological Measures
Governance and Stakeholders	C.1.12 C.1.13 C.1.20; D.1.10	Governance and Standards Identify Stakeholders Research	D.1.10	Assess governance at all levels
Diet/Food Safety Research	C.1.17-C.1.18.1		C.2.3 E.2.6	Conduct dietary assessments Apply knowledge of food composition to policy development and practice
Emergency Planning/Management	C.1.19-C.1.19.3.7			
Prevention and Management	C.1.15		C.2.4	Develop public health strategies
Environmental Research	C.1.20		C.2.6; C.2.7	Conduct environmental health research/project

HEALTH POLICY, ECONOMICS, ORGANIZATION				
	Intellectual Competences		**Practical Competences**	
Economic Theory and Concepts – Basics	D.1.1 - D.1.1.7. D.1.2 - D.1.2.1 D.1.3.1 - D.1.3.3.9 D.1.3.4 - D.1.3.5.2.1; D.1.9. D.1.3.6 - D.1.3.8.3	Basic concepts and developments in disciplines Theories and methods used General Economic Concepts Health Economic Concepts Economic and Ethical considerations	D.2.2	Perform financial analysis
Organizational Theory, Leadership, & Management Concepts	D.1.3.9 D.1.3.10 - D.1.3.12 D.1.3.13 - D.1.3.15 D.1.3.16 - D.1.3.17 D.1.3.18 – D.1.3.18.2 D.1.3.21 - D.1.4 D.1.5 - D.1.6.9 B.1.3.3.4	Logistics Leadership theories and concepts Organizational Theory Collaboration Systems Thinking Budgeting and Accounting Health Org Theory and Management Partnerships	D.2.11 D.2.2. D.2.14 D.2.16	Perform Organizational/Managerial Analysis Apply leadership styles and theories Promote effective teamwork Apply systems thinking to practical problems
Program Implementation	D.1.3.19 - D.1.3.20; A.1.4.4.38		D.2.1. - D.1.7; D.2.5-D.2.9 D.2.7	Develop and Implement PH Project Perform SWOT analysis
Evaluation Strategies and Designs	D.1.7.1 – D.1.7.2 D.1.7.3. – D.1.7.3.3. D.1.7.4, D.1.7.6. - D.1.7.8 D.1.7.5 D.1.7.9. D.1.8	Effect and Process Evaluation Health Economic Evaluation Organization Evaluations/Assessments Health Technology Assessment Policy Assessment Health Impact Assessment	D.2.2 - D.2.3. D.2.3 – D.2.3.3 D.2.4 - D.2.5 D.2.8. D.2.9 - D.2.10; D.2.12 D.2.15	Perform Organizational/Strategy analysis and assessments Perform Health economic assessment Perform impact assessments Budgetary Forecasts Manage change through appropriate models Translate strategies to programs

HEALTH POLICY, ECONOMICS, ORGANIZATION (CONTINUED)				
	Intellectual Competences		**Practical Competences**	
Israel and Global PH Organizational Ecosystem	D.1.10; D.1.11 – D.1.11.8 D.1.12 – D.1.12.2.1 D.1.13 - D.1.13.8	Partnership building National and International Organizations European PH Strategies Industry and Public Health	D.1.10; D.2.13-D.2.13.3	Apply and implement inter-sectoral collaboration
Disaster Management	D.1.12.4	Sendai Framework		

HEALTH PROMOTION & DISEASE PREVENTION				
	Intellectual Competences		**Practical Competences**	
Definitions of Health Promotion/Protection and Disease Prevention	E.1.1 E.1.2 - E.1.2.3 E.1.3.1 – E.1.3.3	Theory and Practice including Charters Basic Definitions Levels of Disease Prevention		
Health Promotion Basic Concepts	E.1.4 - E.1.4.12		E.2.1	Identify population health challenges relevant for HP
Major Theories and Models	E.1.5.1 – E.1.5.1.4 E.1.5.2 - E.1.5.2.3 E.1.5.3 - E.1.5.3.3.	Health Education Theories Health Projection Systems Disease Prevention		
Principles of Health Communication	E.1.6 - E.1.6.4		E.2.2 E.2.4 E.2.3	Communicate PH messages effectively Play active role engaging the public Apply community development theory
Design and Application of HP Programs	E.1.7.1 E.1.7.2 – E1.7.2.4 E.1.7.3 – E.1.7.3.4 E.1.7.4 - E.1.7.6 E.1.9	Models of Behavior Change for programs Health Education Programs Health Protection Programs Health Prevention Programs Individual vs. Societal Policies	E.2.3 - E2.7	Design and Conduct HP strategies
Emergency Planning and Management	E.1.8		E.2.5	Lead and evaluate outbreak incident
HP Program Research	E.1.10	Effectiveness and Cost-Effectiveness		
Israel and Global PH Ecosystem	D.1.10 E.1.11 – E.1.11.3 E.1.12 E.1.13 – E.1.13.2 E.1.14	Partnership Building Health Promotion Programs in Europe National and international organizations National and international policies and strategies National and international legal frameworks	D.1.10; E.2.8 – E.2.8.6	Write Policy Proposal

ETHICS				
	Intellectual Competences		**Practical Competences**	
Basic Ethical Theories and Concepts	F.1.1 - F.1.2.12		F.2.1 – F.2.1.1	Identify ethical issues of public health
Ethical Dimensions of Public Health Strategies	F.1.3. F.1.4. – F.1.4.4. F.1.5.	Good epidemiological practice and GCP Ethics in public health Policy Making	F.2.2 – F.2.2.1 F.2.4 F.2.5.	Apply ethical principles to PH strategy Prepare application to ethics committee Ethics in authorship
Data Protection and Storage	F.1.6.		F.2.3	Apply ethics to data systems and IT
Ethics Committee Systems	F.1.4.4		F.2.4	Prepare application to ethics committee system

Appendix B: Data-Collection Tool

Mapping the Competency Profiles of Israeli Schools and Programs of Public Health to Guide Harmonization Between Public Health Education and Practice

☐ **ASHKELON COLLEGE** ☐ **BEN GURION U.** ☐ **HAIFA U.** ☐ **HEBREW U.** ☐ **TEL AVIV U.**

Please complete the following information for your MPH/BPH Program overall, and separately for each track/specialization.

In the space below, please indicate (in English) what you consider are the major foci of your **MPH/BPH program overall**

In the space below, please indicate (in English) what you consider are the major foci of your **MPH/BPH curriculum _____ Track/Specialization**

In the space below, please indicate (in English) what you consider are the major foci of your **MPH/BPH curriculum _____ Track/Specialization**

In the space below, please indicate (in English) what you consider are the major foci of your **MPH/BPH curriculum _____ Track/Specialization**

Please complete the below tables for each track/specialization separately.

Theoretical Learning: For each competency area, indicate whether the theoretical aspects of the competency are addressed in course courses and/or elective courses by indicating the number of relevant core and elective courses.

Practical/Applied Learning: For each competency area, indicate how the practical/applied learning of the competency is carried out (e.g., students are expected to complete an in-class exercise, through fieldwork, etc.). Please check all relevant categories.

Degree: MPH / BPH Specialization/Track_____									
	Theoretical Learning		**Practical/Applied Learning**						**Relative Coverage***
	Number of Core Courses	Number of Elective Courses	Course Exercise	Course Exam	Thesis	Capstone Project/ Master Paper	Workshop	Field Work	
METHODS IN PUBLIC HEALTH COMPETENCY AREAS									
Definitions of Health & Public Health									
Disease Classification Systems									
Basic Epidemiologic/Demographic Concepts									
Epidemiologic Study Designs: Observational									
Epidemiologic Study Designs: Experimental									
Qualitative Research Methods									
Questionnaire Design & Scaling									
Statistical Concepts									
IT & Data Handling									
Scientific Writing & Reading									
Develop a PH Research Protocol									
Conduct a PH Research Project									

* Rank the relative coverage of each competency on a scale from 1 (very low coverage – mentioned in one or more courses but not necessarily accompanied by an exercise or exam questions) to 4 (very high coverage – addressed in detail in one or more courses and accompanied by exercise and/or exam questions). If the competency is not addressed at all in your program's curriculum, please leave the Relative Coverage box blank.

Degree: MPH / BPH Specialization/Track_____									
	Theoretical Learning		**Practical/Applied Learning**						**Relative Coverage***
	Number of Core Courses	Number of Elective Courses	Course Exercise	Course Exam	Thesis	Capstone Project/ Master Paper	Workshop	Field Work	
POPULATION HEALTH AND ITS SOCIAL, ECONOMIC AND POLITICAL DETERMINANTS COMPETENCY AREAS									
Basic Population Health Definitions & Concepts									
Population Health Indicators									
Socioeconomic Determinants – Concepts									
Socioeconomic Determinants – Indicators									
Health Behavior – Indicators									
Models and Theories of Social Determinants of Health									
Develop a Population Health Research Protocol									
Conduct a Population Health Research Project									

* Rank the relative coverage of each competency on a scale from 1 (very low coverage – mentioned in one or more courses but not necessarily accompanied by an exercise or exam questions) to 4 (very high coverage – addressed in detail in one or more courses and accompanied by exercise and/or exam questions). If the competency is not addressed at all in your program's curriculum, please leave the Relative Coverage box blank.

Degree: MPH / BPH Specialization/Track_____									
	Theoretical Learning		**Practical/Applied Learning**						**Relative Coverage***
	Number of Core Courses	Number of Elective Courses	Course Exercise	Course Exam	Thesis	Capstone Project/ Master Paper	Workshop	Field Work	
POPULATION HEALTH AND ITS MATERIAL – PHYSICAL, RADIOLOGICAL, CHEMICAL, AND BIOLOGICAL – ENVIRONMENTAL DETERMINANTS COMPETENCY AREAS									
Basic Environ. Health Definitions & Concepts									
Environmental Health Exposures – Risk Factors									
Environmental Measurement / Surveillance									
Governance and Stakeholders									
Food Security / Food Safety									
Emergency Planning/Management									
Preventing and Controlling Hazards									
Conduct Risk and Health Impact Assessments									
Develop Environmental Health Strategies									
Develop an Environ. Health Research Protocol									
Conduct an Environ. Health Research Project									

* Rank the relative coverage of each competency on a scale from 1 (very low coverage – mentioned in one or more courses but not necessarily accompanied by an exercise or exam questions) to 4 (very high coverage – addressed in detail in one or more courses and accompanied by exercise and/or exam questions). If the competency is not addressed at all in your program's curriculum, please leave the Relative Coverage box blank.

Degree: MPH / BPH Specialization/Track_____									
	Theoretical Learning		**Practical/Applied Learning**						**Relative Coverage***
	Number of Core Courses	Number of Elective Courses	Course Exercise	Course Exam	Thesis	Capstone Project/ Master Paper	Workshop	Field Work	
HEALTH POLICY; ECONOMICS; ORGANIZATIONAL THEORY; LEADERSHIP AND MANAGEMENT COMPETENCY AREAS									
Basic Economic Theory and Concepts									
Basic Organizational Theory; Leadership and Management Concepts									
Evaluation Strategies and Designs – Impact Evaluations									
Evaluation Strategies and Designs – Health Economic Evaluations									
Evaluation Strategies and Designs – Organizational/Program Evaluations									
Evaluation Strategies and Designs – Policy Evaluations									
Disaster Management									
Program Implementation and Analysis Strategies									
Develop a PH Policy/Strategy/Intervention Project									
Implement a PH Policy/Strategy/Intervention Project									

* Rank the relative coverage of each competency on a scale from 1 (very low coverage – mentioned in one or more courses but not necessarily accompanied by an exercise or exam questions) to 4 (very high coverage – addressed in detail in one or more courses and accompanied by exercise and/or exam questions). If the competency is not addressed at all in your program's curriculum, please leave the Relative Coverage box blank.

Degree: MPH / BPH Specialization/Track_____									
	Theoretical Learning		**Practical/Applied Learning**						**Relative Coverage***
	Number of Core Courses	Number of Elective Courses	Course Exercise	Course Exam	Thesis	Capstone Project/ Master Paper	Workshop	Field Work	
HEALTH PROMOTION, HEALTH PROTECTION, AND DISEASE PREVENTION COMPETENCY AREAS									
Definitions of Health Promotion, Protection, & Disease Prevention									
Basic Health Promotion Concepts									
Major Theories and Models									
Principles of Health Communication									
Health Promotion Program Design & Methods									
Emergency Planning and Management									
Health Promotion Program Research Design									
Program Implementation and Analysis Strategies									
Develop a Health Promotion Policy Proposal									
Develop a Health Promotion Project									
Implement a Health Promotion Project									

* Rank the relative coverage of each competency on a scale from 1 (very low coverage – mentioned in one or more courses but not necessarily accompanied by an exercise or exam questions) to 4 (very high coverage – addressed in detail in one or more courses and accompanied by exercise and/or exam questions). If the competency is not addressed at all in your program's curriculum, please leave the Relative Coverage box blank.

Degree: MPH / BPH Specialization/Track_____									
	Theoretical Learning		**Practical/Applied Learning**						**Relative Coverage***
	Number of Core Courses	Number of Elective Courses	Course Exercise	Course Exam	Thesis	Capstone Project/ Master Paper	Workshop	Field Work	
ETHICS COMPETENCY AREAS									
Basic Ethical Theories and Concepts									
Ethical Aspects of Public Health Strategies, Interventions, and Policies									
Ethical Aspects of Public Health Research									
Data Protection and Storage									
Ethics Committee Systems									

* Rank the relative coverage of each competency on a scale from 1 (very low coverage – mentioned in one or more courses but not necessarily accompanied by an exercise or exam questions) to 4 (very high coverage – addressed in detail in one or more courses and accompanied by exercise and/or exam questions). If the competency is not addressed at all in your program's curriculum, please leave the Relative Coverage box blank.

Appendix C: Competences Addressed by HEI and Specialization – Summary Table

RESULTS BY HEI AND SPECIALIZATION – SUMMARY TABLE															
HEI	**Specialization**	**Core Curricula**				**Elective Curricula**		**Overall Curricula**							
		Competences Addressed by Core		Competences Addressed by Core that Received High Relative Score		Competences Addressed by Electives		Competences Addressed by Any Course		Competences Addressed by Any Course that Received High Relative Score		Competences Addressed by Any Course with Courses Exercise		Competences Addressed by Any Course Exam	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%
AAC	**N/A**	45	79%	35	78%	N/A	N/A	45	79%	35	78%	29	64%	34	76%
BGU	**Environmental Health**	32	56%	13	41%	15	26%	33	58%	14	42%	28	85%	15	45%
	Health Promotion	37	65%	33	89%	12	21%	39	68%	34	87%	22	56%	6	15%
	Infectious Disease Prevention	16	28%	5	31%	4	7%	16	28%	5	31%	11	69%	8	50%
	Mother & Child Health	23	40%	6	26%	9	16%	23	40%	6	26%	19	83%	7	30%
	BGU Total	108	45%	57	53%	40	17%	111	47%	59	53%	80	72%	36	32%
HUJI	**Epidemiology & Biostatistics**	48	84%	39	81%	24	42%	55	96%	51	93%	30	55%	28	51%
	Health Administration & Policy	49	86%	39	80%	26	46%	56	98%	51	91%	42	75%	38	68%
	Health & Environment	47	82%	38	81%	27	47%	54	95%	50	93%	30	56%	29	54%
	Health Promotion	48	84%	39	81%	24	42%	55	96%	51	93%	31	56%	28	51%
	HUJI Total	192	84%	155	81%	101	44%	220	96%	203	92%	133	60%	123	56%

RESULTS BY HEI AND SPECIALIZATION – SUMMARY TABLE (CONTINUED)															
HEI	Specialization	Core Curricula				Elective Curricula		Overall Curricula							
		Competences Addressed by Core		Competences Addressed by Core that Received High Relative Score		Competences Addressed by Electives		Competences Addressed by Any Course		Competences Addressed by Any Course that Received High Relative Score		Competences Addressed by Any Course with Courses Exercise		Competences Addressed by Any Course Exam	
		N	%	N	N	%	N	N	%	N	N	%	N	N	%
TAU	**General**	38	67%	38	100%	31	54%	48	84%	48	100%	43	90%	44	92%
	Health Promotion	44	77%	44	100%	26	46%	51	89%	51	100%	43	84%	44	86%
	Health Systems Administration	39	68%	39	100%	26	46%	47	82%	47	100%	44	94%	45	96%
	TAU Total	121	71%	121	100%	83	49%	146	85%	146	100%	130	89%	133	91%
UOH	**Biostatistics**	32	56%	17	53%	27	47%	40	70%	17	43%	33	83%	23	58%
	Community Health	34	60%	23	68%	47	82%	48	84%	24	50%	39	81%	24	50%
	Environmental Health & Occupational Hygiene	44	77%	31	70%	37	65%	48	84%	31	65%	35	73%	22	46%
	Epidemiology	30	53%	24	80%	37	65%	40	70%	24	60%	31	78%	22	55%
	Health Systems Management	45	79%	39	87%	48	84%	51	89%	39	76%	37	73%	22	43%
	Health Promotion	37	65%	18	49%	29	51%	44	77%	18	41%	35	80%	24	55%
	Mental Health Services	33	58%	23	70%	25	44%	37	65%	23	62%	33	89%	22	59%
	UoH Total	255	64%	175	69%	250	63%	308	77%	176	57%	243	79%	159	52%

METHODS RESULTS BY HEI AND SPECIALIZATION															
HEI	Specialization	Core Curricula				Elective Curricula		Overall Curricula							
		Competences Addressed by Core		Competences Addressed by Core that Received High Relative Score		Competences Addressed by Electives		Competences Addressed by Any Course		Competences Addressed by Any Course that Received High Relative Score		Competences Addressed by Any Course with Courses Exercise		Competences Addressed by Any Course Exam	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%
AAC	**N/A**	12	100%	9	75%	N/A	N/A	12	100%	9	75%	8	67%	9	75%
BGU	**Environmental Health**	8	67%	3	38%	5	42%	8	67%	3	38%	8	100%	2	25%
	Health Promotion	9	75%	9	100%	3	25%	9	75%	9	100%	9	100%	0	0%
	Infectious Disease Prevention	2	17%	2	100%	0	0%	2	17%	2	100%	2	100%	0	0%
	Mother & Child Health	8	67%	3	38%	5	42%	8	67%	3	38%	8	100%	0	0%
	BGU Total	27	56%	17	63%	13	27%	27	56%	17	63%	27	100%	2	7%
HUJI	**Epidemiology & Biostatistics**	12	100%	8	67%	6	50%	12	100%	12	100%	8	67%	5	42%
	Health Administration & Economics	12	100%	8	67%	8	67%	12	100%	12	100%	10	83%	6	50%
	Health & Environment	12	100%	8	67%	8	67%	12	100%	12	100%	8	67%	6	50%
	Health Promotion	12	100%	8	67%	6	50%	12	100%	12	100%	8	67%	5	42%
	HUJI Total	48	100%	32	67%	28	58%	48	100%	48	100%	34	71%	22	46%

METHODS RESULTS BY HEI AND SPECIALIZATION (CONTINUED)															
HEI	Specialization	Core Curricula				Elective Curricula		Overall Curricula							
		Competences Addressed by Core		Competences Addressed by Core that Received High Relative Score		Competences Addressed by Electives		Competences Addressed by Any Course		Competences Addressed by Any Course that Received High Relative Score		Competences Addressed by Any Course with Courses Exercise		Competences Addressed by Any Course Exam	
		N	%	N	N	%	N	N	%	N	N	%	N	N	%
TAU	**General**	10	83%	10	100%	9	75%	11	92%	11	100%	10	91%	11	100%
	Health Promotion	11	92%	11	100%	8	67%	11	92%	11	100%	10	91%	11	100%
	Health Systems Administration	10	83%	10	100%	9	75%	11	92%	11	100%	10	91%	11	100%
	TAU Total	31	86%	31	100%	26	72%	33	92%	33	100%	30	91%	33	100%
UOH	**Biostatistics**	12	100%	9	75%	10	83%	12	100%	9	75%	10	83%	6	50%
	Community Health	11	92%	7	64%	11	92%	12	100%	7	58%	11	92%	6	50%
	Environmental Health & Occupational Hygiene	11	92%	11	100%	10	83%	11	92%	11	100%	10	91%	5	45%
	Epidemiology	11	92%	10	91%	12	100%	12	100%	10	83%	11	92%	6	50%
	Health Systems Management	11	92%	10	91%	12	100%	12	100%	10	83%	11	92%	6	50%
	Health Promotion	10	83%	5	50%	7	58%	10	83%	5	50%	10	100%	6	60%
	Mental Health Services	11	92%	9	82%	7	58%	11	92%	9	82%	11	100%	6	55%
	UoH Total	77	92%	61	79%	69	82%	80	95%	61	76%	74	93%	41	51%

SES RESULTS BY HEI AND SPECIALIZATION															
HEI	Specialization	Core Curricula				Elective Curricula		Overall Curricula							
		Competences Addressed by Core		Competences Addressed by Core that Received High Relative Score		Competences Addressed by Electives		Competences Addressed by Any Course		Competences Addressed by Any Course that Received High Relative Score		Competences Addressed by Any Course with Courses Exercise		Competences Addressed by Any Course Exam	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%
AAC	**N/A**	8	100%	6	75%	N/A	N/A	8	100%	6	75%	6	75%	7	88%
BGU	**Environmental Health**	6	75%	2	33%	4	50%	6	75%	2	33%	6	100%	2	33%
	Health Promotion	8	100%	8	100%	6	75%	8	100%	8	100%	8	100%	0	0%
	Infectious Disease Prevention	4	50%	2	50%	4	50%	4	50%	2	50%	4	100%	0	0%
	Mother & Child Health	6	75%	2	33%	4	50%	6	75%	2	33%	6	100%	0	0%
	BGU Total	24	75%	14	58%	18	56%	24	75%	14	58%	24	100%	2	8%
HUJI	**Epidemiology & Biostatistics**	8	100%	6	75%	1	13%	8	100%	6	75%	3	38%	3	38%
	Health Administration & Economics	8	100%	6	75%	1	13%	8	100%	6	75%	5	63%	5	63%
	Health & Environment	8	100%	5	63%	1	13%	8	100%	5	63%	3	38%	3	38%
	Health Promotion	8	100%	6	75%	1	13%	8	100%	6	75%	3	38%	3	38%
	HUJI Total	32	100%	23	72%	4	13%	32	100%	23	72%	14	44%	14	44%

SES RESULTS BY HEI AND SPECIALIZATION (CONTINUED)															
HEI	Specialization	Core Curricula				Elective Curricula		Overall Curricula							
		Competences Addressed by Core		Competences Addressed by Core that Received High Relative Score		Competences Addressed by Electives		Competences Addressed by Any Course		Competences Addressed by Any Course that Received High Relative Score		Competences Addressed by Any Course with Courses Exercise		Competences Addressed by Any Course Exam	
		N	%	N	N	%	N	N	%	N	N	%	N	N	%
TAU	**General**	6	75%	6	100%	4	50%	7	88%	7	100%	6	86%	6	86%
	Health Promotion	7	88%	7	100%	3	38%	7	88%	7	100%	6	86%	6	86%
	Health Systems Administration	7	88%	7	100%	4	50%	7	88%	7	100%	6	86%	6	86%
	TAU Total	20	83%	20	100%	11	46%	21	88%	21	100%	18	86%	18	86%
UOH	**Biostatistics**	8	100%	5	63%	5	63%	8	100%	5	63%	8	100%	7	88%
	Community Health	6	75%	5	83%	8	100%	8	100%	6	75%	7	88%	6	75%
	Environmental Health & Occupational Hygiene	8	100%	6	75%	7	88%	8	100%	6	75%	8	100%	7	88%
	Epidemiology	8	100%	8	100%	7	88%	8	100%	8	100%	8	100%	7	88%
	Health Systems Management	8	100%	8	100%	8	100%	8	100%	8	100%	8	100%	7	88%
	Health Promotion	7	88%	3	43%	4	50%	7	88%	3	43%	8	114%	7	100%
	Mental Health Services	8	100%	7	88%	7	88%	8	100%	7	88%	8	100%	7	88%
	UoH Total	53	95%	42	79%	46	82%	55	98%	43	78%	55	100%	48	87%

ENVIRONMENT RESULTS BY HEI AND SPECIALIZATION															
HEI	Specialization	Core Curricula				Elective Curricula		Overall Curricula							
		Competences Addressed by Core		Competences Addressed by Core that Received High Relative Score		Competences Addressed by Electives		Competences Addressed by Any Course		Competences Addressed by Any Course that Received High Relative Score		Competences Addressed by Any Course with Courses Exercise		Competences Addressed by Any Course Exam	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%
AAC	N/A	4	36%	2	50%	N/A	N/A	4	36%	2	50%	0	0%	4	100%
BGU	Environmental Health	7	64%	6	86%	6	55%	8	73%	7	88%	7	88%	3	38%
	Health Promotion	0	0%	-	-	1	9%	1	9%	1	100%	0	0%	0	0%
	Infectious Disease Prevention	0	0%	-	-	0	0%	0	0%	-	-	-	-	-	-
	Mother & Child Health	0	0%	-	-	0	0%	0	0%	-	-	-	-	-	-
	BGU Total	7	16%	6	86%	7	16%	9	20%	8	89%	7	78%	3	33%
HUJI	Epidemiology & Biostatistics	11	100%	9	82%	1	9%	11	100%	10	91%	8	73%	8	73%
	Health Administration & Economics	10	91%	9	90%	2	18%	10	91%	10	100%	8	80%	8	80%
	Health & Environment	10	91%	9	90%	2	18%	10	91%	10	100%	8	80%	8	80%
	Health Promotion	11	100%	9	82%	1	9%	11	100%	10	91%	8	73%	8	73%
	HUJI Total	42	95%	36	86%	6	14%	42	95%	40	95%	32	76%	32	76%

ENVIRONMENT RESULTS BY HEI AND SPECIALIZATION (CONTINUED)															
HEI	Specialization	Core Curricula				Elective Curricula		Overall Curricula							
		Competences Addressed by Core		Competences Addressed by Core that Received High Relative Score		Competences Addressed by Electives		Competences Addressed by Any Course		Competences Addressed by Any Course that Received High Relative Score		Competences Addressed by Any Course with Courses Exercise		Competences Addressed by Any Course Exam	
		N	%	N	N	%	N	N	%	N	N	%	N	N	%
TAU	**General**	8	73%	8	100%	4	36%	9	82%	9	100%	8	89%	8	89%
	Health Promotion	8	73%	8	100%	4	36%	9	82%	9	100%	8	89%	8	89%
	Health Systems Administration	8	73%	8	100%	3	27%	9	82%	9	100%	8	89%	8	89%
	TAU Total	24	73%	24	100%	11	33%	27	82%	27	100%	24	89%	24	89%
UOH	**Biostatistics**	3	27%	0	0%	2	18%	4	36%	0	0%	4	100%	4	100%
	Community Health	6	55%	1	17%	9	82%	9	82%	1	11%	7	78%	5	56%
	Environmental Health & Occupational Hygiene	9	82%	5	56%	9	82%	11	100%	5	45%	6	55%	4	36%
	Epidemiology	3	27%	0	0%	6	55%	6	55%	0	0%	4	67%	4	67%
	Health Systems Management	4	36%	1	25%	6	55%	7	64%	1	14%	4	57%	4	57%
	Health Promotion	4	36%	1	25%	4	36%	7	64%	1	14%	4	57%	4	57%
	Mental Health Services	3	27%	0	0%	0	0%	3	27%	0	0%	3	100%	3	100%
	UoH Total	32	42%	8	25%	36	47%	47	61%	8	17%	32	68%	28	60%

POLICY & ECON RESULTS BY HEI AND SPECIALIZATION															
HEI	Specialization	Core Curricula				Elective Curricula		Overall Curricula							
		Competences Addressed by Core		Competences Addressed by Core that Received High Relative Score		Competences Addressed by Electives		Competences Addressed by Any Course		Competences Addressed by Any Course that Received High Relative Score		Competences Addressed by Any Course with Courses Exercise		Competences Addressed by Any Course Exam	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%
AAC	**N/A**	6	60%	4	67%	N/A	N/A	6	60%	4	67%	0	0%	4	67%
BGU	**Environmental Health**	4	40%	1	25%	0	0%	4	40%	1	25%	2	50%	0	0%
	Health Promotion	6	60%	6	100%	2	20%	7	70%	6	86%	0	0%	1	14%
	Infectious Disease Prevention	0	0%	-	-	0	0%	0	0%	-	-	-	-	-	-
	Health Systems Management	6	60%	5	83%	7	70%	10	100%	8	80%	7	70%	10	100%
	Mother & Child Health	0	0%	-	-	0	0%	0	0%	-	-	-	-	-	-
	BGU Total	16	32%	12	75%	9	18%	21	42%	15	71%	9	43%	11	52%
HUJI	**Epidemiology & Biostatistics**	8	80%	8	100%	7	70%	10	100%	10	100%	3	30%	3	30%
	Health Administration & Economics	9	90%	8	89%	8	80%	10	100%	10	100%	10	100%	10	100%
	Health & Environment	8	80%	8	100%	7	70%	10	100%	10	100%	3	30%	3	30%
	Health Promotion	8	80%	8	100%	7	70%	10	100%	10	100%	3	30%	3	30%
	HUJI Total	33	83%	32	97%	29	73%	40	100%	40	100%	19	48%	19	48%

POLICY & ECON RESULTS BY HEI AND SPECIALIZATION (CONTINUED)															
HEI	Specialization	Core Curricula				Elective Curricula		Overall Curricula							
		Competences Addressed by Core		Competences Addressed by Core that Received High Relative Score		Competences Addressed by Electives		Competences Addressed by Any Course		Competences Addressed by Any Course that Received High Relative Score		Competences Addressed by Any Course with Courses Exercise		Competences Addressed by Any Course Exam	
		N	%	N	N	%	N	N	%	N	N	%	N	N	%
TAU	**General**	4	40%	4	100%	6	60%	8	80%	8	100%	7	88%	7	88%
	Health Promotion	4	40%	4	100%	6	60%	8	80%	8	100%	7	88%	7	88%
	Health Systems Administration	8	80%	8	100%	2	20%	8	80%	8	100%	8	100%	8	100%
	TAU Total	16	53%	16	100%	14	47%	24	80%	24	100%	22	92%	22	92%
UOH	**Biostatistics**	1	10%	0	0%	1	10%	2	20%	0	0%	3	150%	1	50%
	Community Health	2	20%	2	100%	4	40%	4	40%	2	50%	3	75%	1	25%
	Environmental Health & Occupational Hygiene	3	30%	1	33%	5	50%	5	50%	1	20%	3	60%	1	20%
	Epidemiology	0	0%	-	-	0	0%	0	0%	-	-	-	-	-	-
	Health Systems Management	7	70%	5	71%	7	70%	9	90%	5	56%	6	67%	0	0%
	Health Promotion	7	70%	7	100%	8	80%	9	90%	7	78%	5	56%	2	22%
	Mental Health Services	2	20%	1	50%	3	30%	3	30%	1	33%	3	100%	1	33%
	UoH Total	22	31%	16	73%	28	40%	32	46%	16	50%	23	72%	6	19%

PROMOTION RESULTS BY HEI AND SPECIALIZATION															
HEI	Specialization	Core Curricula				Elective Curricula		Overall Curricula							
		Competences Addressed by Core		Competences Addressed by Core that Received High Relative Score		Competences Addressed by Electives		Competences Addressed by Any Course		Competences Addressed by Any Course that Received High Relative Score		Competences Addressed by Any Course with Courses Exercise		Competences Addressed by Any Course Exam	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%
AAC	**N/A**	10	91%	9	90%	N/A	N/A	10	91%	9	90%	10	100%	5	50%
BGU	**Environmental Health**	2	18%	0	0%	0	0%	2	18%	0	0%	0	0%	3	150%
	Health Promotion	9	82%	9	100%	0	0%	9	82%	9	100%	0	0%	0	0%
	Infectious Disease Prevention	5	45%	0	0%	0	0%	5	45%	0	0%	0	0%	3	60%
	Mother & Child Health	4	36%	0	0%	0	0%	4	36%	0	0%	0	0%	2	50%
	BGU Total	20	45%	9	45%	0	0%	20	45%	9	45%	0	0%	8	40%
HUJI	**Epidemiology & Biostatistics**	9	82%	8	89%	5	45%	10	91%	9	90%	4	40%	5	50%
	Health Administration & Economics	10	91%	8	80%	2	18%	11	100%	9	82%	4	36%	4	36%
	Health & Environment	9	82%	8	89%	5	45%	10	91%	9	90%	4	40%	5	50%
	Health Promotion	9	82%	8	89%	5	45%	10	91%	9	90%	5	50%	5	50%
	HUJI Total	37	84%	32	86%	17	39%	41	93%	36	88%	17	41%	19	46%

PROMOTION RESULTS BY HEI AND SPECIALIZATION (CONTINUED)															
HEI	Specialization	Core Curricula				Elective Curricula		Overall Curricula							
		Competences Addressed by Core		Competences Addressed by Core that Received High Relative Score		Competences Addressed by Electives		Competences Addressed by Any Course		Competences Addressed by Any Course that Received High Relative Score		Competences Addressed by Any Course with Courses Exercise		Competences Addressed by Any Course Exam	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%
TAU	General	7	64%	7	100%	6	55%	8	73%	8	100%	7	88%	7	88%
	Health Promotion	11	100%	11	100%	3	27%	11	100%	11	100%	7	64%	7	64%
	Health Systems Administration	3	27%	3	100%	6	55%	7	64%	7	100%	7	100%	7	100%
	TAU Total	21	64%	21	100%	15	45%	26	79%	26	100%	21	81%	21	81%
UOH	Biostatistics	3	27%	0	0%	6	55%	9	82%	0	0%	4	44%	4	44%
	Community Health	4	36%	4	100%	10	91%	10	91%	4	40%	7	70%	5	50%
	Environmental Health & Occupational Hygiene	8	73%	4	50%	1	9%	8	73%	4	50%	4	50%	4	50%
	Epidemiology	3	27%	2	67%	7	64%	9	82%	2	22%	4	44%	4	44%
	Health Systems Management	10	91%	10	100%	10	91%	10	91%	10	100%	4	40%	4	40%
	Health Promotion	4	36%	0	0%	2	18%	6	55%	0	0%	4	67%	4	67%
	Mental Health Services	4	36%	2	50%	4	36%	7	64%	2	29%	4	57%	4	57%
	UoH Total	36	47%	22	61%	40	52%	59	77%	22	37%	31	53%	29	49%

ETHICS RESULTS BY HEI AND SPECIALIZATION															
HEI	Specialization	Core Curricula				Elective Curricula		Overall Curricula							
		Competences Addressed by Core		Competences Addressed by Core that Received High Relative Score		Competences Addressed by Electives		Competences Addressed by Any Course		Competences Addressed by Any Course that Received High Relative Score		Competences Addressed by Any Course with Courses Exercise		Competences Addressed by Any Course Exam	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%
AAC	N/A	5	100%	5	100%	N/A	N/A	5	100%	5	100%	5	100%	5	100%
BGU	Environmental Health	5	100%	1	20%	0	0%	5	100%	1	20%	5	100%	5	100%
	Health Promotion	5	100%	1	20%	0	0%	5	100%	1	20%	5	100%	5	100%
	Infectious Disease Prevention	5	100%	1	20%	0	0%	5	100%	1	20%	5	100%	5	100%
	Mother & Child Health	5	100%	1	20%	0	0%	5	100%	1	20%	5	100%	5	100%
	BGU Total	20	100%	4	20%	0	0%	20	100%	4	20%	20	100%	20	100%
HUJI	Epidemiology & Biostatistics	0	0%	-	-	4	80%	4	80%	4	100%	4	100%	4	100%
	Health Administration & Economics	0	0%	-	-	5	100%	5	100%	4	80%	5	100%	5	100%
	Health & Environment	0	0%	-	-	4	80%	4	80%	4	100%	4	100%	4	100%
	Health Promotion	0	0%	-	-	4	80%	4	80%	4	100%	4	100%	4	100%
	HUJI Total	0	0%	-	-	17	85%	17	85%	16	94%	17	100%	17	100%

ETHICS RESULTS BY HEI AND SPECIALIZATION (CONTINUED)															
HEI	Specialization	Core Curricula				Elective Curricula		Overall Curricula							
		Competences Addressed by Core		Competences Addressed by Core that Received High Relative Score		Competences Addressed by Electives		Competences Addressed by Core		Competences Addressed by Core that Received High Relative Score		Competences Addressed by Electives		Competences Addressed by Core	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%
TAU	General	3	60%	3	100%	2	40%	5	100%	5	100%	5	100%	5	100%
	Health Promotion	3	60%	3	100%	2	40%	5	100%	5	100%	5	100%	5	100%
	Health Systems Administration	3	60%	3	100%	2	40%	5	100%	5	100%	5	100%	5	100%
	TAU Total	9	60%	9	100%	6	40%	15	100%	15	100%	15	100%	15	100%
UOH	Biostatistics	5	100%	3	60%	3	60%	5	100%	3	60%	4	80%	1	20%
	Community Health	5	100%	4	80%	5	100%	5	100%	4	80%	4	80%	1	20%
	Environmental Health & Occupational Hygiene	5	100%	4	80%	5	100%	5	100%	4	80%	4	80%	1	20%
	Epidemiology	5	100%	4	80%	5	100%	5	100%	4	80%	4	80%	1	20%
	Health Systems Management	5	100%	5	100%	5	100%	5	100%	5	100%	4	80%	1	20%
	Health Promotion	5	100%	2	40%	4	80%	5	100%	2	40%	4	80%	1	20%
	Mental Health Services	5	100%	4	80%	4	80%	5	100%	4	80%	4	80%	1	20%
	UoH Total	35	100%	26	74%	31	89%	35	100%	26	74%	28	80%	7	20%

Appendix D: Competences Addressed Across All HEI Specializations (Figure 31)

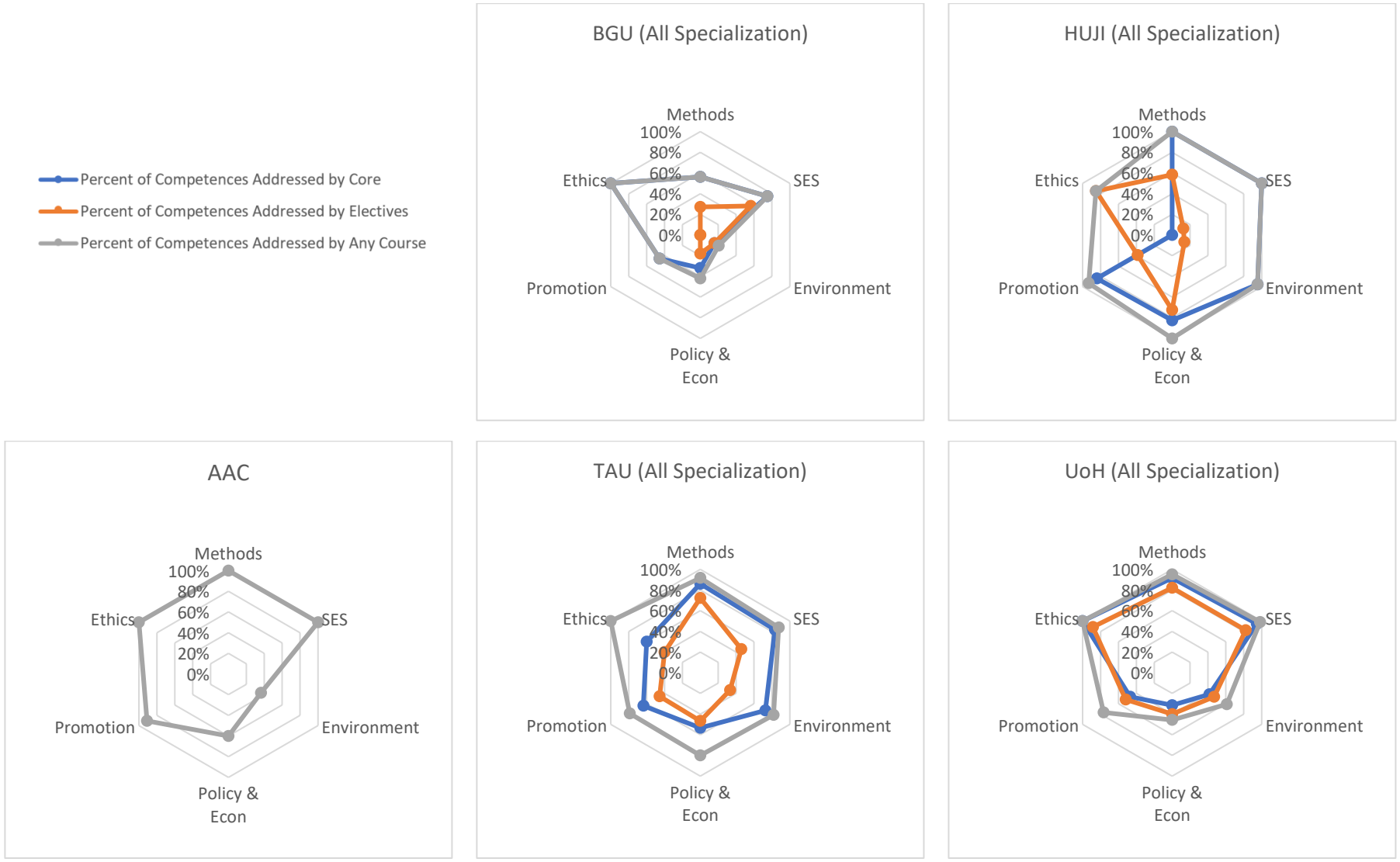

Figure 31: Percent of Competences Addressed by Core, Elective, and Any Course Across all Specializations