OMA section on LABORATORY MEDICINE

Work2Quality*

Guidelines for Workload Measurement in Laboratory Medicine Professional Practices in Ontario: Overview and Diagnostic and Molecular Pathology/Diagnostic and Clinical Pathology

Version 2

Developed by and for Laboratory Physicians in Ontario

*A project of Path2Quality (A collaboration of the OMA Section on Laboratory Medicine and the Ontario Association of Pathologists)

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GLOSSARY OF TERMS

CAP	Canadian Association of Pathologists
CCO	Cancer Care Ontario
CME	Continuing medical education
CPD	Continuing professional development
CPSO	College of Physicians and Surgeons of Ontario
CTC	Central Tariff Committee
FTE	Full-time equivalent
LMFFA	Laboratory Medicine Funding Framework Agreement
MCC	Multidisciplinary Care (Tumour) Committee
MOHLTC	Ministry of Health and Long Term Care
MSPC	Medical Services Payment Committee
NGS	Next Generation Sequencing
OAML	Ontario Association of Medical Laboratories
OAP	Ontario Association of Pathologists
OHIP	Ontario Health Insurance Plan
OMA	Ontario Medical Association
OMA Section	OMA Section on Laboratory Medicine
P2Q	Path2Quality
S2Q	Standards2Quality
SOB	Schedule of Benefits
SOLF	Schedule of Laboratory Fees
W2Q	Work2Quality
W2QWG	Work2Quality Working Group
W2QMC	Work2Quality Management Committee
WG	Working group
WEG	Workload Expert Group
WMS	Workload Measurement System
WRVU	Work Relative Value Units

Summary of Key Updates

- Relative values of many codes have now been revised/refined to better reflect the complexity of work done by laboratory physicians. In some cases the relative value has increased and in other cases has decreased based on time studies and iterative evaluation among experts.

- Additional codes were added with appropriate relative values including Molecular Pathology codes.

- The companion W2Q calculator has also been updated to align with these new/revised codes and their relative values.

Note: In June 2023, the Royal College of Physicians and Surgeons of Canada changed the discipline names of Anatomical Pathology to Diagnostic and Molecular Pathology and General Pathology to Diagnostic and Clinical Pathology. The terminology in this document reflects those changes.

Executive Summary

The *Work2Quality (W2Q) Guidelines for Workload Measurement in Laboratory Medicine Professional Practices Version 2, released on Friday, September 27, 2024 during the 86th annual conference of the Ontario Association of Pathologists.*

The W2Q workload metrics system provides professional human resources guidance at the hospital laboratory departmental level covering key factors such as clinical, academic, research, and administrative duties to address the institutions mandate.

W2Q was originally created by the Path2Quality Executive (a collaboration of the Executives of the Ontario Medical Association's Section on Laboratory Medicine and the Ontario Association of Pathologists).

The original version of W2Q was one of the key deliverables of the Laboratory Medicine Funding Framework Agreement (LMFFA) at the time of its introduction.

The key driver for the development of W2Q was to respond to the frequent requests from front-line practitioners and leaders of laboratory medicine in Ontario for a comprehensive and rigorous tool that would help them determine if their practices/departments were appropriately resourced for professional staff to ensure appropriate and quality patient care.

This document describes various foundational elements, including the infrastructure supports that must be in place to allow optimal efficiency and effectiveness in laboratory medicine practices, and to allow for robust departmental or institutional use of the Path2Quality's previous work, *Standards2Quality, and the W2Q Guidelines* themselves.

W2Q provides codes and relative values for the various types of services that most laboratory physicians in Ontario provide, and are indexed (relative values are assigned) to the most commonly performed services except for on call/after hours services which are not addressed in by this system.

W2Q is consistent with the description and schedule of fee codes employed by the Ontario Government (OHIP Schedule of Benefits) where relevant codes exist. Where the codes do not exist in OHIP, these *W2Q Guidelines* describe services, codes and relative values based on the best expert evidence available and/or on common experience.

A key improvement in this new version is the "modernization" of the relative values that have been brought in alignment with the time and skills needed to complete the relevant tasks. These adjustments are largely but not solely driven by increased complexity of laboratory work (for example, the expansion of molecular diagnostics).

W2Q provides a system whereby the staff available for service work may be determined and compared with the ideal staff complement for the amount of work being performed (enabling benchmarking and appropriate departmental staffing requirements).

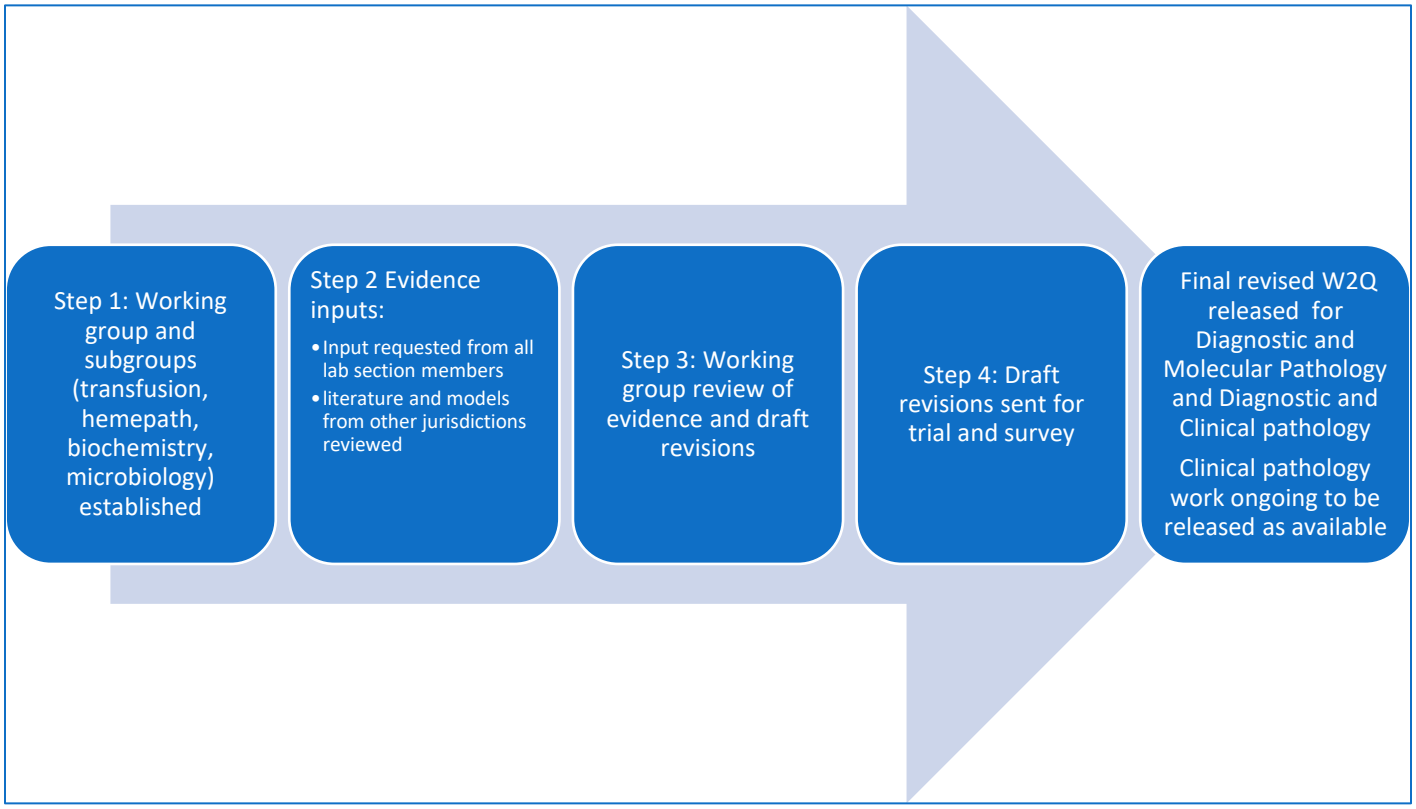
Work is also ongoing to accurately and effectively capture the professional work in the disciplines of medical biochemistry, medical microbiology, hematopathology and transfusion medicine, currently in development. As these are completed they will be released as companion documents to W2Q.

The W2Q guidelines and the calculator tools are meant to be employed at the departmental or institutional level only to aid in human resource planning and they are NOT intended to be used at a more granular level such as for the analysis of individual physician data within the department.

Overview of the approach used to update and revise W2Q

The Path2Quality has received numerous constructive suggestions and requests to update this document over the years. The process of iterative revision began in the year 2020 with formation of the Work2Quality Working Group (W2Q WG). An overview of the approach used to develop the model is summarized below. Appendix G provides a more detailed description of the approach used.

Figure 1: Overview of Approach Used to Update W2Q



Step 1: Working Group and Subgroups

The OMA Section on Laboratory Medicine and the Ontario Association of Pathologists convened a time limited working group and subgroups which aimed to have broad geographic representation as well as representation from the diverse types of laboratory medicine practices across the province. The main working group focused on anatomical and general pathology practices while the subgroups focussed on the unique workload aspects of more focused clinical pathology practices (microbiology, transfusion, hematopathology and

chemistry). Appendix H identifies the working group and subgroup members who brought diverse and relevant expertise related to workload to the development of the guidelines.

Step 2: Evidence inputs

The OMA Section on Laboratory Medicine solicited input from all laboratory medicine members about suggested changes to the guidelines. A focused literature review was undertaken for articles related to workload in pathology since the release of Version 1. Updates to other models in existence were also reviewed.

Step 3: Developing Consensus Based Recommendations

From February to August 2023, the working group met monthly to go through and discuss each specific codes and it's assigned relative workload value. Approaches from other models were considered; for example, the working group examined the merit of adding factors to some codes related to number of slides examined, the pros and cons of this approach and ultimately decided that the addition of a new code for highly complex cases was a better approach.

Step 4: Trialling the Consensus Based Recommendations

After consensus was reached for the relative weighting for each code, each working group member trialled the new codes over a period of two months. Feedback was collected in the form of a survey. The working group met in January 2024 to review the feedback and final adjustments to the codes were made.

While this work was on going, the clinical pathology subgroups started meeting to go through specific workload related to their respective areas. This work is ongoing.

SECTION 1
IMPORTANCE OF A WORKLOAD MEASUREMENT SYSTEM

GENERAL

Ontario's laboratory physicians share a common goal – the desire for an effective and efficient laboratory system that serves the best interests of the Province's citizens. An essential attribute of such a high-functioning laboratory system is appropriate resourcing. The guidelines here focus on one aspect of that – appropriate laboratory physician resourcing. Integral to the latter is a workload measurement system (WMS) that may be used for planning purposes. This second version of Work2Quality provides a WMS that specifically addresses the unique environment in which the laboratory physicians of Ontario work.

BACKGROUND

PATH2QUALITY

Path2Quality (P2Q) is the collaborative initiative of the Ontario Medical Association (OMA) Section on Laboratory Medicine (OMA Section) and the Ontario Association of Pathologists (OAP). Its initial focus was on developing a quality management system to guide the professional work of laboratory physicians.

Path2Quality
A Collaboration of OMA Section on Laboratory Medicine and the Ontario Association of Pathologists.

In November, 2009 P2Q hosted a symposium of the many organizations interested in quality assurance applicable to the professional work of Ontario's laboratory physicians. That work resulted in the *Standards2Quality (S2Q)* document that has been in the field since March, 2011. On March 29, 2022, The *S2Q Guidelines* Version 3 were released. These guidelines are meant to provide a framework for quality management to support professional interpretive work in surgical pathology, cytology and hematopathology.

Standards2Quality
Latest edition released March 29, 2022. This document provides guidance for quality management programs for the professional work of laboratory physician in Ontario

P2Q's subsequently developed the Work2Quality document which was published on September 6, 2012. This workload measurement system (WMS) was designed to guide laboratory physician resourcing in Ontario. It was

Work2Quality
A response to front-line requests to provide a workload measurement system for the professional work of the laboratory physicians of Ontario
Purpose: To ensure labs have sufficient laboratory physicians for the workload demand

accompanied by a W2Q calculator tool. We are pleased to release the Work2Quality Guidelines Version 2 in the fall of 2024.

The Work2Quality Guidelines are approved by the OMA Section on Laboratory Medicine and they represent a comprehensive workload management tool for all the disciplines of Laboratory Medicine at the department and/or institutional level; therefore, they are best suited for either various group either as salaried or on contracts and/or Alternate Payment Plans.

For the History of Workload Measurement for Laboratory Physicians in Ontario please see Appendix E.

PURPOSES OF WORKLOAD MEASUREMENT

W2Q Guidelines
For hospital-based work of Laboratory Physicians (Work that is funded by hospital global budgets and/or any relevant APP funding).

Includes a process to capture relevant administrative, quality assurance, academic and research work

The W2Q working group believes that the following purposes should be met by a WMS for laboratory physicians in Ontario. It should:

- Inform the appropriate distribution of resources (i.e., to ensure enough laboratory physicians of appropriate skill-set are present in a region/ at a hospital, to support patient-care needs and other requirements), including informing efforts for retention and recruitment;
- Aid with support and long term system planning for ensuring optimal laboratory physician human resources for laboratory medicine service work in all Ontario hospitals;
- Make allowance for academic, research and administrative responsibilities to ensure support to carry out those mandates;
- Support quality through risk prevention strategies (e.g., assist in determining inappropriately high work-load volumes); and
- Serve as a baseline for workload incentives.

It may be worthy of emphasis at this point that the WMS described in these *W2Q Guidelines* is meant to help describe and evaluate professional human resource requirements and to help planning at the

departmental or institutional level. Its purpose is not for professional to professional comparison, nor to establish workload expectations for individuals (either minimum or maximum expectations). Depending on the kind of work any individual laboratory physician or any group performs, and how that work is distributed for a variety of purposes, one pathologist in a group practice may perform work which accounts for more work load 'units' than another; any number of factors may account for this (as will be evident to any experienced laboratory physician or administrator). However, the work of the group in the aggregate, will be measured by this system.

W2Q Guidelines were developed to be applied at the departmental level for human resource planning and not intended to be used at the individual physician level

Further, the W2Q working group believes that a WMS for laboratory physicians in Ontario should have a number of attributes. Ideally it would:

- Support an integrated system which provides timely and high quality patient care;
- Be tuned to the unique features of the Ontario setting; however also use information from other systems or jurisdictions as appropriate;
- Measure anatomical and clinical pathology workload at the institutional level;
- Capture direct patient-care work, and account for other contributions to laboratory physician workload (e.g., participation in inter-disciplinary patient-care, indirect patient-care, administration, laboratory supervision, quality system support);
- Make allowance for academic, research and administrative responsibilities to ensure support to carry out those mandates;
- Value the different specialties which form Laboratory Medicine;
- Value the contributions made by laboratory physicians in varied settings:
    - When expectations of clinical output differ (e.g., community versus academic settings);
    - When infrastructure supports differ;
    - When laboratory physicians support regional or provincial programs;
- Minimize incentives which do not add clinical value;
- Be objective, administratively simple, and verifiable;
- Be readily reconciled with the current OHIP SOB, where applicable and be progressive to "modernize" those values based on objectivity;
- Be useful for third party billing, if required;
- Be consistent with principles and values of the OMA, OAP, and MOH;

- Be flexible over time, to adjust to changing system requirements.
- Be reviewed regularly to ensure relevancy.

APPROPRIATE INFRASTRUCTURE SUPPORTS

The WMS here assumes that the practice of each group is adequately and equitably resourced, and that each group is equally able to respond to and discharge similar workload volumes. For this, many variables need to be equal, or at least balanced.

Some variables relate to attributes of the professional staff themselves – more than just their number. For instance, depending on the complexity or other features of a group's workload, sub-specialty training of staff may be required – an example might be a hospital that starts a transplant program; training appropriate to that workload needs to be provided as an infrastructure support to the group. If that is not provided, it may be difficult for the group to discharge its work as efficiently as planned.

Many other infrastructure supports that a host hospital or institution is responsible for help maximize a group's efficiency and allow it to perform at a high standard.

The sorts of infrastructure supports that aid a professional group to work to its potential include, but are not limited to:

- Skilled and efficient staff (among whose many duties is support for workload measurement), for instance:
    - Technical staff, including pathologist assistants;
    - Clerical and other support staff;
    - Information system support staff;
    - Transcription staff, or effective voice-recognition technology;
- Efficient technical and professional work processes with, for instance, automation, bar-coding and in the future artificial intelligence;
- Laboratory information systems that adequately support efficient work processes, and related processes such as those of quality assurance and workload measurement;
- Effective communication tools, laboratory physician-to-laboratory physician, and laboratory physician-to-clinician, for instance:
    - Multi-headed microscopes or projection devices for case conferencing;
    - Image capture, video-conferencing, internet access, and similar functionalities;
- Adequate physical space, equipment and office accommodations for professional staff, with, for instance:
    - Ergonomic work-stations;
    - Microscopes of superior quality;
    - Computers with up-to-date software and applications that allow best practice;
    - Digital pathology and home office work space infrastructure

- Readily available decision support tools, for instance:
    - Reference materials, such as text books, journals;
    - Various web-based resources including on line modules and other web-based tools.
    - Artificial intelligence tools, where applicable.

If adequate infrastructure supports of the sort just listed are not available to the group, then the expectations of efficiency described in these *W2Q Guidelines* may not be reasonable or accomplishable. Either those infrastructure supports would have to addressed, or the expectations of these *W2Q Guidelines* modified to deal with the situation.

W2Q Guidelines
Assume that pathologists are appropriately supported by the necessary laboratory infrastructure to allow them to be as efficient as possible in their work

WELLNESS AND WORKLOAD

There is increased recognition of burn out amongst laboratory medicine professionals. While it is beyond the scope of this guideline to go into the complex factors affecting laboratory physician wellness, the demand for increased productivity, in the context of an ever increasingly complex healthcare system and diagnostic processes, is one of the most commonly sited contributing factors. For an excellent and detailed discussion of pathology workload and wellness, please refer to the article by Ziyad et al. [10] One of the driving factors for this W2Q update is the need to capture the increased complexity of the work we do not only related to individual specimens via specific codes but also in non case specific work not captured by individual codes.

BASIS FOR CODE RELATIVITY IN THE W2Q GUIDELINES

A clear and lucid description of professional services is at the heart of any WMS and of any schedule of professional fees. The early work of the OMA and the MOHLTC on this was directed at a WMS with an initial focus on surgical pathology services. Surgical pathology services are also key elements of the OHIP SOB. It is highly desirable that there be a common language for the description of laboratory medicine services in both contexts.

Work2Quality Guidelines Align with the OHIP SOB, maintain internal fee code relativity where possible and are modernized based on expert Ontario experience

Meaningful and consistent workload measurement requires appropriate work relative value units (WRVUs) for all laboratory medicine services measured. It is desirable that any provincial laboratory medicine WMS use the same WRVUs for province-wide workload measurement as are used to establish appropriate relativity between laboratory medicine services in the SOB.

Following extensive feedback from the medical directors and laboratory medicine physician leaders, in the new version of W2Q, the relative values have been brought in alignment with actual time and skills needed to complete the tasks. Also, a few additional new codes have been added.

Further many complicated or diagnostically difficult cases require special stains, immunohistochemistry, intra-departmental consultation, or similar, and result in issuing Ontario Health-Cancer Care Ontario (CCO) mandated structured reports, some being simple and others being complex. There has been extensive growth in personalized medicine, molecular testing, diagnostic and prognostic biomarkers. All of these latter activities are recognized with codes in the *W2Q Guidelines*, and they mitigate any consideration that the original code to which the specimen is attached does not sufficiently 'value' the work involved in the reporting of the specimen. This perspective also obviates the need to further categorize any single specimen by its complexity or by, for instance, the number of tissue fragments provided for interpretation.

Work2Quality Guidelines: The complexity of cases is recognized by adjusting the relativity of codes compared to a baseline code W864 and the addition of new codes

FACTORS TAKEN INTO ACCOUNT IN THE W2Q GUIDELINES

The *W2Q Guidelines* attempt to take into account a number of factors of interest to laboratory physicians in Ontario and to recognize the unique environment in which Ontario's laboratory physicians practice.
These include:

- An allowance for clinical service work that is performed but which is not attributable to an individual case or service (e.g., general enquiries about laboratory processes);
- An allowance for the enhanced academic mission of some groups and research activities – whether in academic settings or in community hospitals that participate in distributed learning programs, or in clinical trial work;
- A way to appropriately value clinical pathology resource requirements in various settings including academic settings where there are dedicated clinical pathologists/ scientists, and community hospital settings where that work may be performed by diagnostic and clinical pathologists, with or without the help of clinical pathologists/ scientists; and,
- The unique resource requirements imparted by Ontario Health/Cancer Care Ontario and related activities specific to the Ontario setting.

RELATIONSHIP TO OTHER WORKLOAD MEASUREMENT SYSTEMS

How to capture workload in laboratory medicine has been an ongoing challenge. Over the years, a number of national as well as regional/local initiatives for workload measurement have been developed. In 1999, the American Medical Association established Current Procedural Terminology (CPT) codes for healthcare services and assigned a relative valued unity (RVU) for each code. In England, the Royal College of Pathologists (RCP) have gone through a number or iterations of their "Guidelines on Staffing and Workload for Histopathology and Cytopathology Departments. In Canada, the Canadian Association of Pathologists (CAP-ACP) have created a well-regarded workload measurement system and the most recent update was released in 2020.

In 2018, a paper was published[2] comparing four commonly used workload measurement systems: CAP-ACP, W2Q, RCP and CPT. CAP-ACP showed higher scores for cytology and breast resections and lower scores for biopsies and GI subspecialty. RCP showed higher scores for cytology, gynecology and dermatology and lower scores for biopsies, GI and GU subspecialties. W2Q and CPT showed very close correlation in all categories except lymphomas, renal biopsies and frozen sections.

According to the above study, overall, W2Q showed a better balance and efficiency for both community and academic practices but it was suggested that further adjustments in the scores assigned to immunohistochemistry and frozen sections could be made.

A subsequent paper looking at changes in anatomic pathology workload from 2011 to 2019 in a regional laboratory, found an increase in workload over this time period and that the CAP-ACP Workload assessment better captured workload associated with large complex specimens more commonly seen in regional and tertiary centers, compared to the previous 2012 edition of W2Q[3]. This issue has been addressed in the updated W2Q by proportionately increasing the relative value of more complicated cases and also by adding a code for highly complex resections (W867).

Overall, there is significant alignment of the W2Q with CAP-ACP system however, in the context of a system for Ontario, some factors in the CAP-ACP model are worthy of consideration:

- lack of a relationship to OHIP
- lack of accommodation of resource requirements implied by S2Q Guideline recommendations
- lack of codes to encompass all clinical laboratory professional workload
- increased subjectivity of data collection and potential for overutilization
- cumbersome need to count tissue fragments in some specimens
- lack of detailed consideration of medical biochemistry and medical microbiology

In comparison, the following attributes may position the updated W2Q to take into account some of those factors and be a better fit for Ontario:

- Relatively simple compared to CAP-ACT system and easily implemented into organizational IT/LIS systems.
- Availability of a W2Q calculator tool
- Developed by Ontario Laboratory Physicians aware of the unique Ontario healthcare landscape
- Seeks to incorporates all clinical pathology specialties – hematopathology, transfusion medicine, molecular pathology medical biochemistry and medical microbiology (currently in development).
- Has been updated to address deficiencies encountered by Ontario laboratory physicians
- Aligned to the Ontario Schedule of Benefits
- Aligned to Standards2Quality
- Codes designed to minimize the potential for overutilization

- Overseen by Path2Quality, a collaborative partnership of the OMA Section of Laboratory Medicine and the Ontario Association of Pathologists and therefore not dependent on a national body for updates and revisions.
- Used successfully by many hospitals in submission of business case workload metrics to the Ontario Ministry of Health, Laboratory Services Branch to support additional laboratory FTE LMFFA funded positions.

For these reasons, the OMA Section on Laboratory Medicine and the OAP endorse the use of W2Q Guidelines as the workload assessment tool for use in Ontario laboratories.

Work2Quality Guidelines

Endorsed by:
OMA Section on Laboratory Medicine
& Ontario Association of Pathologists

SECTION 2 FOUNDATIONAL ELEMENTS

TYPES OF WORK TO CAPTURE

It should be understood that the WMS here is meant to capture that work occurring in hospital laboratories, and supported either by hospital global budgets or an alternative payment plan, as applicable.

Further, the system described here is meant to capture the work required for clinical diagnostic purposes (including related administration, oversight and quality assurance work) along with the academic responsibilities. At the time of this update, the Laboratory Medicine Funding Framework Agreement (LMFFA) covers these responsibilities in provision of uniform minimum level of compensation (UMLC).

> ***W2Q Guidelines***
> ***Account for clinical work that does not relate to individual cases or services***

The workload captured in this system is meant to reflect the exercise of medical judgment, and the majority of services described require (even when it was not explicitly stated as such) medical interpretation. There are other WMSs in place in hospitals that complement the system described here, and which capture the technical work performed.

The WMS here is meant to be employed at the departmental or institutional level; the purpose is to aid groups in human resource planning and not intended to be used either in isolation of or for a single position in the department.

APPLICABILITY TO VARIOUS TYPES OF PRACTICE

The original version focussed principally on the work of diagnostic and molecular pathologists/diagnostic and clinical pathologists, as that work was most readily quantified. It did not comprehensively address the work done by laboratory physicians in the clinical pathology domains of laboratory medicine – molecular pathologists, medical biochemists, microbiologists, hematopathologists and transfusion medicine specialists. The system acknowledges that in some settings this clinical pathology work is performed by diagnostic and clinical pathologists while in other settings the group will be large enough, or have differentiated for other reasons, to include clinical laboratory physicians (or laboratory scientists) who provide interpretive services.

> ***W2Q Guidelines***
> ***May be adapted for various types of practices (those where there are clinical pathologists/ scientists on staff, and those that have diagnostic and clinical pathologists who perform clinical pathology services)***

PROVISIONS FOR ACADEMIC, QUALITY, ADMINISTRATIVE, CLINICAL OVERSIGHT AND NON-CASE SPECIFIC WORK

The *W2Q Guidelines* anticipate that some accommodations are required in a WMS, to account for portions of laboratory physicians' work time that are not directed to individual cases or services.

A workload measurement system must acknowledge the role that laboratory physicians play in the academic, administrative and quality mission of many hospitals. Many laboratory physicians have been contracted or hired to work only a certain percentage of their time in direct clinical work; the remainder of their time is meant to be devoted to administration, teaching or research, and that work is measured in other ways. The amount and distribution of this 'protected' time will vary depending on the practice setting. For example, most academic centers expect a minimum percentage of a laboratory physician's time to be devoted to academic pursuits. Individuals with specific academic accountabilities may have further protected time. Similarly, those laboratory physicians with administrative roles will often have specific time set aside for laboratory operations. Laboratory directors and other laboratory physicians in administrative leadership roles (e.g. heads of service, directors of specific parts of a larger laboratory) will be required to manage laboratory operations as well as represent the laboratory at medical advisory and other facility meetings. These considerations should be part of the negotiated arrangement between the hospital and the laboratory physician. This time for academic and administrative work is accounted for in the Determination of Staff Available for Clinical Work (Section 3). In this, these negotiated percentages of time are removed from the FTE count as this time is not available for clinical work.

Further, *W2Q Guidelines* also acknowledge that there is a portion of work that each laboratory physician performs that is not case-specific, and that there is a component of clinical oversight that must be taken into account. This could be considered an office overhead of sorts – i.e., the time required to provide general consultative services, to research clinical cases, to perform various general office functions, to attend departmental meetings, to trouble shoot problems and the like. For diagnostic and molecular and diagnostic and clinical pathology this "modifier" for this oversight has been set at 20% based on the literature where available[5] and the collective experience of Ontario laboratory physicians, thereby reducing the FTE count available for clinical service.

It is recognized that for laboratory physicians who practice in laboratory domains of hematopathology, transfusion medicine, medical biochemistry and microbiology, clinical oversight is a larger component of the overall clinical workload. Clinical oversight in this context is more complex and includes such things as implementation of new tests, trouble shooting discordant results as well as reviewing specific policies and procedures. Therefore, in these clinical domains, indirect clinical services is generally set at 70%. See specific companion document for more details as they become available.

For laboratory physicians in community hospitals who do not have enough laboratory volume to support clinical hematopathologists, microbiologists, medical biochemists or transfusion medicine specialists, the function of these services is carried out by diagnostic and clinical pathologists. In the previous iteration of W2Q based on limited literature data and the consensus of the group following a trial of this approach, a modifier of 20% [5] was used. Feedback from laboratory sections members for this version did not indicate a need to change this approach. However, as clinical pathology services may become more regionalized and the approach to this work of a diagnostic and clinical pathologist is changing, a more fulsome consideration of diagnostic and clinical pathology workload should be addressed in future updates.

DETERMINATION OF A 'DENOMINATOR' FOR THE WMS

The *W2Q Guidelines* propose how the number of staff available to perform service work should be determined.

Further, the *W2Q Guidelines* propose the manner in which workload should be assessed, and suggest a 'denominator' that may be applied to the aggregate of that work – to determine how many FTE's would ordinarily/ ideally be required/ available to perform that volume of work.

W2Q Guidelines
Using a denominator of 7500 workload units, baseline code W864 equates to approximately 12 minutes.

It is in the comparison of the staff available with the estimate of those required to perform the work that any individual professional group will be able to determine whether they are appropriately resourced or not.

As the main purpose of the W2Q WMS is to allow for appropriate resourcing of the laboratory physician complement at each hospital, the estimation of the overall workload at each institution must be accompanied by some suggestion of how much work is reasonable, on average, per laboratory physician in the group. In only that way it will be determined if the number of staff is appropriate to the workload being performed. So, a 'denominator' is required by which to divide the aggregate of the workload units performed by the group – i.e., an estimation of the reasonable workload, *on* average, per FTE is required.

In the first draft of the W2Q Guidelines, there was a suggestion that the denominator referred to might be indexed to the published value for L864 in the OHIP SOB and to the current compensation level described in the Laboratory Medicine Funding Framework Agreement (LMFFA). This was not ultimately considered appropriate, as these values might be modified from time to time, and inappropriately alter the denominator.

W2Q Guidelines
OHIP SOB is indexed to code L864 and W2Q Guidelines to code W864 so that these systems are aligned (L864 and W864 have a common definition)

The denominator chosen by the W2Q WG is currently 7,500 W864 equivalents. This figure is supported by the experience to-date trialling the *W2Q Guidelines* by some of the W2Q WG, and by the early feedback from some of the laboratory directors who were provided the first draft of the *W2Q Guidelines.*

The first edition of the W2Q guidelines were based on the OHIP Schedule of Benefits and CPT codes with correlation to time-based studies. As a rough guideline, there are 52 weeks/year and most commonly about 8 weeks of time off (inclusive of vacation and CME allotment) leaving 44 weeks. There

are about 10 statutory holidays and subtracting this time, results in 42 working weeks or 210 working days. Using an average workday of 7.5 hours (excluding 1.5 hours allowable for lunch and coffee breaks), this equates to 1575 hours or 94,500 minutes. Using the denominator of 7500, this equate to 12.6 minutes/W864. This figure is not dissimilar to that described in the Canadian Association of Pathologists' (CAP-ACP) work, where one L4E baseline unit is equivalent to approximately 10 minutes of work. [10]

For one W864 in Diagnostic and Molecular Pathology (and all pathology codes in general), it is important to remember that the time taken to review a case includes not only looking at the slides but also review and editing of gross dictation, review of previous pathology and clinical history, looking up the clinical history in the electronic medical record (EMR), consulting with clinicians if needed, submitting additional sections if required, followed by entering a microscopic description as necessary and a final diagnosis.

The above time frame calculation is therefore only a guideline to assist with new codes (particularly in clinical pathology workload which is in many instances is not slide based) or revision of codes, since cases/services even of the same type may take longer or shorter amounts of time depending on differences in the case itself, departmental processes and individual styles. As previously mentioned the guidelines are meant to be used in aggregate to represent average workload within a department/organization.

The aggregate of the workload a group performs is determined by adding up (using the *W2Q Calculator;* see below) the workload units (W864 equivalents) for all of the services the group performs; it is then divided by the 'denominator' (7500 W864 equivalents per FTE) to determine how many FTEs 'worth' of work the group performs.

DOCUMENTATION AND AUDIT

It is good governance practice that a group determine and codify how it will measure workload and document those practices. Policies and procedures should be established before the introduction of a WMS, and describe:

- Data that will be collected;
- Accountabilities for data collection, aggregation, analysis, documentation, storage, and communication;
- Confidentiality considerations; and,
- Accessibility of data for audit.

Work2Quality
Lab physician group is accountable for ensuring workload data collection and analyses are accurate and reliable and these could stand the test of external scrutiny or audit

Many laboratory information systems are capable of handling most of the functions listed above or, in other circumstances, it may be more efficient for individual laboratory physicians (or their support staff) to keep hard-copy 'tallies' of work-load types. In some cases a blend of the two may be most appropriate. In any circumstance, it will be the accountability of the laboratory physicians in the group to ensure the accuracy and reliability of the data collected, and that the workload data collection and analysis could stand the test of external scrutiny or audit.

Further, when any of the codes described in this system are employed, then the medical judgement or professional interpretive work that reflects the code assigned, must be appropriately documented in the patient record. There should be an appropriate audit trail each time a code is recorded.

PROCESS FOR REVIEW AND REVISION OF THE W2Q GUIDELINES

The *W2Q Guidelines Version 2* described here appropriately reflects contemporary laboratory practice in Ontario as it evolves. It is proposed that the W2Q working group will receive and regularly review those comments and suggestions from members received through the OMA Section and the OAP (Annual review based on feedback received) and make modifications of the *W2Q Guidelines* as are required with a mandatory 5 year comprehensive review.

SECTION 3 W2Q GUIDELINE USE

GENERAL

The W2Q WG recommends that if a group (department of laboratory medicine in hospital(s)) chooses to put in place a WMS, that they formalize that effort. In most laboratory departments this task is undertaken by the chief/medical director and/or division heads. In a large department, a committee, or other formally constituted body, may be established by the group.
The work of the committee and designated individual should take into account the foundational elements described in Section 2, particularly as they relate to documentation.
The designated individual or committee that has oversight for its workload measurement should be responsible to review the *W2Q Guidelines*, and utilize the *W2Q Calculator* (and other required explanatory materials) if deemed useful. The group's workload measurement committee or designated individual will determine at what intervals workload is measured, documented, analyzed, and reported back to the group. In some circumstances the group may wish to compare its workload data with that of other groups.

However, every hospital or organization has a different clinical mandate with different clinical programmes. It has been brought to attention of the W2Q working group from many laboratory directors and laboratory physicians that in light of these differences, the workload and the services rendered by different hospital groups vary and these parameters should be taken into consideration if making inter-institutional comparisons. For these reasons, these sorts of comparisons maybe difficult to qualitative and quantitatively determine. Similarly, due to differences in how provincial healthcare is organized, interprovincial comparison would likely be challenging to accurately determine**.**

Work2Quality Guidelines
Benchmarking of workload data per institution from year to year would provide guidance for human resource planning

Therefore, benchmarking the workload per institution with comparison of its own metrics with the preceding years will give an objective assessment of the variance in the volumes of workload on a go forward basis for purposes of human resource planning.

DETERMINATION OF STAFF AVAILABLE FOR SERVICE WORK

In order to assess whether a group is or is not appropriately staffed, the first task for those responsible for workload measurement is to determine how many staff are available for service work. In this, a number of factors need to be taken into account.

i) NUMBER OF FTES IN BUDGET

The base number from which the workload measurement committee will generally start is the number of FTEs in the budget provided by the hospital/ institution for the group.

ii) ADJUSTMENT FOR ACADEMIC, ADMINISTRATIVE, QUALITY or OTHER CLINICAL WORK

In those groups with formal commitments to academic work, the portion of time commitment for that work needs to be subtracted from the FTEs available for service work. The proportion of time for service and for academic work is generally known in academic groups, as each individual has that negotiated with their service chief or academic chair, and as the group's department negotiates that with its host hospital and university department.

Some individuals in a group may have other formal dedicated time. For instance, department, division or other service heads, or committee chairs (for, for instance, the group's quality assurance management committee) may have dedicated time for administration or other related work; this will generally be known as it will have been negotiated with the host hospital or institution. The portion of each of those FTEs should also be subtracted from the FTE numbers available for service work.

If it is not known what proportion of an individual's time is dedicated for any of the purposes just mentioned, then clarification of that will need to be part of the early work of the group's workload measurement process. This will need to be determined in negotiation with the leadership of the host hospital, institution or academic centre; it would not be appropriate for the group to exercise that decision unilaterally.

W2Q Guidelines
Provides an adjustment for time that has been dedicated for academic, administrative or other work (time that has been dedicated in negotiation with the hospital) hospital/ institution

In making the adjustment just referred to, groups must be vigilant not to double-count in the application of the adjustment. For example, if part of an FTE is funded by the hospital and part by the university, and the university component is not counted in the original FTE count referred to in i) (above) then the

remaining hospital-funded portion of the FTE should not be discounted for work that is part of the position description of that university portion of the FTE. Likewise, any negotiation of protected time should take into account the accommodation made in the *W2Q Guidelines* for work that is not specific to an individual specimen or service (see section v).

iii) CLINICAL LABORATORY SERVICES

In larger laboratories, the professional physician staff may include specialists in hematopathology, transfusion medicine, medical biochemistry, medical microbiology and molecular medicine. Additional work is underway to add codes related to these areas to the W2Q system. If there are clinical laboratory scientists in the group and if they are providing interpretive work that is described in *Table of Codes, Services and Their Related Values* (the *Table*; see Section 5) then the workload related to this work can also be calculated using the W2Q codes.

iv) APPLICATION OF MODIFIER IS CLINICAL PATHOLOGY WORK IS PERFORMED BY THE GROUP BUT NOT BY CLINICAL LABORATORY PHYSICIANS/SCIENTISTS

W2Q Guidelines
Provides an adjustment to account for clinical pathology work performed by diagnostic and clinical pathologists in community hospitals

In many community hospitals the practice of pathology is provided either diagnostic and clinical pathologists or diagnostic and molecular pathologists with expertise in one or more clinical disciplines. Therefore, those hospitals may not have dedicated clinical laboratory physicians/scientists. In some cases that work may be contracted to a group/ institution external to the group of laboratory physicians, and not be part of the staffing budget for the laboratory physician group. In that case the work performed by that external group/ institution should not be counted in the workload measurement system described here; again, the principle is that of not double-counting.

It is worth keeping in mind that in the literature the diagnostic and molecular pathologist to diagnostic and clinical pathologist ratio in various pathology departments ranges from 2:1 to 3:1 (50% to 33%). Therefore, in a Diagnostic and Clinical Pathology program, 20% allocation to clinical pathology work seems to be the most conservative estimate.

In community hospitals where diagnostic and clinical pathologists provide the services required for the hematology, transfusion medicine, chemistry, point of care testing (POCT), and microbiology services of the laboratory, an adjustment to recognize that clinical pathology work is required.

In the latter circumstance, the FTE count (derived from applying steps i) – iii) above) is multiplied by 0.80, to acknowledge the time of the diagnostic and clinical pathologists required to perform clinical

pathology work. This factor (0.80) recognizes that about twenty percent (20%) of the laboratory physician group's resources are required to support those areas of the laboratory (if not supported otherwise)[4,5] . If this modifier is applied to their workload calculation by the group then that clinical pathology work that is recognized in the *Table* in Section 5 (below) is not counted – again, to ensure there is not double-counting of workload.

v) APPLICATION OF MODIFIER FOR WORK THAT IS NOT SPECIFIC TO INDIVIDUAL SPECIMENS OR SERVICES

Once the number of FTEs is determined by the processes noted above, an allowance for work that is not specific to any individual specimen of service is applied. This modifier recognizes the clinical work that laboratory physicians perform that is not strictly specimen-specific, or which is not recognized in the specific service codes.

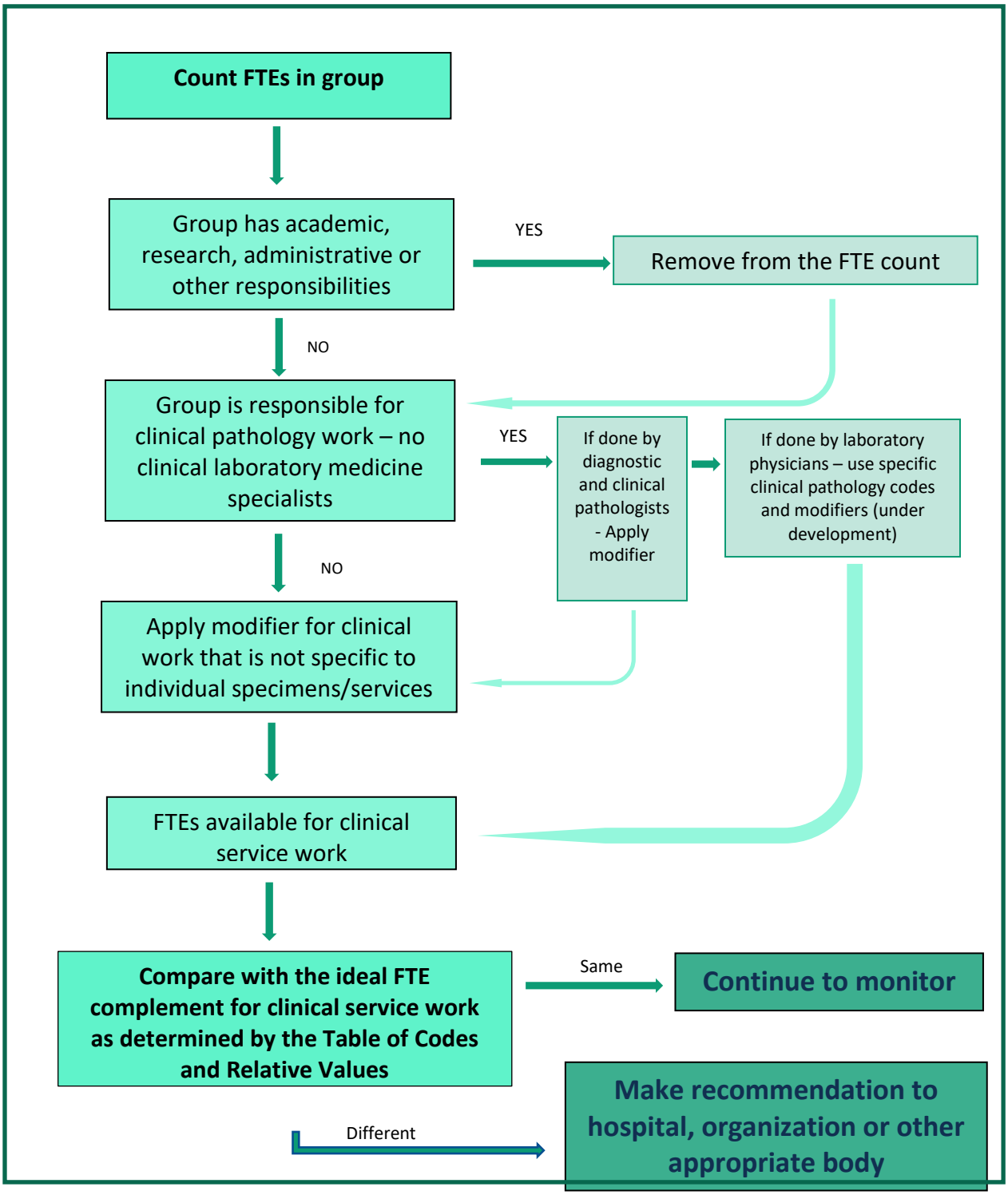
W2Q Guidelines
Provides a modifier for 'overhead' to recognize clinical work that is not specific to an individual specimen or not recognized in the specific service codes

There is very little in the literature on which to firmly base this modifier[5], but the W2Q WG estimates that about 20% of laboratory physicians' time is accounted for with activities such as providing general consultative advice, researching difficult clinical cases, performing quality assurance work that is not recognized in the specimen-specific codes, attending rounds, committee meetings and the like. The second modifier a group applies to its FTE count is, therefore, a factor of 0.80.

The general processes referred to above to determine the number of FTE laboratory physicians available for service work are represented in the following process map.

Note:
From accountability and documentation perspective, it is suggested that the Chief of the Department of laboratory medicine and the Chief of Staff sign off on the form listing all the laboratory physician professional staff with approved dedicated service/administrative/academic responsibilities on an annual basis, in sync with credentialing.
A standard operating procedure and a standard form can be constructed for this purpose for all the lab physician groups in the respective hospitals in Ontario.

FIGURE 1. Workload Determination Process Map



DETERMINATION OF IDEAL STAFF COMPLEMENT

The major function of any workload measurement system is to determine how much service work the group performs, and then to determine how many laboratory physicians are appropriate to perform that work. The following are the steps for that purpose.

i) W2Q CALCULATOR FOR WORKLOAD DATA ANALYSIS

A W2q calculator (the *Calculator*) that has been modernized in 2024 will be available from the OMA Section and OAP web-sites. The *Calculato*r includes the relative weighting of each service described in the *Table of Codes, Services and Relative Values Revised in 2023* (Section 5). Embedded in the *Calculator* are the formulas that will allow tallying of services, with computation of overall workload and estimated full-time equivalents (FTE) required for that work. Included with the *Calculator* is the categorization of surgical specimens W861-7 (also in Appendix A).

The number of services of each type may be entered and summarized at any interval that individual groups find useful.

ii) AGGREGATION OF WORKLOAD DATA

Regular recording of work by the laboratory physicians in the group may take varied forms. The group's laboratory information system may be capable of capturing all of the data required; some information systems may require some customization to include a field for, for instance, coding of the surgical pathology specimens.

In other cases some or all of the data required may have to be collected manually, or it may be more convenient for the group to collect parts of it that way.

The group will need to decide early on whether collecting information at the individual laboratory physician level is necessary or desirable. The values provided for each code cannot anticipate the complexity (or lack of complexity) of individual cases and, as discussed earlier, represent a 'blended' WRVU.

iii) APPLICATION OF WORKLOAD 'DENOMINATOR'

Once the group's workload measurement committee aggregates the workload data, it will need to apply the 'denominator' described earlier to determine how many FTEs' work is being performed by the group. This 'denominator' is provided as part of the *Calculator*

iv) COMPARISON OF STAFF AVAILABLE WITH IDEAL STAFF COMPLEMENT

One of the most important functions of the workload measurement system is in the comparison of the number of staff available in the group for service work with the ideal FTE count for the amount of work performed – the derivation of each of those values described above.

If the numbers provided by analysis determine that the staff available for service work and ideal FTE count for the work performed are roughly similar, then the group is likely right-staffed'. If not, then the group may have a case to approach their host hospital/ institution administration for redress.

What degree of imbalance requires incremental staffing increase may be affected by many factors, for instance whether infrastructure supports mitigate or accentuate the imbalance. Determination of this is, necessarily, a local matter. So too is consideration of other forms of redress, for instance providing incentives for performing work in excess of that which might ordinarily be expected by a certain staffing number.

v) TIME HORIZON FOR USE OF WMS

As the *W2Q Guidelines'* purpose is for human resource planning, aggregation and analysis of the data is ordinarily best done over an extended time period, e.g., annually or perhaps in anticipation of human resource needs for new programmes or services.

vi) OTHER LOCAL FACTORS WHICH MAY IMPACT WORKLOAD ASSESSMENT

The *W2Q Guidelines* provide a system of workload measurement that is anticipated to be used in most laboratory medicine practices in Ontario. It may be, however, that in certain special circumstances other factors unique to a practice group's situation need to be taken into account.

For instance, solo or small group practices may have a higher proportion of non-case specific work than is accommodated for in the system described in the *Guidelines*. There may be certain practice settings where appropriate infrastructure supports are not in place, and a group is not able to perform as efficiently as the *Guidelines* anticipate. Some groups may have highly specialized practices, perhaps working in highly specialized centres, and may not engage in the breadth of services anticipated by the *W2Q Guidelines*. Such circumstances or factors may need to be accommodated in human resource planning.

Likewise, it may be that practices in certain geographies will require a premium of sorts for the benefit of having a laboratory physician on-site.

These sorts of special circumstances cannot be anticipated by the *W2Q* (or any other) *Guidelines* and their strict application.

These Guidelines are living documents. Therefore, if there were unique situations, not covered by using this document, then the Path2Quality group would assist in evaluation of these situations and address these issues in the next updated versions.

SECTION 4 APPLICATION OF TABLE AND CALCULATOR

Section 5 provides a tabulation of the codes, services and their relative values that are the basis of the *W2Q Guidelines*. Based on evidence and experience, some of the codes have been modernized, and few new codes have been created, which we hope, may assist OHIP Schedule of Benefits to be modernized in future. The codes described in the *Table* are meant to be applied on a per specimen basis.

An individual case or accession from a patient may be constituted of several specimens, usually sent in individual specimen containers. If, for instance, a surgical pathology case is received with four specimen containers, each specimen will receive at least one code, and the case at least four.

W2Q Guidelines
Recognizes individual services provided in the form of codes applied to individual specimens

The OHIP SOB definition of a specimen may be helpful in this regard; it mirrors that described in the CPT. See also Appendix C for a more detailed explanation of this point.

An individual specimen may receive more than one code if more than one of the services listed is performed for it. For instance, an aspirate of lung examined by routine cytologic preparation is coded as W805. The codes for special stain for micro-organisms (W868) and immunohistochemistry (W837 x 3) are also applied if a stain for, for instance, pneumocystis and three immunohistochemistry stains are required for diagnosis.

OHIP SOB definition of a Specimen
Tissue that is identified and submitted for individual and separate examination and diagnosis

The codes listed are intended to be used once per specimen, unless otherwise noted. The codes for operative consultation (W822 and W823) allow for examination of more than one preparation at the time of consultation, and codes for work such as special stains for surgical pathology work (W868 and W869) and evaluation of tumours by IHC (W875 and W876) are applied on a per stain or per marker basis.

As an example, a neuropathology specimen may have a smear made at operative consultation (coded as W822), and then require two further smears (coded with a total of two further W823s). The subsequent interpretation of that specimen will be coded with one of the series of codes for surgical specimens (likely W864). If two special stains for microorganisms are performed on that specimen and four immunohistochemistry stains, that work is additionally coded with two W868s and four W837s.

COMMENTS SPECIFIC TO THE USE OF CLINICAL PATHOLOGY CODES

As described earlier, the clinical pathology codes should be used if the laboratory physician group performs those services and if the group has not differentiated to the point where it has come to include clinical pathologists/ scientists on its staff. If the latter (hematopathologists, microbiologists, or medical or clinical chemists, and including laboratory scientists who provide interpretive services) are on staff, those services should be analyzed using specific codes in the workload measurement system described in each specific clinical pathology sections which are under development. In groups where diagnostic and clinical pathologists use the modifier described in Section 3 to account for the clinical pathology work they perform; the clinical pathology codes should not be used in the *Calculator*. The principle here is to ensure there is not double-counting.

COMMENTS SPECIFIC TO ON CALL/AFTER HOUR SERVICES

Remuneration for on-call services must be accounted for by a separate process as it is not included in the current W2Q model however is an important component of all laboratory services.

Note: The laboratory physicians in Ontario hospitals have been providing all on-call services without specific remuneration for this service.

COMMENTS SPECIFIC TO DOCUMENTATION

If the workload for a service is recorded in this WMS, it is understood that the service for which the workload is captured will be recorded in the patient record. For instance, if a special study of some kind (e.g., gross specimen photography, special stain, or immunohistochemistry) is performed, the workload codes for those services may only be counted in the WMS if there is permanent documentation in the LIS system and/or patient record/report of the performance of that service, and its outcome.

Further, it is understood that documentation related to all aspects of this WMS are available for audit when required, and that documents will be kept in such a way that all calculations and analyses are available to demonstrate how the WMS has been employed locally. Laboratories should consider establishing a mandatory field of W2Q coding in the laboratory information system, so that unless the codes are entered, the case will not be signed, thereby ensuring accurate enumeration and collection of data.

COMMENTS SPECIFIC ACADEMIC SETTINGS

The system described here is meant to capture only that work required for clinical diagnostic purposes. For academic groups, teaching and research commitments are accounted for in the FTE calculation of

staff available for service work, so that work related to teaching or research should not be double-counted by including it in the WMS described here.

Services of the types listed that are performed for teaching or research purposes should be accounted for separately by whatever system a group chooses. For instance, if gross specimen photography is employed for teaching purposes only, it should not be coded in the system described in these *Guidelines*. If, however, gross specimen photography is used by the surgical pathologist in the context of, for instance, orienting and interpreting the assignment of blocks for a surgical pathology specimen, then that may be recorded in the system here (W890).

COMMENTS SPECIFIC TO THE USE OF SURGICAL PATHOLOGY CODES

In the case of surgical pathology work, the *W2Q Guidelines* do not discount work for the contributions made by pathologist assistants performing gross/ macroscopic examination of specimens; it is assumed that in contemporary practice all surgical pathologists are now aided by assistants, and that their supervision, ongoing education, and similar constitute another form of work that the codes incorporate. (In the OHIP SOB the fees assume gross and microscopic examination by the surgical pathologist; in the W2Q system here the assumption is that gross examination is performed by assistants but that there is an equivalency with the OHIP SOB system because of the time required for oversight of the assistants).

In situations where grossing is performed by the pathologist, allowance must be made for the time that is required for that activity.

COMMENTS SPECIFIC TO THE USE OF CYTOLOGY CODES

It is an accepted practice that a proportion of cervical-vaginal cytology specimens reported as “negative for intraepithelial lesion or malignancy” can be directly reported by the screening cytotechnologist or automated system without further review by a pathologist. The pathologist directing the cytology laboratory takes responsibility for ensuring that proper quality assurance procedures are in place to ensure the accuracy of these cases. The proportion of cases that are released with pathologist review and interpretation will vary depending on the practice patterns of the referring physicians (e.g., colposcopy versus general practice). For this reason, the code W813 (relativity 0.75 compared to L864) should only be used for Pap tests that are reviewed and reported by a pathologist. The work involved with oversight of directly released negative Pap tests is reflected in code W812 which is decreased to 0.25.

COMMENTS SPECIFIC TO THE USE OF QUALITY ASSURANCE CODES

A number of codes have been developed by the W2Q WG that acknowledge the work involved in various quality assurance (QA) activities. These codes recognize the sorts of quality assurance activities anticipated by the *S2Q Guidelines*. When they do not, there is the allowance provided in the modifier described in Section 3, "*Application of Modifier for Work that is not Specific to Individual Specimens or Services*".

The codes for quality assurance services may be found in the *Table* as codes W894-902. Each has a maximum of the number of times the code may be applied per specimen. The codes account for the possibility of laboratory physician-to-laboratory physician consultation for individual specimens, for the possibility of review of a specimen at a multiheaded microscope or projection system or digital pathology by two or more pathologists at the same time, and the possibility of review in the context of preparation for multidisciplinary case (e.g., tumour) conferences (MCCs). A new code has been added (W903) to document time a pathologist spends in direct discussion/consultation with patients about reports or other pathology related issues.

COMMENTS SPECIFIC TO THE USE OF CONSULT CODES

Codes that acknowledge the work performed when providing consultation opinions related to work originally performed at other institutions have been developed by the W2Q WG. This work is important, and often provides clinicians and patients with valuable second opinions before definitive surgical or oncologic care is undertaken. Codes that acknowledge the work performed when providing consultation opinions related to work originally performed at other institutions have been developed by the W2Q WG. This work is important, and often provides clinicians and patients with valuable second opinions before definitive surgical or oncologic care is undertaken.

The codes for consultation work may be found in the *Table* as codes W898-902. They may be applied in circumstances when clinicians request the review (e.g., before definitive therapy at cancer clinics) or when the case is received as a consult from another laboratory physician who requires the consultation opinion. In the latter circumstance, a diagnosis must have been rendered at the originating site (this code is not for referred in work undertaken for primary diagnosis). **However external consultations should only be counted in departmental workload if they are not billed to OHIP or if billings are used by the hospital in support of additional FTEs.**

COMMENTS SPECIFIC TO THE USE OF AUTOPSY CODES

The autopsy codes and their relative values assume that all work required is included. That is, other codes, for instance for specimen photography, special stains, etc. should not be appended to the codes for autopsies. Autopsy codes should be used for all the physician requested autopsies.

For forensic autopsies, if pathologists in the department are responsible for performing forensic autopsies are under the current LMFFA or future APP, then the W2Q autopsy codes should be used for counting the workload. However, if the forensic pathology workload is not considered as departmental workload and is funded separately, then that workload should not be counted.

COMMENTS SPECIFIC TO THE USE OF DIGITAL PATHOLOGY

The medium by which a diagnosis is accomplished is considered irrelevant to the use of the codes – if the quality of the associated report, including diagnosis, can be demonstrated to be the same or better when compared with that employing 'usual' techniques.

For example, if digital pathology is used to render a diagnosis of a gastric biopsy specimen then the W864 code applies, as long as all other conditions of rendering a diagnosis are accomplished (e.g., the medium used is of adequate quality to make a patient-care decision of the usual kind for that code, and as long as all ordinarily expected documentation for that service is completed).

Likewise, if a clinical pathology consultation is rendered over the phone, if all the usual conditions for consultation are met, that code may be used in the same way it would if the patient consultation is provided in person.

SECTION 5 TABLE OF CODES AND RELATIVE VALUES

(See appendix A for general explanatory notes)

The descriptions for the Services here (see *Table*) correspond to those used by the OHIP SOB (where applicable):

- In some cases, the wording has been modified to clarify (e.g. the word "interpretation" has been removed where it is used in the OHIP SOB, because all of the services here are for interpretation; the specification of "Romanowsky" for W800 has been changed to "routine").
- In absence of modernization of OHIP Schedule of Benefits, in some instances, the relativity values have been modified on basis of objective evidence, feedback from medical directors, and consensus amongst the medical directors and the W2Q WG members. We believe that this revision will serve as a guide for modernization of OHIP Schedule of Benefits in future.
- Some of the codes are very rarely if ever used, however are still in the OHIP SOB and therefore are retained until such time as they are removed from the SOB.
- Codes where there has been a change in relativity or a change in the description of the codes are highlighted in red.
- New codes are highlighted in green and marked as (NEW).
- External consultations which are billed to OHIP should not be counted in the departmental workload and in determining additional human resource; they can be included if they are not billed or if billings are used by the hospital in support of additional FTEs.
- This model assumes that the department has appropriate numbers of pathologists' assistants.

W2Q Code - may only be applied once per specimen, unless otherwise noted	Service Performed by Laboratory Physician(s)	Relativity (with W2Q W864 as base) V2 (2023)	Relativity (with W2Q W864 as base) V1 (2012)	Corresponding OHIP SOB L Code
W800	Blood film interpretation (routine stain)	1.00	0.60	L800
W801	Metabolic bone study - including morphometry, if required	1.96	1.96	L801
W802A	Bone marrow aspirate interpretation (routine stain)	3.77	1.25	L802
W802B	Bone marrow biopsy interpretation (routine stain)	3.77	2.12	L865
W803	Karyotype	1.52	1.52	L803
W804	Smear - specific assessment (e.g., eosinophils, asbestos bodies, amniotic fluid cells for estimation of fetal maturation)	0.29	0.29	L804
W805	Aspiration biopsy (e.g., lung, breast, thyroid, prostate)	1.85	1.85	L805
W806	Bronchial, oesophageal, gastric, endometrial or other brushings and washings	0.75	0.75	L806
W807	Smear for sex chromatin (Barr Body) or neutrophil 'drumsticks'	0.10	0.10	L807
W808	Imprint, touch preparation and/ or direct smear	0.75	0.75	L808

W2Q Code - may only be applied once per specimen, unless otherwise noted	Service Performed by Laboratory Physician(s)	Relativity (with W2Q W864 as base) Current 2023	Relativity (with W2Q W864 as base) V1 (2012)	Corresponding OHIP SOB L Code
W809	Code left unused		--	--
W810	Fluids (e.g., pleural, peritoneal, pericardial, CSF, urine, cyst, and joint)	0.75	0.75	L810
W811	Y chromosome	0.12	0.12	L811
W812	Cervical-vaginal (Pap) tests including all types of cellular abnormality, assessment of flora, and/ or cytohormonal evaluation – supervised but not reviewed by pathologist	0.25	0.56	L812
W813 (NEW)	Cervical-vaginal (Pap) test with pathologist review	0.75	--	--
W814	Code left unused		--	--
W815	Sputum for general and/ or specific assessment (e.g., cellular abnormalities, asbestos bodies, lipids, and hemosiderin)	0.75	0.75	L815
W816	Electron microscopy - TEM, STEM or SEM technique	2.01	2.01	L816
W817	Anti-tissue antibodies (e.g., fluorescent antibody tests, like anti-mitochondrial, anti-smooth muscle, anti-sperm and antithyroid antibodies)	0.12	0.12	L817
W818	Code left unused		--	L818
W819	Seminal fluid analysis for infertility - including count, motility and morphology	0.50	0.28	L819

W2Q Code - may only be applied once per specimen, unless otherwise noted	Service Performed by Laboratory Physician(s)	Relativity (with W2Q W864 as base) Current 2023	Relativity (with W2Q W864 as base) V1 (2012)	Corresponding OHIP SOB L Code
W820	Smear for spermatozoa	0.17	0.17	L820
W821	Selection of tissue for diagnosis (e.g., for flow cytometry, cytogenetics) - per procedure	0.79	--	--
W822	Operative consultation with or without frozen section or direct smear	1.59	1.59	L822
W823	Each subsequent frozen section or direct smear per procedure after W822	0.79	0.79	L823
W824	Synovial fluid analysis (including description, viscosity, mucin clot, cell count, and compensated polarized light microscopy for crystals)	0.51	0.51	L824
W825	Compensated polarized light microscopy for synovial fluid crystals	0.49	0.49	L825
W827	Carcino–embryonic antigen (CEA)	0.11	0.11	L827
W826	Blood film special stain	0.32	0.32	L826
W828	Hormone receptors for carcinoma - estrogen and/or progesterone assays	0.16	0.16	L828
W829	Hemoglobinopathy investigation	0.49	0.49	L829

W2Q Code - may only be applied once per specimen, unless otherwise noted	Service Performed by Laboratory Physician(s)	Relativity (with W2Q W864 as base) Current 2023	Relativity (with W2Q W864 as base) V1 (2012)	Corresponding OHIP SOB L Code
W830	Terminal transferase by immunofluorescence	0.24	0.24	L830
W831	Analytical electron microscopy, elemental detection or mapping, and electron diffraction - after W816	1.01	1.01	L831
W832	X-ray diffraction	0.49	0.49	L832
W833	Nerve teasing	2.89	2.89	L833
W834	Histochemistry of muscle – l to 3 enzymes	0.32	0.32	L834
W835	Histochemistry of muscle – per enzyme after W384	0.32	0.32	L835
W836	Code left unused		--	L836
W837	Immunohistochemistry – per marker	0.25	0.32	L837
W838	Leukocyte phenotyping by monoclonal antibody technique	0.41	0.41	L838
W839	Code left unused		--	--
W840	Code left unused		--	--
W841	Enzyme histochemistry - per enzyme	0.32	0.32	L841

W2Q Code - may only be applied once per specimen, unless otherwise noted	Service Performed by Laboratory Physician(s)	Relativity (with W2Q W864 as base) Current 2023	Relativity (with W2Q W864 as base) V1 (2012)	Corresponding OHIP SOB L Code
W842	Anti-tissue antibodies - screening dilution, and titration, after W817	0.17	0.17	L842
W843	Special microscopy of tissues (e.g. polarization, interference phase contrast, dark field, autofluorescence or other microscopy)	0.49	0.49	L843
W844	Special microscopy of fluids (e.g., polarization, interference phase contrast, dark field, autofluorescence, or other microscopy)	0.49	0.49	L844
W845	Specimen radiography or microradiography	0.21	0.21	L845
W846	Flow cytometry - per marker	0.32	0.32	L846
W847	Caffeine halothane contracture test/malignant hyper	1.34	1.34	L847
W848	Seminal fluid analysis - quantitative kinetic studies including velocity, linearity and lateral head amplitude	0.61	0.61	L848
W849	Decalcification	0.32	0.32	L849
W850 to W860	Codes left unused	-	--	--

W2Q Code - may only be applied once per specimen, unless otherwise noted	Service Performed by Laboratory Physician(s)	Relativity (with W2Q W864 as base) Current 2023	Relativity (with W2Q W864 as base) V1 (2012)	Corresponding OHIP SOB L Code
W861	Surgical Pathology - Level 1	0.11	0.11	L861
W862	Surgical Pathology - Level 2	0.17	0.17	L862
W863	Surgical Pathology - Level 3	0.29	0.29	L863
W864	Surgical Pathology - Level 4	1.00	1.00	L864
W865	Surgical Pathology - Level 5	3.18	2.12	L865
W866	Surgical Pathology - Level 6	5.6	3.73	L866
W867 (NEW)	Surgical Pathology – Level 7 (Complex specimens)	9.32		L867
W868	Special histochemistry for identification of microorganisms - per stain	0.72	0.72	L868
W869	Special histochemistry for identification of elements other than microorganisms - per stain	0.25	0.25	L869
W870	Direct immunofluorescence - each antibody	1.15	1.15	--
W871	Indirect immunofluorescence - each antibody	1.15	1.15	--
W872	Morphometry - skeletal muscle	2.47	2.47	L836

W2Q Code - may only be applied once per specimen, unless otherwise noted	Service Performed by Laboratory Physician(s)	Relativity (with W2Q W864 as base) Current 2023	Relativity (with W2Q W864 as base) V1 (2012)	Corresponding OHIP SOB L Code
W873	Morphometry - nerve	4.03	4.03	L836
W874	Morphometry - tumour (e.g., DNA ploidy)	1.27	1.27	L836
W875	Morphometry - tumour - by IHC (e.g., Her2, ER, PR) quantitative or semiquantitative - each antibody- manual	1.47	1.47	L836
W876	Morphometry - tumour - by IHC (e.g., Her2, ER, PR) quantitative or semiquantitative - each antibody - computer assisted	1.00	1.57	L836
W877	FISH or ISH - quantitative or semiquantitative - each probe - manual	1.73	1.73	L836
W878	Morphometry – FISH or ISH - quantitative or semiquantitative - each probe - computer assisted	1.00	1.87	L836
W879	Select retrieved archival material for molecular analysis or selection of material for reflex testing (e.g., MMR, KRAS, EGFR etc.)	0.11	0.49	--
W880	ISH - each probe (qualitative)	1.60	1.60	--
W881	Western Blot tissue protein analysis - immunological probe for band identification - each	0.49	0.49	--
W882	Microdissection - sample preparation of microscopically identified target - laser capture	2.08	2.08	--
W883	Microdissection - sample preparation of microscopically identified target - manual	1.57	1.57	--
W884	NGS – reporting of Tier 1 variants/per variant reported	0.5	--	--

W2Q Code - may only be applied once per specimen, unless otherwise noted	Service Performed by Laboratory Physician(s)	Relativity (with W2Q W864 as base) Current 2023	Relativity (with W2Q W864 as base) V1 (2012)	Corresponding OHIP SOB L Code
W885	NGS – reporting of Tier 2 or 3 variants/per variant reported or investigated	1.0	--	--
W886	NGS – reporting of Tier 4 variants/per variant reported (only pertinent negatives to be reported)	0.125	--	--
W887	NGS – report with no variants	1.5	--	--
W888	Prepare tissue for non-microscopic analysis (e.g.: NA-based molecular study) - each tissue preparation	0.83	0.83	--
W889	Prepare tissue for non-microscopic analysis (e.g.: NA-based molecular study) - at same time as touch imprint, intraoperative consultation or frozen section - each tissue preparation	0.60	0.60	--
W890	Gross specimen photography	0.20	0.20	--
W891	Unused code	-	-	--
W892	Clinical pathology (biochemistry, hematology, microbiology or transfusion medicine) consultation (upon written request by attending physician in relation to a test result requiring additional medical interpretative consultation - does not require examination of patient) - limited (without review or patient's history or medical records)	1.00	0.60	--
W893	Clinical pathology (biochemistry, hematology, microbiology or transfusion medicine) consultation (upon written request by attending physician in relation to a test result requiring additional medical interpretative consultation - does not require examination of patient) - comprehensive (with review or patient's history or medical records)	2.00	1.25	--
W894	QA Review - review of relevant previous case (maximum of 2 per specimen)	1.00	1.00	--

W2Q Code - may only be applied once per specimen, unless otherwise noted	Service Performed by Laboratory Physician(s)	Relativity (with W2Q W864 as base) Current 2023	Relativity (with W2Q W864 as base) V1 (2012)	Corresponding OHIP SOB L Code
W895	QA Review - internal consultation - pathologist to pathologist (maximum of 1 per specimen)	1.00	1.00	--
W896	QA Review – internal consultation at multiheader/similar with 2 or more pathologists (maximum of 1 per specimen)	2.00	2.00	--
W897	Structured synoptic report for CCO	1.00	1.00	--
W898	External consultation - Levels 1-4 Surgical, Morphologic Hematology or Cytology	1.50	1.00	A585, C585
W899	External consultation - Level 5 Surgical	3.18	2.12	A585, C586
W900	External consultation - Level 6 Surgical	5.6	3.73	A585, C587
W902 (NEW)	External consultation – Level 7 Surgical (Complex specimen)	9.32	-	
W903 (NEW)	Consultation with patient	3.00		
W916	Case preparation and presentation at multidisciplinary case (e.g. tumors) conference (MCC) -Per patient presented	1.00	0.64	

Autopsy codes

W2Q Code - may only be applied once per specimen, unless otherwise noted	Service Performed by Laboratory Physician(s)	Relativity (with W2Q W864 as base) Current 2023	Relativity (with W2Q W864 as base) V1 (2012)	Corresponding OHIP SOB L Code
W925 (previous 905)	Autopsy - stillborn or newborn - complete	23.0	18.0	--
W926 (previous 906)	Autopsy – macerated stillborn - complete	20	16	
W921 (previous 901)	Autopsy – adult or pediatric external and gross only without CNS	18	18	
W922 (previous 902)	Autopsy – adult or pediatric external, gross only with brain	20	20	
W923 (previous 903)	Autopsy - adult or pediatric – external, gross only with brain and spinal cord	22	22	
W929 (previous 909)	Autopsy - adult or pediatric – complete (external, gross and microscopic)	28	27	--
W934 (previous 914)	Autopsy - adult or pediatric – external examination only	10	10	
W935 (Previous 912)	Autopsy - adult or pediatric – limited to one region (external, gross and microscopic)	18.75	18.75	
W936 (Previous 913)	Autopsy - adult or pediatric – limited to one organ (external, gross and microscopic)	12.5	12.5	

APPENDIX A – Definitions of Surgical Specimens for W861 to W867 and Molecular Codes

These specimen definitions are to be used in conjunction with the calculator and Table 5.

Definitions of W861 and W862
W861 – Gross examination without microscopic
Any kind of specimen
W862 – Confirmation of identity of tissue and absence of disease
Appendix (incidental appendectomy)
Fallopian tube (contraception)
Digit (traumatic amputation)
Hernia sac
Hydrocele sac
Nerve
Skin (neonatal foreskin, plastic repair)
Sympathetic ganglion
Testes (castration)
Vaginal mucosa (incidental, prolapse)
Vas deferens (contraception)

Definition of W863
Abcess
aneurysm
Anal tag
appendix
artery or vein (atheromatous plaque or varicosity)
Bartholin cyst
Bone other than pathologic fracture
Bursa or synovial cyst
carpal tunnel tissue
Cartilage
Cholesteatoma
Colostomy stoma
conjunctive/pterygium
Cornea
diverticulum
Dupytren's contracture tissue
Extremity - traumatic amputation
Femoral head other than fracture
fissures or fistula
gallbladder
ganglion cyst
hematoma

hemorrhoid
hydatid of Morgagni
intervertebral disc
joint loose body
meniscus
mucocele - salivary gland
neuroma (Traumatic, Morton)
nasal or sinusoidal polyp (inflammatory)
skin acrochordon/tag
cysts
foreskin, other than neonate
debridement
pilonidal cyst or sinus
soft tissue - lipoma less than 10cm or debridement
spermatocele
tendon or tendon sheath
testicular appendage
thrombus or embolus
uterine contents (induced abortion)
varicocele
Vas deferens (other than sterilization)
NOTE: Any specimen with malignancy increase to W864.

Definition of W864: most biopsies, curetting, small resections
Biopsy/curetting – adenoid, artery, breast, bronchus, cervix, endometrium, femur, gastrointestinal tract, kidney (tumour), larynx, lip, liver (tumour), lung (not wedge), lymph node (not sentinel or mediastinum), nasal or other upper respiratory mucosa, omentum, oral cavity, ovary, pericardium, peritoneum, pleura, prostate, salivary gland, skin, synovium, tongue, tonsil, trachea, urothelium, vagina, vulva
bone exostosis
brain or meninges, other than neoplasms
Branchial cleft cyst
Breast biopsy (not requiring synoptic report, reduction mammoplasty)
Cell block
Fallopian tube (biopsy, ectopic pregnancy)
Femoral head or other bone with fracture
Digit non traumatic amputation
Heart valve
Joint (resection including knees and hips)
Lip wedge resection
Odontogenic or dental cyst
Ovary with or without fallopian tube, non-neoplastic
Parathyroid gland
Polyp - cervical, endometrial, digestive tract or other
Prostate TURP
Skin other than cyst/tag/debridement/plastic repair
Synovium
Spleen - traumatic
Testes - non neoplastic other than castration
Thyroglossal duct cyst
Uterine contents - spontaneous or missed abortion

Uterine leiomyoma/myomectomy

Definition of W865: resections and complex biopsies
Adrenal gland resection
Bone (biopsy or curetting, pathologic fracture)
Brain biopsy
Brain or meninges, neoplasm resection
Breast, partial or simple mastectomy; excision non-neoplastic
Cervix - conization
Colon - segmental resection other than neoplasm
Donor kidney biopsy
Extremity - non-traumatic amputation
Eye enucleation non-neoplastic
Fallopian tubes for BRCA
Kidney - partial or total nephrectomy non neoplastic
Larynx - partial resection
Liver biopsy medical – with special stains
Liver wedge resection or partial resection
Lung wedge biopsy
Lymph nodes - regional resection, sentinel
Mediastinum biopsy
Myocardium biopsy
Odontogenic neoplasm
Ovary with or without fallopian tube for neoplasm
Pancreas biopsy
Placenta - any trimester
Prostate other than transurethral resection or radical resection
Salivary gland
Small intestine resection other than neoplasm
Soft tissue mass biopsy or including lipoma greater than 10cm
Stomach - partial or total resection non-neoplastic
Spleen - neoplastic
Thymus neoplasm
Thyroid partial or total thyroidectomy
Ureter resection
Urinary bladder transurethral resection for tumour
Uterus with or without fallopian tubes and ovaries - non neoplastic

Definition of W866: major resections
Bone resection for tumour
Breast mastectomy with regional lymph nodes
Colon segmental resection for neoplasm
Esophagus partial or total resection
Extremity - disarticulation
Fetus with dissection
Larynx partial or total resection with regional lymph nodes
Lung, anatomical resection (segmentectomy, lobectomy, pneumonectomy)
Pancreas partial or total resection
Prostate radical resection
Small intestine resection for neoplasm
Soft tissue neoplasm extensive resection
Stomach partial or total resection for neoplasm
Testes neoplasm
Tongue resection for neoplasm
Tonsil resection for neoplasm
Uterus with or without fallopian tubes and ovaries for neoplasm
Vulva partial or total resection
Any major resection not identified above.

Definition of W867: complex resections
Any specimen that includes more than 1 organ/tissue type not specified in W865 or W866 e.g. radical cystoprostatectomy; partial esophagectomy with attached portion of diaphragm and lung; radical thyroidectomy with attached node dissection
Post neo-adjuvant therapy resection with a need to evaluate treatment response
Integrated bone marrow biopsy/aspirate/molecular/genetics/flow cytometry report if not counted previously or if done as a comprehensive review.

Definition of Next Generation Sequencing (NGS) Tier 1-4
Tier 1 – Variants with strong clinical significance
Tier 2 – Variants with potential clinical significance
Tier 3 – Variants of unknown clinical significance
Tier 4 – Benign or likely benign variants
NGS reporting is to follow the Standards and Guidelines for the Interpretation and Reporting of Sequence Variants in Cancer as outlined by the Joint Consensus Recommendations of AMP/ASCO and CAP [9]

APPENDIX B – OHIP SCHEDULE OF BENEFITS FOR LABORATORY MEDICINE (as of July 1, 2022)

DIAGNOSTIC AND THERAPEUTIC PROCEDURES

LABORATORY MEDICINE

L864 SURGICAL PATHOLOGY, LEVEL 4.

Gross and microscopic examination of the following specimens:

Artery (b*iop*sy); bone marrow (b*iop*sy); bone exostosis; brain or meninges (other than neoplasm resection); branchial cleft cyst; breast (b*iop*sy, not requiring microscopic evaluation of surgical margin; reduction mammoplasty); bronchus (b*iop*sy); cell block; cervix (b*iop*sy); digestive tract (b*iop*sy); endocervix (b*iop*sy or curettings); endometrium (b*iop*sy or curettings); extremity (traumatic amputation); fallopian tube (b*iop*sy; ectopic pregnancy); femoral head (fracture); digit (non-traumatic amputation); heart valve; joint (resection); kidney (b*iop*sy); larynx (b*iop*sy); lip (b*iop*sy; wedge resection); lung (transbronchial b*iop*sy); lymph node (b*iop*sy); muscle (b*iop*sy); nasal mucosa, nasopharynx or oropharynx (b*iop*sy); nerve (b*iop*sy); odontogenic or dental cyst; omentum (b*iop*sy); oral or gingival mucosa (b*iop*sy); ovary *with or without* fallopian tube (non-neoplastic); ovary (b*iop*sy, wedge resection); paranasal sinus (b*iop*sy); parathyroid gland; pericardium (b*iop*sy); peritoneum (b*iop*sy); pituitary gland (neoplasm); placenta (other than third trimester); pleura (b*iop*sy); polyp (cervical; endometrial; digestive tract); prostate (needle b*iop*sy; transurethral resection); salivary gland (b*iop*sy); skin (other than cyst / tag / debridement / plastic repair); synovium; spleen; testis (other than b*iop*sy, castration or neoplasm); thyroglossal duct cyst; tongue (b*iop*sy); tonsil or adenoid (b*iop*sy); trachea (b*iop*sy); ureter (b*iop*sy); urethra (b*iop*sy); urinary bladder (b*iop*sy); uterine contents (spontaneous or missed abortion); uterine leiomy*oma* (myomectomy); uterus *with or without* tubes and ovaries (for prolapse); vagina (b*iop*sy); vulva (b*iop*sy).

L865 SURGICAL PATHOLOGY, LEVEL 5.

Gross and microscopic examination of the following specimens:

Adrenal gland (resection); bone (b*iop*sy or curettings, pathologic fracture); brain (b*iop*sy); brain or meninges (neoplasm resection); breast (partial or simple mastectomy; excision requiring microscopic evaluation of surgical margin); cervix (conization); colon (segmental resection, other than neoplasm); extremity (non-traumatic amputation); eye (enucleation); kidney (partial or total nephrectomy); larynx (partial or total resection); liver (b*iop*sy or wedge or partial resection); lung (wedge b*iop*sy); lymph nodes (regional resection; sentinel); mediastinum (b*iop*sy); myocardium (b*iop*sy); odontogenic neoplasm; ovary *with or without* fallopian tube (neoplasm); pancreas (b*iop*sy); placenta (third trimester); prostate (other than transurethral resection or radical resection); salivary gland; small intestine (resection, other than neoplasm); soft tissue mass (other than lip*oma*; b*iop*sy or simple excision); st*oma*ch (partial or total resection, other than neoplasm); testis (b*iop*sy); thymus (neoplasm); thyroid (partial or total thyroidectomy); ureter (resection); urinary bladder (transurethral resection); uterus *with or without* fallopian tubes and ovaries.

Note:

1. For uterine leiomy*oma* or prolapse, see L864.

2. For uterine neoplasm, see L866.

DIAGNOSTIC AND THERAPEUTIC PROCEDURES

LABORATORY MEDICINE

L866 SURGICAL PATHOLOGY, LEVEL 6.

Gross and microscopic examination of the following specimens:

Bone (resection); breast (mastectomy with regional lymph nodes); colon (segmental resection for neoplasm); colon (total resection); extremity (disarticulation); fetus (with dissection); larynx (partial or total resection with regional lymph nodes); lung (partial or total resection); oesophagus (partial or total resection); pancreas (partial or total resection); prostate (radical resection); small intestine (resection for neoplasm); soft tissue neoplasm (extensive resection); stomach (partial or total resection for neoplasm); testis (neoplasm); tongue (resection for neoplasm); tonsil (resection for neoplasm); urinary bladder (partial or total resection); uterus *with or without* fallopian tubes and ovaries (neoplasm other than leiomyoma); vulva (partial or total resection).

L867 SURGICAL PATHOLOGY

Gross and microscopic examination of specimens not listed in Levels 2 through 6.

Payment rules:

1. The unit of a service in Surgical Pathology and Cytopathology is a specimen. A specimen is tissue that is identified and submitted for individual and separate examination and diagnosis.

[Commentary:

Surgical Pathology codes L861 through L866 denote increasing levels of physician work associated with examination of the specimens listed in the respective service code definitions.]

2. When the examination of a specimen requires any of the services listed under Special Procedures and Interpretation - Histology or Cytology, such services are eligible for payment in addition to any of the following services (when rendered):
   - **a.** services listed under Anatomic Pathology - Surgical Pathology,
   - **b.** services listed under Anatomic Pathology – Cytopathology; or
   - **c.** a Diagnostic Laboratory Medicine Consultation (A585/C585) as listed in the "Consultation and Visits" section of the *Schedule*.
3. Cytology smears fees are payable in each case for which the physician is responsible whether or not all slides are personally examined by the physician.

[Commentary:

1. For the *technical component*s of Laboratory Medicine (L001 to L799 and L900 codes), please refer to the separate *Schedule* of Benefits for Laboratory Services.
2. See section 37.1 of regulation 552 under the *Health Insurance Act* for additional information regarding payment and insurability of Laboratory services.]

Claims submission instructions:

If multiple specimens are submitted from a single patient on the same occasion, assign each specimen the appropriate fee *schedule* code(s).

DIAGNOSTIC AND THERAPEUTIC PROCEDURES

LABORATORY MEDICINE

		Fee
	INTERPRETATION OF ANATOMICAL PATHOLOGY, HISTOLOGY AND CYTOLOGY	
	Anatomic Pathology - Surgical Pathology	
L861	Surgical Pathology, Level 1	5.20
L862	Surgical Pathology, Level 2	8.45
L863	Surgical Pathology, Level 3	14.30
L864	Surgical Pathology, Level 4	48.65
L865	Surgical Pathology, Level 5	103.20
L866	Surgical Pathology, Level 6	181.65
L867	Surgical Pathology, Unlisted specimens	46.65
L822	Operative consultation, with or without frozen section	77.20
L823	- each subsequent frozen section or direct smear and/or selection of tissue for biochemical assay e.g. estrogen receptors ... add	38.25
L801	Metabolic bone studies	95.30
L833	Nerve teasing	140.75
	Anatomic Pathology - Cytopathology	
L812	Cervical vaginal specimens including all types of cellular abnormality, assessment of flora, and/or cytohormonal evaluation	4.60
L805	Aspiration biopsy e.g. lung, breast, thyroid, prostate	83.85
L806	Bronchial, oesophageal, gastric, endometrial or other brushings and washings	36.20
L808	Imprint, touch preparation and/or direct smear	36.35
L815	Sputum per specimen for general and/or specific assessment e.g. cellular abnormalities, asbestos bodies, lipids, haemosiderin	36.35
L804	Smear, specific assessment e.g. eosinophils, asbestos bodies, amniotic fluid cells for estimation of fetal maturation	14.30
L810	Fluids e.g. pleural, ascitic cyst, pericardial, C.S.F., urine and joint	25.00
L824	Synovial fluid analysis, including description, viscosity, mucin clot, cell count, and compensated polarized light microscopy for crystals	24.70
L825	Compensated polarized light microscopy for synovial fluid crystals	12.80
L819	Seminal fluid analysis for infertility, including count, motility and morphology	13.60
L848	Seminal fluid analysis - quantitative kinetic studies, including velocity linearity and lateral head amplitude	29.65
L820	Smear for spermatozoa	8.15

DIAGNOSTIC AND THERAPEUTIC PROCEDURES

LABORATORY MEDICINE

		Fee
	Cytogenetics	
L807	Smear for sex chromatin (Barr Body) or Neutrophil drumsticks	4.95
L811	Y chromosome	6.05
L803	Karyotype	73.95
	Special Procedures and Interpretation - Histology or Cytology	
L834	Histochemistry of muscle - 1 to 3 enzymes	15.15
L835	- each additional enzyme ... add	15.15
L841	Enzyme histochemistry and interpretation - per enzyme	15.15
L837	Immunohistochemistry and interpretation - per marker	15.60
L868	Special histochemistry for identification of microorganisms	35.05
L869	Special histochemistry for identification of elements other than microorganisms	15.55
L817	Anti-tissue antibodies and interpretation - per case	6.05
L842	- anti-tissue antibodies, screening dilution, titration and interpretation ... add	8.45
L849	Interpretation and handling of decalcified tissue	15.20
L843	Special microscopy of tissues including polarization, interference phase contrast, dark field, autofluorescence or other microscopy and interpretation	23.55
L844	Special microscopy of fluids (polarization, interference, phase contrast, dark field, autofluorescence or other microscopy and interpretation)	14.55
L845	Specimen radiography or microradiography and interpretation	10.40
L832	X-ray diffraction analysis and interpretation	23.70
L816	Electron microscopy by TEM, STEM or SEM technique	97.95
L831	- analytical electron microscopy, elemental detection or mapping, electron diffraction, per case ... add	49.35
L836	Morphometry per parameter	24.70
L846	Flow cell cytometry and interpretation - per marker	12.60
L847	Caffeine - halothane contracture test and other confirmatory tests for malignant hyperthermia	65.15
	Biochemistry and Immunology	
L827	Interpretation of carcinoembryonic antigen (CEA)	5.30
L828	Interpretation of hormone receptors for carcinoma to include estrogen and/or progesterone assays	7.95
	Haematopathology	
L800	Blood film interpretation (Romanowsky stain)	22.70
L826	Blood film interpretation (special stain)	15.15
L802	Bone marrow interpretation (Romanowsky stain)	44.45
Z403	Bone marrow aspiration	42.40
L830	Terminal transferase by immunofluorescence	11.85
L838	Leukocyte phenotyping by monoclonal antibody technique	19.80
L829	Haemoglobinopathy interpretation (payable for abnormal results only)	14.65

DIAGNOSTIC AND THERAPEUTIC PROCEDURES

LABORATORY MEDICINE

Fee

LABORATORY MEDICINE IN PHYSICIAN'S OFFICE

Definition:

A laboratory service ("test") set out in this section is an insured service eligible for payment only when rendered by a physician ("the original physician"), or by a physician substituting for the original physician, who performs the test in the original physician's own office for the physician's own patient.

Note:
Tests listed under "Miscellaneous Tests" may be claimed by any physician. Tests listed under "Reproductive medicine" and "Point of care drug testing" are only payable to those physicians where point of care testing is necessary for their practice.

[Commentary:
1. Fee codes listed in the separate *Schedule* of Benefits for Laboratory Services apply only to services provided by private laboratories licensed under the *Laboratory and Specimen Collection Centre Licensing Act*.]
2. Any service listed in this section is not insured when rendered to support in-vitro fertilization services or artificial insemination services. See Regulation 552 section 24(1) paragraph 23 and 29 under the *Act*.]

Medical record requirements:
Laboratory services are *only eligible for payment* if the result of the test(s), the physician's interpretation of the results of the test(s) and the treatment decision based on the test results are documented in the patient's permanent medical record.

A. Reproductive medicine

G015	FSH (pituitary gonadotrophins)	11.37
G016	TSH (thyroid stimulating hormone)	9.82
G017	Prolactin	14.48
G018	Estradiol	28.44
G019	LH (luteinizing hormone)	9.31
G020	Progesterone	14.48
G021	HCG (human chorionic gonadotrophins) quantitative	15.51

Note:
G021 is *not eligible for payment* for pregnancy tests. See G005.

G022	Testosterone	14.48
G023	Testosterone, free	25.85
G024	Androstenedione	38.78
G025	Dehydroepiandrosterone sulphate (DHEAS)	20.68
G026	17-OH progesterone	31.02
G027	Seminal fluid examination (complete)	11.37
G028	Cervicovaginal mucous specimen for cellular analysis for postcoital testing	10.34

Note:
G028 is *not eligible for payment* for obtaining, preparing or interpreting a papanicolaou smear.

G029	Antithrombin III assay	28.44
G030	Circulating anticoagulant (e.g., lupus anticoagulant)	5.17

DIAGNOSTIC AND THERAPEUTIC PROCEDURES

LABORATORY MEDICINE

		Fee
G032	Anti-DNA	23.27
G033	Anti-RNA	23.27
G034	Serial tube 4 or more antigens	15.51
G035	Titre - serial tube single antigen	7.76
G036	Sperm antibodies – screen	10.34
G037	Sperm antibodies – titre	20.68

DIAGNOSTIC AND THERAPEUTIC PROCEDURES

LABORATORY MEDICINE

		Fee
B. Point of care drug testing		
G041	Target drug testing, urine, qualitative or quantitative .. per test	3.70
G042	Target drug testing, urine, qualitative or quantitative .. per test	2.50
	[Commentary: G041 and G042 are tests for a specific drug of abuse.]	
G040	Drugs of abuse screen, urine, must include testing for at least four drugs of abuse ..... per test	15.00
G043	Drugs of abuse screen, urine, must include testing for at least four drugs of abuse ..... per test	7.50
	[Commentary: Drugs of abuse *may include* any of the following: alcohol, methadone, methadone metabolite, morphine, a synthetic or semi-synthetic opiate, cocaine, benzodiazepines, amphetamines, methamphetamines, cannabinoids, barbiturates or any other drug of abuse.]	
G039	Creatinine	1.03

Payment rules:

1. For the purposes of opioid agonist maintenance treatment, G040, G042, G041 and G043 are *only eligible for payment* to a physician who has an active general exemption for methadone maintenance treatment or chronic pain treatment with methadone pursuant to Section 56 of the *Controlled Drugs and Substances Act* 1996.
2. G040 and G041 are limited to a maximum of five (5) services per patient (any combination) per *month* to any physician when K682 or K683 is payable.
3. G042 and G043 are limited to a maximum of four (4) services per patient (any combination) per *month* to any physician when K682 or K683 is payable.
4. Any combination of G040, G041, G042 and G043 is limited to a maximum of three (3) services per patient per *month* for management of a patient with chronic pain, an addiction, or receiving opioid agonist treatment program where K682 or K683 is not payable in the *month* for the same patient to any physician.
5. G040, G041, G042 and G043 are *not eligible for payment* unless K623 or K624 or a consultation, assessment or time–based service involving a direct physical encounter with the patient is payable in the same *month* to the same physician rendering the G040, G041, G042 or G043 service.
6. G039 is limited to a maximum of two (2) tests per patient per *week*, any physician.
7. G039 is *only eligible for payment* when rendered to rule out urine tampering.
8. Only one of G040, G041, G042 or G043 is eligible for payment per urine sample.

C. Miscellaneous Tests		
G031	Prothrombin time	6.40
G001	Cholesterol, total	5.70
G002	Glucose, quantitative or semi-quantitative	2.26
G481	Haemoglobin screen and/or haematocrit (any method or instrument)	1.37
G004	Occult blood	1.58
G005	Pregnancy test	3.88

DIAGNOSTIC AND THERAPEUTIC PROCEDURES

LABORATORY MEDICINE

		Fee
	Payment rules:	
	1. G005 is only insured when an immediate determination of pregnancy is required to prevent imminent physical harm to the patient.	
G009	Urinalysis, routine (includes microscopic examination of centrifuged specimen plus any of SG, pH, protein, sugar, haemoglobin, ketones, urobilinogen, bilirubin)	4.45
G010	One or more parts of above without microscopy	2.14
G011	Fungus culture including KOH preparation and smear	13.05
G012	Wet preparation (for fungus, trichomonas, parasites)	1.93
G014	Rapid streptococcal test	5.70
	Payment rules: G009 and G010 are not insured when rendered for the monitoring of adverse effects resulting from a calorie restricted weight loss program.	

APPENDIX C – EXPLANATION OF WHAT CONSTITUTES A SPECIMEN

Integral to using the *W2Q Guidelines* here is an understanding of the meaning of "specimen".

A professional medical service by a laboratory physician is the unit of work that is the basis of these *Guidelines*, whether that service is the application of medical judgment to the interpretation of a peripheral blood smear (W800), a gastric biopsy (W864), an autopsy of a macerated stillborn (W926), bone marrow aspirate (W802A), bone marrow biopsy (W802B), or a laboratory test result in a clinical pathology consultation (W892).

For surgical pathology, cytology and hematopathology services, a clear and precise definition of a "specimen" is essential to ensure that work is quantified in a consistent and repeatable manner, avoiding both undercounting and overcounting. Most service descriptors use the specimen as their unit of work (for example, a gastric biopsy examined with a routine stain and also with a specialized stain to identify Helicobacter pylori, would be coded as one unit of W864 and one unit of W868).

The definition of a specimen in the *Guidelines* here is similar to that in the OHIP SOB. In the latter the description reads:

Payment rules:

1. The unit of a service in Surgical Pathology and Cytopathology is a specimen. A specimen is tissue that is identified and submitted for individual and separate examination and diagnosis.

The medical need for individual and separate examination and diagnosis of tissue is key. Most commonly, tissue is identified as a specimen by being sent in an individual specimen container. Thus multiple tissues from a single patient may be received in separate containers because they come from different anatomic sites. On other occasions, tissues are sent in separate containers because they require separate examination and diagnosis even though they are from the same anatomic site (for example a breast biopsy may be sent in one container, with the resection line of the same breast in a separate container; each is a separate specimen and each would be assigned a separate surgical pathology code as well as codes for any additional medically necessary services such as immunohistochemistry).

While the "one container = one specimen" principle will apply in most cases, it is not invariable. Three exceptional situations require further description and explanation: i) a single specimen sent in multiple specimen containers; ii) multiple specimens submitted in the same specimen container; and, iii) multiple specimens from a single tissue mass in one specimen container (complex specimen).

1. SINGLE SPECIMEN SENT IN MULTIPLE CONTAINERS

This may occur, for example, when the specimen is too large for submission and proper fixation in the available specimen containers. Examples might include tissue from a reduction mammoplasty or a panniculectomy. Similarly, a uterus removed for large leiomyomas may be subdivided and sent in separate containers. In each of these cases, however, there is only a single specimen.

2. MULTIPLE SPECIMENS SUBMITTED IN THE SAME CONTAINER

Occasionally, multiple tissues may be submitted for individual and separate examination, but in a single specimen container. In such cases, it may be obvious that multiple specimens are present, such as when a low anterior segment of colon resected for diverticulitis (W865) is received in the same container with a gallbladder with stones (W863) and a normal appendix (W863). Each of the three specimens must be separately described and receive a separate diagnosis, and each should receive a separate service code.

Likewise, two skin biopsies (or two segments of vas deferens or two segments of fallopian tube) received in a single container, but with one identified by an attached suture and/ or the respective identity of the two tissues indicated on the requisition, would constitute two specimens. In each case, the two tissues should receive separate descriptions and separate diagnoses, and a separate code should be recorded for each.

3. COMPLEX RESECTIONS

In some cases, specimens are anatomically contiguous and not separated surgically before submission for pathologic examination. Examples would be a radical cystoprostatectomy where the urinary bladder and prostate are submitted in continuity or a lung resection including chest wall and/or other structures. In order to reflex the complexity of these cases and for ease of integration into and LIS or some other workload software system, a new code (W867) was created.

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APPENDIX E – HISTORY OF WORKLOAD MEASUREMENT FOR LABORATORY PHYSICIANS IN ONTARIO

Workload measurement, appropriate funding of laboratory physicians, and the professional fee system for laboratory physicians are related matters of vital interest to the members of the OMA Section and the OAP.

Recruitment and retention are critical elements of human resource management. A comprehensive workload measurement system is critical for ensuring optimal human resource of laboratory physicians to support excellence in delivery of laboratory medicine services.

The majority of laboratory physician services are provided in the two sectors of the Ontario health care system, hospital laboratories and commercial laboratories. The systems for measuring workload and for relating workload to compensation in the two sectors must be comparable in order to support human resource planning (local or system-wide). Therefore, workload measurement, funding and the professional fee system have historically been considered together in discussions of payment for, and management of, laboratory physician services in Ontario.

Prior to 2003 there had not been a systematically constructed approach to fee setting or workload measurement for laboratory physicians in Ontario. By 2003, however, and in recognition of the serious shortage of laboratory physicians in Ontario, the 2003 Re-opener Agreement between the OMA and the Ministry of Health and Long Term Care (MOHLTC) made provision for the parties to work together to develop a comprehensive provincial plan to appropriately fund laboratory physicians. That led to the Memorandum of Understanding of January 20, 2004 that included commitments by the parties to:

> *"Support the collection and analysis of specific information required to develop a comprehensive agreement including but not limited to the collection and assessment of caseload data;*
>
> *Establish a process for workload reporting and develop an initial report by January 31, 2005"*

In November, 2004 the OMA and the MOHLTC held a workshop, *Developing a Workload Management System for Ontario Laboratory Physicians*. The *Workload Expert Group* (WEG) was named and asked to develop a WMS[1]. Considerable work was done by the volunteers who populated the WEG, but that work (like other elements of the MOHLTC's agreement with the OMA) was never completed.

In a parallel process, the MOHLTC accepted the 2005 Central Tariff Committee's (CTC's) Marathon Final Recommendations for Laboratory Medicine. Accordingly, the Workload measurement, appropriate

funding of laboratory physicians, and the professional fee system for laboratory physicians are related matters of vital interest to the members of the OMA Section and the OAP.

The OMA Section's 2007 CTC Marathon Submission followed directly on the work of its 2005 Submission, extending the same principles and methodology to additional selected services in the Ontario Health Insurance Program (OHIP) Schedule of Benefits (SOB).

Since that time the OMA Section's submissions to the Medical Services Payment Committee (MSPC; the bilateral MOHLTC and OMA committee most recently responsible for fee code adjustments) have continued to result in adjustments to fees based on the same principles, and aimed at internal relativity for the services described (Appendix B). The most recent such fee code adjustment was completed July 1, 2022.

Coincident with these SOB fee code improvements over the last several years, laboratory physicians working in hospitals and reimbursed via hospital global budgets have requested a WMS that would aid them in determining appropriate human resourcing for their professional groups.

In 2011, Path2Quality's draft *Standard2Quality (S2Q) Guidelines* were released. Acknowledged in those *S2Q Guidelines* is the requirement for adequate resourcing of various types. Chief amongst the resources described as integral to a high functioning quality management program with oversight for the professional work of laboratory physicians is adequate professional personnel. Included are personnel to undertake the various quality assurance processes described in the *Guidelines*, and personnel to provide oversight to, and coordination of, the program.

The *W2Q Guidelines* Version 1.2 released on September 6, 2012 were a response to the multiple imperatives described above – particularly, the *Guidelines* were to address the request of front-line practitioners for guidance in departmental human resource planning, and for a system that is tuned to Ontario's unique environment. The W2Q Guidelines are considered to be one of the deliverables of the Laboratory Medicine Funding Framework Agreement.

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APPENDIX G: DETAILED APPROACHUSED TO UPDATE AND REVISE W2Q

Scope: The W2Q system for workload measurement was originally released in 2012 however since that time many changes have occurred in the practice of diagnostic and molecular pathology as well as diagnostic and clinical pathology necessitating an update to the original version. In early 2020, previous working group members met lead by Dr. Suhas B. Joshi to outline the scope of the changes which were needed.

April to Dec.2020	W2Q meetings to outline scope of the changes needed. Preliminary input was obtained by Dr. V. Walley from individual telephone discussions with ad hoc W2Q members as well as OMA staff members. The feedback was summarized and submitted to the OMA Section on Laboratory Medicine.
Early 2021	A communication sent to all OMA Laboratory medicine members to solicit feedback for gaps and areas of revision. The following questions were asked:

1. Do you agree with the values of the existing codes captured by the W2Q calculator as listed within the attached word document? If you don't agree, please provide your suggested new value and the rational for the codes identified by you.
2. Are there any new codes we should add? Please identify, provide a suggested unit value for that new code relative for the W864 codes that serves as W2Q's base and your rationale for why you assign the value that you did.

Aug. to Sept. 2022	Feedback received from laboratory medicine physicians, reviewed and summarized. As part of this feedback, ten very detailed submissions were received, one of which included a detailed workload study done in a large community teaching hospital. A literature review and jurisdictional scan of updates to other workload models was undertaken
Sept.2022	Update and discussion of workload at OAP AGM in Niagara on the Lake
Sept. 2022 to Jan. 2023	Additional feedback collated and draft revisions made
Feb. 2023	Work to date presented at the joint OMA Section on Laboratory Medicine and OAP meeting with Ontario Medical Directors. Further discussion and feedback received.

Feb. to Aug. 2023	Monthly working group meetings to discuss and refine the revisions.
Nov. to Dec. 2023	Trial of new codes and relative values for pathology by working group.
Jan. 2024	Detailed feedback reviewed from the trial for updated pathology codes and adjustments were made
March 2024 to Sept. 2024	W2Q document was reviewed and changes made. The W2Q calculator was updated to reflect the changes in the codes and relative values.
Mar. 2023 to Dec. 2024	Clinical pathology working groups continue develop codes and work on specific issues related to their area.
Sept. 2024	Released on Friday, September 27, 2024 at the 86th annual conference of the Ontario Association of Pathologists.

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