



UNIVERSITY OF TORONTO
DALLA LANA SCHOOL OF PUBLIC HEALTH

MASTER OF PUBLIC HEALTH - EPIDEMIOLOGY
Guidelines for required and elective practica 2018/2019
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Key contacts and resources

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Key reference materials and resources:

1. DLSPH MPH Epidemiology Program Handbook. See latest version online:
<http://www.dlsph.utoronto.ca/program/mph-epidemiology>
2. *Public Health Learning Network* <https://phln.utoronto.ca/home/home.htm>
3. To learn more about practicum process, recommended pay, supervisor's experience and to see past practicum opportunities visit <http://www.dlsph.utoronto.ca/programs/mph-health-promotion-and-epidemiology-practicum/>
4. Graduate Department of Public Health Sciences Student Handbook (See current year on DLSPH website)
5. School of Graduate Studies Student Wellness Portal
<http://www.sgs.utoronto.ca/currentstudents/Pages/wellness-portal.aspx>
6. Other information resources for Graduate Students
<http://www.sgs.utoronto.ca/currentstudents/Pages/default.aspx>

Objectives and guidelines for required and elective practica in Epidemiology

The practicum component of the MPH is a key part of students' learning process. It is where students can gain skills in real public health practice settings, with the support of a field supervisor. Practica are designed to provide the students with an opportunity to:

1. Apply and synthesize the theories, knowledge, concepts, principles and methods learned in their courses; and,
2. Develop or hone professional and/or research skills appropriate to their areas of interest

Placements are work/study placements and may be undertaken in a wide variety of settings including at the University, at academic research centres, in government offices and government-funded agencies, with community or charitable organization, with domestic or international non-government agencies (NGOs) and even approved private sector employers. The work done may be described as research, surveillance, monitoring and evaluation, quality assurance or other terms. All approved placements will challenge students to apply the epidemiologic methods, concepts and skills addressed in courses, and also develop professional, workplace, skills and build contacts. For more information on program competencies, see *Appendix A. Competency Statements to Guide Practicum Learning Objectives*.

Required practicum

A minimum of one required practicum placement (also called "Practicum 1") is completed by all MPH students.

For MPH students in Epidemiology, the required practicum must fulfil the following criteria:

- The student will perform some quantitative data manipulation and/or statistical analysis (using primary data collection or secondary analysis of existing data).
- The student must contribute to one or more substantial works of writing. This may be original research or report(s) authored by the agency or a working group. Publication and authorship by the student are both neither required nor guaranteed. Authorship policies vary according the terms of the employment or placement and of the agency or employer.
- Students must present their completed or work in progress. This includes informal presentation and conversation about work in progress with supervisors and co-workers. This should also include a formal presentation at the site of the practicum, or elsewhere inside or outside the university. All students prepare a poster presenting a summary or specific aspects of the work completed (whether or not the poster is presented, publicly).
- The overall work completed at the placement must allow the student to apply epidemiologic concepts and skills and promotes the competencies of the MPH Epidemiology program. MPH competencies for epidemiology are listed in the MPH Program Handbook, and are updated periodically.

Every student is guaranteed one placement which meets the criteria for the required practicum, within the normal completion time for the MPH (two years for full time students). We cannot guarantee that the student will have all their preferences met in terms of preferred subject area, activities, supervisor or location. Opportunities posted through the Practicum Office are subject to availability and are competitive. There is no guaranteed payment or stipend.

Elective practicum

Elective practicum placements are taken by many students, typically as the second placement before graduation. For the elective practicum, there is greater flexibility in terms of the context and specific objectives. An approved placement will allow the student to apply skills which are more broadly relevant to research or professional work in public health. Students are not guaranteed a second placement. In recent years, there have been enough placements advertised through the program to allow most students to do two placements. Students are encouraged to arrange their own second placement, but must work with the Practicum Placement Officer to ensure the placement can be approved. Students who have completed a required placement are not permitted to apply to the posted list for first time students in summer term.

Sequence of activities for practica and tips at each stage

Identifying a potential placement

First year students must follow the instructions and timeline for practicum activities presented at meetings and workshops run by the Program Director and Practicum Officer. These sessions will start by October of the first fall. Incoming MPH Epidemiology students should expect that they will complete a required practicum from a provided database of suitable opportunities for the current year's eligible class. Posted opportunities will be opened up to first year students in January after fall term grades are approved. New positions can appear at any time during the winter term. First year students must not make commitments to any placement without consulting with the Practicum Officer and Program Director.

A second, elective, practicum is not guaranteed and students are typically expected to make their own arrangements. A database of approved practicum opportunities suitable for upper year Epidemiology students is maintained for winter term. In recent years, there have been enough positions advertised through the Practicum Office to satisfy the needs of upper year Epidemiology students. Students who have identified their own elective placement must work closely with the Practicum Officer as early as possible to allow time for approvals. For a new agency or supervisor, it is often necessary to establish new affiliation agreements and approvals from other University offices. This takes time and cannot always be completed by the proposed start date.

It is not uncommon for incoming students to apply or have applied for research scholarships/fellowships describing research interests and identifying one or more potential research mentor. Scholarship applications are always encouraged. However, research work completed for practicum credit must first satisfy the practicum guidelines and be approved by the Program Director and Practicum Officer. It may not always be possible to earn practicum credit while completing research or other work arranged outside of the practicum process. With or without scholarship money, we will try to enable students to pursue research or professional work in areas that interest them. It is also not necessary for students to a supervisor, practicum or research topic early in the MPH program. Actually, we discourage most students from making commitments too early. Most students should use the first year of the MPH to explore options.

Students may present novel practicum placements (e.g., first practicum student for the agency, supervisor or location) to the Practicum Officer. It is not always possible to approve such arrangements as a lot of time is required for affiliation agreements, etc., but we always try. For novel international placements, both the Practicum Officer and Office of Global Public Health Education and Training (OGPHE&T) will both be involved. (See also the section on Global Health and Going Abroad, in this document).

Applying to positions

By the time students are applying to positions, they will have been offered several hours of professional development sessions on CVs, interview skills, etc. Students must apply to specific placements, always following the instructions posted with each opportunity. It is common for students to have to apply for several positions. It is common for students to have to apply for positions over several weeks or months and it is common for new positions to appear in the database at any time of year.

Students are NOT to cut class for interviews. Supervisors know they are recruiting students. We ask them to be flexible and minimize academic harm to students who may spend many hours pursuing placements. When invited to an interview that conflicts with class, tutorials or exams, the student is required to ask, politely, that the interview be moved to avoid conflict. If the conflict cannot be resolved, the student must inform the affected course instructor(s) and may be required to present evidence that the attempts to avoid the conflict were unsuccessful. The Practicum Officer and Program Director can be called upon to help guide and support students in awkward situations.

Setting the practicum activities, deliverables and competencies (i.e., negotiating the learning contract)

The position posting and interview should give students a good sense of the work and expectations of the practicum. The detailed arrangements must be written into a learning contract uploaded no later than the end of the first week. Students should use interviews and early meetings to ask about all of the following:

- Expected activities, deliverables and timelines
- Availability of data (specific details about data “in hand” with ethical approvals already completed)
- Supervisory roles and frequency of contact
- Dates of interviews for interim and final evaluation; dates of presentations and team meetings
- Working conditions (physical space, computers, software and communications); access to peers and expectations of workplace interactions
- Methods that will be used to approve review of deliverables
- Expectations for authorship and any expectations for ongoing relationships (employment or future collaboration) after the end of the practicum

Progress during the practicum

Students have a responsibility to maintain regular contact with supervisor and for their own timetable and progress.

It is recommended that formal work-in-progress meetings be set with the supervisor at least one week before interim and final evaluations and before deliverables are due to be submitted to DLSPH.

A student with concerns can ALWAYS contact the Practicum Officer and Program Director, in confidence. It is better to raise a question early than be addressing a problem, later.

End of practicum

A huge package of materials must be submitted at OR BEFORE the last date of the actual practicum. Roughly the last quarter of the placement may be dedicated almost entirely to final write-ups (and often several rounds of review and revision of drafts). Students and supervisors must demonstrate exceptional time management. Communication between supervisor and student is all-important. Grades for the practica are submitted at the usual end-of-term grading and approval deadlines.

Student eligibility for practicum

Students must successfully complete the following courses prior to undertaking either a required or elective practicum:

- CHL5004H Introduction to Public Health
- CHL5401H Epidemiologic Methods I
- CHL5201H Biostatistics I
- CHL5426H Population Perspectives for Epidemiology
- CHL5300H Public Health Policy I
- CHL5402H Epidemiologic Methods II
- CHL5202H Biostatistics II
- CHL5405H Health Trends and Surveillance
- CHL5418H Scientific Overviews

In exceptional circumstances, a student may seek the permission from the Program Director to take a required course after or during the first practicum. This must be approved before the student drops or decides not to enrol in the required course. Permission to postpone the required course may be granted where: 1) there is a clear and unusual advantage to doing this; AND 2) there is evidence that the student has professional or educational experience such that deferring the course will not leave a gap in preparation for the placement. Required courses must be completed before graduation.

If one or more of the required pre-requisite courses is incomplete (for any reason, including medical) or failed, then the normal course of action will be to cancel or delay the start of any approved practicum until the outstanding work has been completed successfully and grades approved. Reasonable measures will be taken to try to protect the placement, but there can be no guarantee that a placement start date can be delayed or that a replacement position can be arranged for the same term.

Defining the practicum goals and deliverables (a key part of the practicum contract)

Practicum deliverables are products that reflect the student's work during the practicum. These are described here, separately from other forms and documents, because these are such an important feature of the practicum proposal or learning contract. Progress toward creating deliverables must be reflected in the mid-term and final evaluations. At the end of the placement, the package of deliverables presented to the supervisor(s), Practicum Officer and Program/Course Director must provide evidence that the core objectives of the placement were met.

For Epidemiology, the student must have contributed to prose (**written work**) which is substantial and demonstrates the interpretation of epidemiologic work. Deliverables must also show that the student has applied their skills in **quantitative work** including any combination of data collection, data processing (modification, documentation, coding, modification, merging, etc.,) and analysis (descriptive reporting through complex multivariable analyses).

Examples of deliverables produced by epidemiology students in the past:

- One or more drafts of a manuscript that might be submitted for peer-review as an original research paper using epidemiologic research and/or surveillance methods
- One or more professional report (such an outbreak investigation, systematic review, surveillance or health status report) authored by a public health agency including work (literature review, analytic work, interpretation, etc.,) contributed by the student for the practicum,
- One or more report or document for agency use (i.e., internal use versus publication) but demonstrating epidemiologic competencies (e.g., ethics or funding applications, questionnaires, database creation documents and codebooks, computer programs, field-work guides for monitoring, surveillance, quality assurance, program evaluation or investigator-initiated research).
- One to several presentations made by the student, alone or as part of the team, on work done in practicum.
- Abstracts, newsletters, or internet posts describing work undertaken by the student for the practicum.

Several of the examples, above, if the *only* thing submitted, would not be sufficient. For writing, it is not acceptable when the package of deliverables includes only presentations (e.g., only poster or slides) or non-prose formats (such as bullet-points, excel workbooks, codebooks or computer programs). One or more documents must include interpretative paragraphs, written by the student, in language appropriate for scientific, professional or community-based audiences. Occasionally, supervisors have little writing to assign to a student or short-term employee. Some students are asked, primarily, to update the figures and graphs for a pre-existing report template. In this case, the student **MUST** create additional, original, written work. Preferably the supervisor will create and support a written assignment. Another approach is to expand the required Practicum Report into a full academic essay of 6-8 pages. It should become a scientific review or commentary about the work done in the practicum (the process and/or the findings of work completed). The essay should compare and contrast the work with information from other similar agencies, similar or different populations, etc. The student should identify an appropriate model or writing guide. Several Epidemiology students, have followed the Health Promotion MPH Practicum Guidelines which require a 6 to 8 page reflection paper. This is structured, reflective self-evaluation about the practicum experience and how this affected the student's personal and professional growth. (Ask for the Health Promotion guidelines if not available online).

At interviews for practica, students must ask what data to be used are in-hand and ready to be used. Some great placements do little data analysis. Under current guidelines, these should be identified as the 'elective' placement and the student will arrange another placement to make up the requirement for hands-on quantitative work. It is common that access to data is delayed. Keep in touch. We may need to intervene.

A frequently asked question is what is meant by a 'draft' report or manuscript. Deliverables should include some material in all the necessary sections of the report and many of these sections should be in the form of fairly polished prose (well-organized, following a specific style guide, with citations in place, etc.). Some sections can be in brief or outline form, but should identify the main points to be made if not completely developed. Students and supervisors should have many conversations about how (if) they will collaborate after the end of the practicum if review and revision of the work will continue after the end of the term.

Requirement for student access to data. (Required Epidemiology practicum only)

Some use of data is an absolute requirement for the Required Epidemiology practicum. Therefore, it is imperative that the necessary data are available to the student at the start of the placement. It is very common for people to be over-optimistic about how soon data will be available (or approvals to use data in place). This can cause important delays and harm to students if they are unable to complete placement objectives on time. If students are going to be involved in data collection during the placement (a highly useful experience) the supervisor must ensure that project timelines are realistic and enough work will be completed in time to meet practicum objectives.

Ideally, full ethical and data access approvals will all be in place before the practicum position is advertised. It should require only amendment to agreements (such as ethical approvals) to name the specific student joining the project as staff or graduate student. The supervisor and placement agency are responsible for presenting and following their own local requirements with respect to confidentiality and data security. Where a student is required to complete on-site privacy or other training prior to handling data, this time is to be built into the practicum hours.

Some placements have no data. We recognize that many practicum placements offer unparalleled learning opportunities for a young epidemiologist, but have no quantitative work that needs to be done (or that can, feasibly, be done by a student on a short term placement). These placements should be negotiated as the elective practicum completed after or (with approval) before a fully-qualifying required practicum. In specific circumstances additional, elective coursework selection(s) can be used to supplement the practicum placement and fulfil the requirement for quantitative epidemiology work. This is subject to approval by the Program Director and Graduate Coordinator. The elective course(s) must require the student to use intermediate to advanced data analysis and to complete independent analysis and interpretation.

Typical practicum timelines

Unless explicitly approved, practica start and end within ONE normal academic term. Summer, fall and winter term placements should not start earlier than the first business days of May, September and January, respectively. The practicum confirmation form and Learning contracts state the approved start and end dates for actual work at the practicum site. Students are responsible for meeting the deadline for interim evaluations (by student and supervisor) which are due at the half-way point between the practicum start and end date. The last date of placements for summer, fall and winter practica are the last working days (for the agency) of August, December and April. MATERIALS will usually be due before the last date of placement. For details on end-of-placement deadlines, see elsewhere in this manual.

Alternative timelines and arrangements (subject to approval)

A part-time practicum is possible. For example, an 8 or 12 week placement may extend over 16 calendar weeks (within one academic term). If absolutely necessary, students can seek approval to have the placement start in one academic term and be completed early in the following term. Such arrangements must be approved in advance. More than half the work and the interim evaluations must be completed by the first term grading deadline. With acceptable progress, the student will be granted a coursework extension and re-enrolled in the same practicum for the subsequent term. A single practicum may not be stretched over three terms.

Occasionally, placements may be completed where a student has previously been employed, continues to work or where the student is enrolled (concurrently) in a clinical or professional fellowship. In these cases, the learning contracts and supervisory arrangements must be developed carefully with the Practicum Officer and Program Director. Work already completed for academic or non-academic purposes, or which does not satisfy practicum requirements, cannot earn University of Toronto credit. Students must be aware of conflict of interests and influences outside the MPH Program which may interfere with practicum or program completion. Plagiarism, falsification and misrepresentation of work or authorship are all serious academic offenses.

Enrolment in practicum course(s), credit weight and equivalent work hours

Practicum placements are listed as graduate courses and require students to enroll in one or a combination of course codes to match both the type of placement and desired credit weight (see Table 1 for enrolment details).

Course code	Title	Credit weight and FT equivalent duration	How used
CHL6010Y Y	Required MPH Practicum	1.0 FCE (8 weeks)	Required course code for the required MPH practicum
CHL6011H S	Extension to Required MPH Practicum	0.5 FCE (+ 4 weeks)	Used with CHL6010 to create 1.5 FCE (12 week) requirement placement (the recommended minimum duration)
CHL6012Y Y	Long Extension to Required MPH Practicum	1.0 FCE (+ 8 weeks)	Used with CHL6010 to create 2.0 FCE (16 week) required MPH placement
CHL6020Y Y	Optional MPH Practicum	1.0 FCE (8 weeks)	Required course code for the MPH elective practicum
CHL6021H S	Extension to Optional MPH Practicum	0.5 FCE (+ 4 weeks)	Used with CHL6020 to create 1.5 FCE (12 week) elective practicum
CHL6022Y Y	Long Extension to Optional MPH Practicum	1.0 FCE (+ 8 weeks)	Used with CHL6020 to create 2.0 FCE (16 week) elective practicum

The usual and recommended length for Practicum I is 16-week practicum. A 12-week practicum is also permitted. Practicum I is normally completed in the summer term (May to August) after the second semester of courses. Most MPH Epidemiology students who do a second practicum, do this in the second year, winter term (January to April).

Regardless of the number of credits you enroll in, the default work schedule is five days per week, full time, and putting in roughly 35 hours per week at the practicum. Other schedules should be explicitly approved by the supervisor and written into the learning contract. The following list shows the approximate numbers of work hours for practicum durations (core or add-ons).

- 16 weeks = 2.0FCE = 560 hours
- 12 weeks = 1.5 FCE= 420 hours
- 8 weeks = 1.0 FCE = 280 hours
- 4 weeks = 0.5 FCE =140 hours (possible only as an add-on)

With permission of the Practicum supervisor and Program Director, students may be allowed to take an elective credit at the same time as the practicum. This is more common for second/elective placements and for students with strong grades and successful first placement experience.

Recommended stipend and hourly rate of pay (2018)

When a practicum is paying a lump-sum stipend, the recommended amount is \$10,000 regardless of whether it is a required or elective practicum and regardless of duration. If your agency prefers a pro-rated hourly rate, we suggest using the hourly rate of \$20.50. In all cases, funding is dependent on agency's policies and capacities, not all practica are paid, or paid at this rate.

Practicum forms and documents at a glance

Box 1 Practicum forms and documents, at a glance, organized by practicum timeline and due dates.

Prior to your first day

- If you secure a practicum from Public Health Learning Network (PHLN), please complete the Work Term Record and Practicum Officer will link the practicum description to your profile and close the opportunity.
- If you are coordinating your own practicum outside of PHLN, please work with Practicum Officer closely very early on during the fall semester as we may need to extend an agreement. All students need to complete a Work Term Record.
- Workplace Safety Insurance Board coordination: All students must upload a “Student Declaration form for Unpaid Practicum” along with the Work Term Record (found on PHLN) if the practicum is unpaid or paid a stipend. If you are not sure, please contact practicum.dlsph@utoronto.ca
- The Work Term Record will be sent to your primary supervisor 1 week before your start date.
- Students completing a practicum outside of Canada must register with Safety Abroad Office, attend their workshop and submit all waivers prior to the start date. Please also connect with Office of Global Public Health Education and Training ghoffice.dlsph@utoronto.ca

1 week into practicum (for Epis); due by end of day

- Planning framework/learning contract outlining deliverables on PHLN
This will be sent to your primary supervisor for review, once you submit this.

Midpoint (e.g., end of 6th week for 12 week placement)

- Student midterm evaluation – on PHLN
- Supervisor midterm evaluation – link will be sent to primary supervisor electronically

“End of practicum package”: Due end of day on LAST DAY OF PLACEMENT or the across-the-GRADING DEADLINE whichever is EARLIER

- Student evaluation of placement - PHLN
- Supervisor evaluation of the student – link will be sent to primary supervisor
- Practicum abstract - PHLN
- Final practicum report (see Epidemiology-specific guidelines in this document) - PHLN
- Poster (first practicum only) -see poster resources provided by Practicum Officer on PHLN
- Practicum deliverables of final or near finished products - PHLN

Further information for selected materials is as follows.

Deliverables

For more information about the **deliverables**, see **Setting the practicum goals and deliverables** (in this document).

Poster

Students are required to submit a poster at the end of the REQUIRED placement. An electronic version of the poster must be uploaded. Students are encouraged to submit their poster for Research & Practice day in the fall, to share their work and experience with faculty, staff, incoming students and the wider DLSPH community. The Practicum and Professional Development Officer will provide online resources for practicum students including resources for designing a poster and examples of posters. As a rule of thumb, these are not a single image such as might make up one slide during a talk or presentation. They should be formatted so that they could be printed and used at a scientific or public health meeting (equivalent printed size being roughly 1.5 to 2m width and 1m height).

Practicum report

Your final practicum report must include the following:

- 1) a brief overview of the organization you worked for;
- 2) how the work you did helped you meet your learning objectives;
- 3) how you achieved the core competencies outlined on your learning contract;
- 4) any other information you think would be useful to include for your appraisers.

You can also include any explanation as to how your practicum experience may have differed from what you originally planned or had in mind and what you did to address these changes.

See also, **Setting the practicum goals and deliverables** (in this document).

Practicum abstract

An "abstract" provides a high level overview of your practicum experience. This should be a half page (200-300 words) description of the work completed during your placement. This can be in paragraph form describing your experience and project(s) or in a structured research form (examples: intro, methods, results, conclusions, or objectives, activities, methods, and outcomes).

Students submitting posters and abstracts are asked if they are willing to share these materials with future DLSPH practicum students and if they can be used in DLSPH promotional materials. At the time of submission, the student will be asked to indicate if the student and agency/supervisor give consent to use the abstract for this purpose or you do not.

Guidelines on deadlines. How mid-term evaluation and final document deadlines are set, within the term.

A large amount of information is due at the end of the placement. All these materials are due the EARLIER OF the last working date of the practicum or the across-the-board grading deadline WHICHEVER IS EARLIER (see Table 2).

Table 2 Guidelines for practicum start/end dates and deadlines for submission of final documents.

Practicum term	Start, mid-term and latest end dates (by term)	Grading deadline (across-the-board grading deadline, regardless of end date, by term)
Summer	First working day of May Last working day in August, (last working day for the agency)	Announced by Practicum Officer each summer. Typically in the second or third week in August.
Fall	First working day of September to last working day of December (work schedule at placement).	Announced by Practicum Officer each fall. At least 1 to 2 weeks U of T closes for winter break.
Winter	First and last working days of January and April, respectively (at agency)	Announced by Practicum Officer each winter term. Usually first week of April. <i>Students graduating in June must submit ALL materials by the grading deadline, but may work at the practicum until the last business day of April.</i>

Meeting deadlines and responsible (limited) use of extensions

Fulfilling promises, negotiating deadlines, and time management are all competencies which must be demonstrated by public health professionals in any field. Roughly one month before evaluations and/or deliverables are due, students should be meeting or communicating with the supervisor at least weekly (more often is better). You should always be discussing the timeline for work to be completed. Be sure to discuss the plans for review of documents (within the agency and DLSPH), as well as plans for authorship, presentations etc.

If the practicum work or deliverables cannot be submitted by the end-of-term grading deadline, the student must apply to the Course Director (Program Director) for a Coursework Extension application including a new deadline and rationale. Any requests for extension of dates to submit material to DLSPH for review MUST be prepared starting one to two weeks before deadlines. Students should reach out to the Practicum Officer and Program Director if assistance is needed at any stage of the placement.

Evaluation and grading of the practicum

Practicum supervisors evaluate student performance and recommend if the student should be given credit for successful practicum completion. However, the course grade is submitted by the Course Director for the Practicum Course(s). Typically the practicum Course Director is also the MPH Epidemiology Program Director, always working with the Practicum Officer. Practica receive a CREDIT/ NO CREDIT grade, rather than a letter-grade.

Where the supervisor's evaluation is negative, or the work done is insufficient or inappropriate, the Course Director will meet with the student and then present the revisions or extra work required, in writing. **A practicum which is not completed satisfactorily by the grading deadline for the current or following term may result in outcomes including late withdrawal, incomplete and/or failure.** Failure to meet practicum expectations or deadlines may have academic consequences up to and including a failing grade for the placement (with the same consequences as other program requirements). The student is responsible for understanding and following all DLSPH and SGS policies regarding appeals as well as academic good standing.

If a student is dismissed from a practicum, for cause, this will ordinarily result in failure of the practicum. Such situations will always be receive careful and compassionate review. If a student experiences lay-off or other unexpected end of placement, every effort will be made to find alternative arrangements to ensure learning objectives, and academic credit, are achieved. The goal will to ensure the student can still complete the MPH within the time limit.

Requirement for review of deliverables (including privacy and confidentiality)

The Course Director, Program Director and/or Practicum Officer must be able to assess the nature and quality of work completed by the student. Therefore, we must be given access to the students' deliverables' (work produced for the supervisor or agency) or academic credit cannot be awarded. The supervisor and student are both responsible for arrangements for document review have been settled well before the deadline to submit materials. Special procedures are often required (e.g., signed confidential agreements or special document handing procedures). The Program will make every effort to satisfy the requirements of the agency. No material will be retained or redistributed without consent.

Note: the university staff will not grade or provide many (if any) comments on the deliverables produced by the student for the agency or supervisor as part of placement. Our role is to verify the nature and quality of the student's contribution and ensure that learning objectives are met.

Research intensive placements and PhD eligibility

The MPH Epidemiology program no longer uses the term 'capstone' or extra paperwork for research intensive practicum positions. **All MPH Epidemiology students acquire research experience suitable for application to PhD programs through required courses and practicum and electives.** Many placements can be organized to allow the student can contribute to or complete original research if this is negotiated in advance. **Students and supervisors are strongly advised to review the Graduate Supervision: Guidelines for Students, Faculty, and Administrators. Second Edition, Toronto: University of Toronto School of Graduate Studies, June 2012.**

Many research-focused students have produced original research within one, or each of two unrelated placements. Students may do two practicum placements with the same or supervisors or locations to allow students to complete more independent research or participate in more stages of research over more weeks. The placements must have non-overlapping start and end dates, and distinct activities and deliverables. Students cannot be obliged to do a second placement with the same supervisor(s).

MPH Epidemiology graduates have enjoyed excellent success in PhD admissions with or without the previous 'capstone' designation. When applying to PhD programs, make sure you cite language in the MPH Epidemiology Handbook, and DLSPH website, which describes our research competencies. Also ensure that letters of reference speak to your research training and research skills and experience including your practicum experience.

Matters of authorship and intellectual property

Supervisors in research, government and non-government agencies, alike, are strongly encouraged to create opportunities for student (co-)authorship. Students also need to know that rights to authorship cannot be guaranteed in all work-study placements.

In all kinds of practicum settings, students **often** are able to qualify as contributing or even lead authors on agency or peer-reviewed publications. Authorship status, however, depends on the employment contract, the nature of work, policies of the agency and authorship guidelines of the publication outlet (e.g., specific journal). In a professional or government placement, the materials produced by the student are often the intellectual property of the employer, not the student. Students must ask about authorship plans during practicum interviews and when negotiating the learning contract. **Students and supervisors should refer to authorship plans and guidelines they will follow within the signed learning contracts and continue this conversation throughout the placement.**

Global health practica and going abroad

Students enrolled or interested in the Collaborative Emphasis in Global Health must connect with both the Practicum Officer for Epidemiology and The Office of Global Public Health Education & Training (OGPHE&T). Students in the Emphasis typically complete one or more practicum placement that satisfies both the guidelines for Epidemiology and the Global Health Collaborative Emphasis. Travel outside of Ontario is not a requirement for a practicum in Global Health. There are many public health agencies and experts within the Greater Toronto Area and within the DLSPH community.

Most MPH Epidemiology students will not receive approval to do the first/required practicum outside of Canada. MPH students greatly benefit from the learning opportunities within Canadian placements. Letters of reference for relevant professional experiences, in Canada, are vitally important for your post-MPH career path. We also restrict access to overseas placements (and placements with vulnerable populations) to protect the students, to protect the integrity and reputation of DLSPH programs and the best interests of our international public health partners.

Once students have established a strong academic history within the MPH, and once they have successfully completed a first practicum in Canada they are encouraged to consider an elective practicum abroad. The primary source for such opportunities is our own practicum opportunities developed for students by the Practicum Officer and OGPHE&T.

Students who do wish to undertake a first/required practicum experience outside of Canada may request an appointment with the Program Director and Practicum Officer to request approval. Bring your full CV, transcripts and references. Eligible students must have appropriate backgrounds comparable to having already completed a domestic practicum (periods of full-time professional work experience with similar levels of responsibility and independence, and experience both living independently and traveling out of country for academic or non-academic purposes). All required course pre-requisites must be successfully completed before any student starts a practicum outside Canada. Students must also register with the Safety Abroad Office and complete preparatory workshops as required. See Safety Abroad Office website for more information. Advanced planning is necessary to allow time for university paperwork, visas etc.

Finally, no MPH student is guaranteed a practicum placement outside of Ontario. No student is guaranteed financial support for travel or living expenses during a practicum.

Appendix A. Competency statements to guide practicum learning objectives

DLSPH Core Competencies for MPH, Epidemiology (Source: MPH Epidemiology Curriculum Committee. Appears in annual MPH Epidemiology Program Handbook)

Box 3 Discipline-Specific Core Competencies for DLSPH MPH Program Stream in Epidemiology

- A. Understanding the system
 - a. Describe public health and understand public health systems in relation to other health care systems (e.g., international).
 - b. Describe legislation regarding public health privacy and personal health information.
 - c. Demonstrate a broad understanding of content areas such as the social determinants of health, occupational and environmental health, and healthy environments, in general.
- B. Understanding data sources; critical appraisal.
 - a. Identify existing data sources and gaps
 - b. Demonstrate knowledge of available data sources and their applicability.
 - c. Evaluate strengths and weaknesses of available data
 - d. Recognize sources of bias and validity when critically appraising research literature
- C. Databases, technology, surveillance
 - a. Explain the design and implementation of surveillance systems
 - b. Develop and manage databases
 - c. Recognize the uses of technological systems (e.g., GIS) and literature databases (e.g., Medline)
 - d. Operate/employ basic commands within a statistical package (e.g., SAS, SPSS, R, etc.)
 - e. Identify key findings from surveillance data, draw conclusions, identify health threats
 - f. Recognize and utilize evidence-based guidelines for surveillance
- D. Epidemiologic methods
 - a. Describe population health status, determinants, risk factors, health care utilization
 - b. Evaluate health outcomes and understand implications for population health
 - c. Write a draft proposal for a study (which includes a study protocol, data collection instruments, proposed analysis, etc.)
 - d. Conduct risk assessment (with guidance)
 - e. Design basic analysis plan, sampling design, sample size estimation
 - f. Describe the design and implementation of qualitative and quantitative research
 - g. Design and interpret outbreak investigations, including disease clusters
 - h. Prepare reports/publications suitable for peer review
 - i. Apply ethical principles to data collection, management, dissemination
 - j. Differentiate between and evaluate applicability of various study designs
- E. Biostatistics, data analysis
 - a. Use statistical methods to estimate measures of disease occurrence, risk, trends, associations
 - b. Use statistical methods to conduct multivariable hypothesis testing
- F. Public health guidance
 - a. Provide epidemiological input to develop measurable outcomes for public health programs

[Appendix A – Continued]

MPH Core Competencies across all DLSPH MPH Fields (Competencies may be suitable for required or elective placements)

Source: DLSPH Curriculum Renewal Taskforce Report (November, 2012)

<http://www.dlsph.utoronto.ca/wp-content/uploads/2015/06/Final-MPH-CRTF-INTERIM-REPORT-Nov-2-2012.pdf>

The 30 overarching core competencies recommended by this Taskforce represent the fundamental MPH curriculum at DLSPH. Individual fields (i.e. Community Nutrition, Epidemiology, Family and Community Medicine, Health Promotion and Occupational and Environmental Health) must include these overall core competencies and will have additional discipline-specific competencies. These core competencies developed by the CRTF are organized using the 7 PHAC¹ categories and are

Leadership, Professionalism and Ethics

- 1) Apply evidence-informed principles to critical evaluation and decision-making in public health.
- 2) Embrace a definition of public health that captures the unique characteristics of the field (e.g., population-focused, community-oriented, prevention-motivated and rooted in social justice) and how these contribute to professional practice.
- 3) Develop strategies to motivate others for collaborative problem solving, decision-making, and evaluation.
- 4) Utilize public health ethics to manage self, others, information and resources.

Communication and Knowledge Translation

- 5) Interpret, communicate information and write for professional, nonprofessional and community audiences.
- 6) Use current technology to communicate effectively.

Partnerships, Advocacy, Collaboration

- 7) Appreciate the importance of working collaboratively with diverse communities and constituencies (e.g. researchers, practitioners, agencies and organizations).
- 8) Appreciate the strengths and contributions of various public health disciplines and how to collaborate with them to solve public health problems.
- 9) Use skills such as team building, negotiation, conflict management and group facilitation to build partnerships.

Assessment, Analysis and Evaluation

- 10) Appreciate the nature of evidence and be able to judge the quality of research.
- 11) Demonstrate knowledge of the range of research methodologies and designs and their appropriate applications.
- 12) Design, plan and list the steps towards implementing quantitative research.
- 13) Design, plan and list the steps towards implementing qualitative research.
- 14) Apply and interpret statistical analyses found in public health studies.
- 15) Analyze and interpret quantitative data.
- 16) Analyze and interpret qualitative data.
- 17) Evaluate an action, policy or program.

Policy, Program planning and Implementation

- 18) Analyze the effects of political, social and economic policies on public health systems at the local, provincial, national and international levels.
- 19) Identify goals, measurable objectives, related activities, and expected outcomes for public health programs.
- 20) Address the challenges of implementation of a policy or program and/or take appropriate action to address specific public health issues.
- 21) Demonstrate an ability to set and follow priorities, and to maximize outcomes based on available resources.
- 22) Demonstrate knowledge of the policy process for improving the health status of populations.

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- 23) Apply the principles of program planning, development, budgeting, management and evaluation in organizational and/ or community initiatives.

Diversity, Culture, Inclusiveness

- 24) Advocate for and develop public health programs and strategies responsive to the diverse cultural values and traditions of the communities being served.
- 25) Recognize how the determinants of health (biological, social, cultural, economic and physical) influence the health and well-being of specific population groups.
- 26) Apply culturally- relevant and appropriate approaches with people from diverse cultural, socioeconomic and educational backgrounds, and persons of all ages, genders, health status, sexual orientations and abilities.

General Public Health Sciences Knowledge

- 27) Describe the role of social, behavioural and community factors in both the onset and solution of public health problems.
- 28) Demonstrate knowledge about environmental factors including biological, physical and chemical factors that affect the health of a community.
- 29) Demonstrate knowledge of the role of human biology in the development and implementation of disease prevention, control, or management programs.
- 30) Demonstrate knowledge of Canada's public health systems (e.g. federal, provincial, and local).

The CRTF fully recognize that developments in the field of public health, relevancy of this competency set and faculty acceptance and use will dictate the shelf life of these competencies. On-going dialogue and revisiting of these competencies will ensure the list remains appropriate, timely and forward-thinking.