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STRiVE
QUALITY ASSURANCE PROGRAM

A Guide to Risks and Supports Affecting Health Professionals' Competence

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If you have questions about a risk or a support, here's more information.

- ✓ You have feedback from your Self-Inventory of Risks and Supports to Competence as part of your annual Practice Profile.
- ✓ Completing the self-inventory identified your possible risks to competence so you can apply current supports to manage these risks.
- ✓ Each year's report can you help you monitor how these supports are working, which one's need to be amplified, and if any new risks need attention.

Curious to know more about these risks and supports?

Health professionals continued competence depends on:

1) Personal wellness,
2) Professional competence, and
3) Their practice contexts.

Each of these elements has possible risks to dyscompetence and supports to manage or mitigate these risks. The health professions' literature and CMTO data informed the risks and supports content.

This initial list of risks and supports was then reviewed by RMTs who work in a variety of practice settings and who live in different parts of Ontario. After further refinement, the Quality Assurance Committee reviewed and confirmed that the risks and supports identified in the broader health professions' literature may apply to RMTs too.

They will evolve!
CMTO is tracking trends across the health professions' research and RMTs as a group. Over time, based on evidence, CMTO will update the risks and supports in the self-inventory. This means when you complete your annual review, you'll check to see if the most current known risks and supports apply to you. Additionally, your risks and supports change, which is why we ask you to do this each year.

Take a closer look…

Click on the RISK or SUPPORT you want to know more about from the list below.

Under each risks and support are the titles of key evidence supporting their inclusion. The full details for each article can be found in the References.

Stage of Career

The beginning and end of careers are known as risks to health professionals' competence.

- **As a new graduate** (i.e., working less than 3 years), there are several factors that can lead to dyscompetence when transitioning into practice. These include:
  a) Facing new or unfamiliar clinical issues.
  b) Moving directly into unsupported (e.g., solo or isolated from colleagues) practice.
  c) Working in a highly specialized practice area (e.g., spinal cord injuries).

  Supports that may help mitigate or manage this risk include developing and using personal and professional networks such as a mentor or massage therapy interest group.

- If **planning to retire in the next 5 years,** there are factors that can lead to dyscompetence. Interest in working and/or maintaining competence can wane, and peers, especially trusted colleagues who were valuable resources, are retiring.

  Supports that may help to mitigate or manage the risk include maintaining and/or creating new personal and professional networks. Retiring and closing a practice also requires careful management of client records (see CMTO Standard of Practice: Record Keeping for details).

- **Experience (i.e., working 3 years or more as a registered health profession) is a support** to competence, especially if they're experienced in the area they are working in.

  By drawing on practice experience health professionals can more readily solve patient issues not faced before.

KEY EVIDENCE re: Stage of Career*

1. Epidemiology of competence: Risks and supports to competence of four health professions (2017)
2. Experiential knowledge of risk and support factors for physician performance in Canada (2018)
3. State of the science on risk and support factors to physician performance (2019)
4. Characteristics, predictors and reasons for regulatory body disciplinary action in health care (2021)

* Click on year to access open source paper

Gender

Health professionals identifying as male are at a significantly higher risk to dyscompetence than females – regardless of country, profession, or setting. This is also found in the CMTO data.

Those who identify as male have a higher incidence of dyscompetence in such areas as:

- performance in quality assurance programs,
- compliance with regulatory administrative processes, and
- professional conduct matters.

Why males have higher risk is not yet well known. However, it is important to note that the research on the impact of gender identity and health professional competence, including RMTs, has used a binary approach (i.e., male/female) that doesn't reflect current approaches to gender identity. As such, this research doesn't reflect the realities for those who are non-binary, transgender, or use other gender identities not listed.

Supportive actions to reduce the risk can be achieved by increased attention to regulatory standards, seeking feedback, working with students, and developing quality personal, and professional networks.

KEY EVIDENCE re: Gender*

1. Epidemiology of competence: Risks and supports to competence of four health professions (2017)
2. Characteristics, predictors and reasons for regulatory body disciplinary action in health care (2021)
3. Identification of doctors at risk of recurrent complaints: a national study of healthcare complaints in Australia 2013
4. CMTO Risks to RMT Competence Data Analysis
    - Current RMTs who identify as male are 2.5 times more likely to have a professional conduct case than females.
    - When reviewing all RMTs, from 1997-2021 males are almost 4 times as likely to have had more than one Professional Conduct case than are females.

* Click on year to access open source paper

Age

The risk of health professionals' dyscompetence is shown to start for some at the age of 60 and the risk is heightened by 70 years of age. This is also found in the CMTO data.

- **When 60-69 years old,** physical and cognitive functioning can be affected by the natural aging process.
- **When 70 years old or more,** physical and cognitive functioning is affected by the natural aging process.
- **If less than 60 years old,** there are no significant age-related risks to dyscompetence.

  Many people offset or delay the risk through supportive actions, i.e., leading a healthy lifestyle such as regular exercise, following a balanced diet, taking medication as prescribed by your doctors, and practising good sleep hygiene.

KEY EVIDENCE re: Age*

1. Epidemiology of competence: Risks and supports to competence of four health professions (2017)
2. Rapid synthesis: identifying risk and protective factors for quality clinical practice (2015)
3. State of the science on risk and support factors to physician performance (2019)
4. Characteristics, predictors and reasons for regulatory body disciplinary action in health care (2021)
5. CMTO Risks to RMT Competence Data Analysis
   - Older individuals (over 40) are more likely to underperform on their QA assessments.
   - There is no difference in younger (40 or under) or older RMTs (over 40) having one professional conduct case; however once there has been one case, those who are older are more likely to have multiple cases.

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Education

Quality of education is related to dyscompetence in the health professions' literature. This is also found in the CMTO data.

- If the an **education program is *not* an institution approved** by government.

  Quality of education matters for all health professionals. Approval of education (e.g., by the Ministry) indicates that requisite educational structures are in place such as physical space, organized curriculum and student supports.

- If the an **education program is *not* an accredited program**.

  Accreditation is a structured evaluation process where an education program can demonstrate that it meets established standards and graduates students ready for practice.

  Supportive actions to reduce the risk can be achieved by increased attention to regulatory standards, seeking feedback, working with students, and developing quality personal, and professional networks.

- **If 40 years or older when an RMT completed their Massage Therapy education program.**

KEY EVIDENCE re: Education*

1. Epidemiology of competence: Risks and supports to competence of four health professions (2017)
2. Inconsistencies in training experience and competing with service demands (2013)
3. CMTO Risks to RMT Competence Data Analysis
    - RMTs who graduated from non-accredited schools are more likely to:
        - underperform on their QA assessments.
        - have one or more Professional Conduct cases than if from a school that is accredited.
    - RMTs who are over 40 years old at initial registration are almost twice as likely to have had graduated from a school that is not recognized. (See also risks related to Age.)

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History of Complaints and Discipline

In the health professions' literature there is a risk of dyscompetence associated with a resolved/closed complaint or discipline case particularly if the outcome is negative. This is also found in the CMTO data.

- **If an RMT has been named in a complaint or discipline case and the result is still pending** the risk is unknown.
- **If an RMT was associated with either a resolved or closed complaint, or discipline,** and the outcome was negative the risk of dyscompetence is present.
- **If an RMT has never been named in a complaint or discipline case** the risk of RMT dyscompetence related to complaints or discipline is removed.

Supportive actions that reduce the risk can be taken such as increased attention to regulatory standards, seeking feedback, working with students, and developing quality personal, and professional networks.

KEY EVIDENCE re: History of Compliants and Discipline*

1. Epidemiology of competence: Risks and supports to competence of four health professions (2017)
2. Characteristics, predictors and reasons for regulatory body disciplinary action in health care (2021)
3. Identification of doctors at risk of recurrent complaints: a national study of healthcare complaints 2013
4. Physician Scores on a National Clinical Skills Examination as Predictors of Complaints (2009)
5. Unprofessional behavior in medical school is associated with subsequent disciplinary action (2004)
6. CMTO Risks to RMT Competence Data Analysis
   - A small number of individuals had 7 or more Professional Conduct cases.
   - In some Professional Conduct cases, multiple complaints were received in the same year.

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Personal Timeliness

Neglecting required tasks, particularly if a usual and habitual pattern is a risk of dyscompetence. The broader competence research indicates that those who complete required education assignments before the deadline have better results, i.e., a stronger performance. This is also found in the CMTO data.

- **There are risks of dyscompetence associated with late completion of quality assurance requirements** including higher risk of a complaint or discipline case.

- **RMTs who are late registering** including renewing professional liability insurance, are at greater risk of dyscompetence.

  Timely online paperwork is a support to your competence and an important part of professional practice including the timely completion of all regulatory administrative responsibilities. This is a sign of professionalism and demonstrates your commitment to the public's right to safe, ethical, and effective care, and respects the CMTO's role of supporting and monitoring practice in the public's best interest.

- **The risk to RMT competence is less likely if the annual CMTO requirements are submitted on time.** This includes the STRiVE requirements and registration, including renewing professional liability insurance.

  This is considered a good professional habit. It shows an awareness that leaving extra time, allows one to still make deadlines even if unanticipated circumstances arise.

  Completing regulatory administrative responsibilities is a sign of professionalism and respect for the Standards of Practice and regulations that govern Massage Therapy in Ontario.

KEY EVIDENCE re: Personal Timeliness*

1. Epidemiology of competence: Risks and supports to competence of four health professions (2017)
2. Unprofessional behavior in medical school is associated with subsequent disciplinary action (2004)
3. CMTO Risks to RMT Competence Data Analysis
   - RMTs who were overdue with their STRiVE submissions were twice as likely to have had at least one Professional Conduct case

* Click on year to access open source paper

Personal Changes and Transitions

Transitions are one of the most frequently cited risks to competence in the literature.

They can be careers transitions such as entering and leaving a profession (see stage of career) and returning from a break away from practice where competence decay is a risk.

Changes and transitions related to personal wellness are also known risks to competence.

These can include:

- losing a close family member
- birthing or child adoption
- experiencing significant personal health and wellness challenges
- recent financial stress

- Transitions are challenging to competence, even if they are welcomed transitions such as having a new baby or moving to a new home. Sometimes one or two personal challenges can be managed.

- Other times due to the nature of the transition (e.g., death of a spouse or moving to another part of the province) the disruption can impact performance. They take time and sometimes time away from activities necessary to maintain your competence.

Supports can help with transitions such as regular contact with friends/family, professional help related to the change (e.g., caregiver support group, doulas, or free credit advice). Making time to take care of physical and mental health is important.

KEY EVIDENCE re: Personal Changes and Transitions*

1. Epidemiology of competence: Risks and supports to competence of four health professions (2017)
2. Opportunity or threat: the ambiguity of consequences of transitions (2019)
3. CMTO Risks to RMT Competence Data Analysis
    - Frequent RMT registration changes (i.e. Active, Inactive, Active, Inactive) are a concern. The higher the number of registration changes, the more likely the RMT had a Professional Conduct case.

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Practice Setting

Solo practice and practicing in isolation are risks to competence in the health professions literature. There are riskier practice settings that are more frequently associated with professional conduct cases. For RMTs these include:

- solo practice
- mobile/travelling practice
- spa practice

It is not well understood why some settings (i.e., spa, solo practice) are more commonly associated with RMT dyscompetence. It could be factors related to client expectations, the RMT's current knowledge and skills, or the practice setting itself such as fewer opportunities for professional support or less operational support to comply with Standards of Practice.

KEY EVIDENCE re: Practice Setting*

1. Epidemiology of competence: Risks and supports to competence of four health professions (2017)
2. Experiential knowledge of risk and support factors for physician performance in Canada (2018)
3. What occupational therapists' say about their competencies' enactment, maintenance and development in practice (2020)
4. CMTO Risks to RMT Competence Data Analysis
    - Solo practitioners are more likely to have at least one Professional Conduct case than the combination of all other practice settings.
    - When combined the group: solo clinical settings, either office or home-based, and spa was significantly more likely to have a Professional Conduct case than the combination of all other practice settings.

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Personal Support Networks

Strong personal networks—friends, family and close professional colleagues and being in touch regularly support competence by:

- Helping with the day to day juggling of family responsibilities.
- Being available for a quick coffee to problem solve a difficult practice situation or discuss new practice ideas.

- If a health professional has strong personal networks that they connect with regularly (e.g., quarterly) this is a support to competence.

- If a health professional has strong personal networks that they connect with sporadically (e.g., less than quarterly) there is room for improvement in this type of support to competence.

- Without well-developed personal networks a health professional is missing an important support to competence.

Making time to develop strong personal networks and access them regularly, in person or virtually.

KEY EVIDENCE re: Personal Support Networks*

1. Epidemiology of competence: Risks and supports to competence of four health professions (2017)
2. Experiential knowledge of risk and support factors for physician performance in Canada (2018)
3. Experiences of occupational therapists returning to work after maternity leave (2013)

* Click on year to access open source paper

Keeping Up to Date

Having a strong understanding of the client needs in the health profession's practice area and feeling confident that resources are in place to meet the challenges supports competence.

- **Beginning work in a new area of practice with limited opportunities** for orientation or to refresh or enhance their knowledge and skills (e.g., reading, meetings, discussions with colleagues) is at risk of dyscompetence.
- **If began work in a new area of practice with an orientation** and took steps to refresh or enhance their knowledge and skills the risk of dyscompetence is mitigated.
- **Working in an area of practice for 2 or more years,** participating regularly in continuing professional development to enhance skills (e.g., reading, meetings, discussions with colleagues) and reading regularly to review and incorporate new knowledge are supports to competence.

  Working in a new practice area can be challenging and could be a risk to dyscompetence. This may require looking for additional supports including reaching out to personal and professional networks to help find time and opportunities.

KEY EVIDENCE re: Keeping Up to Date*

1. Epidemiology of competence: Risks and supports to competence of four health professions. (2017)
2. Factors Influencing Responsiveness to Feedback (2011)

* Click on year to access open source paper

Continuing Professional Development

Competence is maintained or enhanced by being actively and regularly engaged in strong continuing professional development to incorporate new knowledge into one's practice. This also helps to build supportive professional and personal networks.

- **A health professional who participated in 3 or more** continuing professional development activities in the past year has good support to mitigate the risk of RMT competence.
- **A health professional who participated in 1 or 2** continuing professional development activities in the past year could benefit from more regular engagement.
- **An RMT who only participated in STRiVE** and no other continuing professional development in the past year is at risk of dyscompetence.

Supports can include:

- **active participation in structured continuing professional development.**
- **active participation in a formal clinical course(s) or refresher this year.**
- **a performance review, 360 or multisource feedback review, or met 3 or more times with a professional mentor/coach.**
- **active participation in knowledge or skill development at least quarterly via individual or group educational activities that included reflection, coaching, and planning for improvement.**

KEY EVIDENCE re: Continuing Professional Development*

1. Epidemiology of competence: Risks and supports to competence of four health professions (2017)
2. The Relationship Between Physician Participation in Continuing Professional Development Programs and Physician In-Practice Peer Assessments (2014)
3. Using a quasi-experimental research design to assess knowledge in continuing medical education (2003)

* Click on year to access open source paper

Professional Organization Participation Activities

Although the types of activities can vary knowledge is increased through participation, and supportive professional and personal networks are built.

Examples of supports:

- attended 2 or more local professional meetings
- read 3 or more newsletters or journals
- visited the professional association's website for review (e.g., articles, blogs, modules)
- attended a provincial, national, or international meetings and learning events
- participated in a committee or volunteered for the professional association
- participated actively in other structured professional association activities

- **A health professional who participated in 3 or more** professional association activities, 3-4 times annually, has good support to mitigate the risk of RMT competence and helps to build supportive professional and personal networks
- **A health professional who participated in 1 or 2** professional association activities, in the past year could benefit from more regular engagement.
- **A health professional who was unable to participate in any professional association activities** in the past year is at risk of dyscompetence.

  This choice may be based on personal and professional priorities, and not a regular pattern. However, not participating, especially if this a usual habit, is a risk to dyscompetence. Fees could be a barrier, look for virtual professional networks (e.g., previous colleagues, classmates) and free online resources.

KEY EVIDENCE re: Professional Organization Participation Activities*

1. Epidemiology of competence: Risks and supports to competence of four health professions (2017)

* Click on year to access open source paper

Practice Setting Structures for Support

Workplace support and the degree of competence monitoring are significant determinants of competency maintenance behaviour.

Supports can include:

- formal or informal opportunities for feedback, coaching and/or mentorship
- formal or informal feedback systems such as chart audits, performance reviews, quality assurance activities
- formal or informal opportunities to teach students (e.g., high school, college, massage therapy students) or colleagues

- **If the practice setting has effective structures** that enable reflection, feedback, and coaching the health professional has supports to competence.
- **If the practice setting does not have effective structures** to enable reflection, feedback, and coaching in the past year, over time competence can be negatively impacted.
- **If a health professional develops their own network of effective structures** to enable reflection, feedback, and coaching which they have used in the past year, their competence is currently supported, but over time can be negatively impacted.

KEY EVIDENCE re: Practice Setting Structures for Support*

1. Epidemiology of competence: Risks and supports to competence of four health professions (2017)
2. Changing physicians' practices: the effect of individual feedback (1999)
3. Effect of multisource feedback on resident communication skills and professionalism (2007)
4. Factors Influencing Responsiveness to Feedback (2011)

* Click on year to access open source paper

Team Supports and Operational Resources

Having a safe practice environment with regular access to these supports can prevent risks to competence both personally and professionally.

Supports can include:

- access to coaching and feedback
- access to needed clinical and office equipment and supplies
- access to needed information technology and systems (i.e., IT, IS)
- access to orientation resources and ongoing educational sessions
- supportive operational meetings and peer discussions
- supportive peer discussions and team social events

- **If a health professional regularly accesses** the many available team supports and operational resources their competence is supported.

- **If a health professional's practice setting has a team culture** that is collaborative and collegial their competence is supported.

- **If a health professional's practice setting has sufficient operational** resources their competence is supported.

Support strategies if the above aren't available include:

- Fostering a team culture – start slowly with team social event. This might spark interest in team orientations, educational sessions, and operational meetings.
- Thinking of ways for a double win such as doing operational tasks with another team member to foster trust and create informal opportunities for coaching and feedback.
- Model receiving constructive feedback by owning mistakes and asking for help.
- Seeking out virtual professional networks.
- Hiring independent contractors for operational tasks.

KEY EVIDENCE re: Team Supports and Operational Resources*

1. Epidemiology of competence: Risks and supports to competence of four health professions (2017)
2. Variables affecting the competency maintenance behaviors of occupational therapists (2001)
3. Experiential knowledge of risk and support factors for physician performance in Canada (2018)
4. Reentry Into Clinical Practice: Challenges and Strategies (2002)

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Glossary of Terms

Competence

A multi-dimensional and dynamic state that changes with time, experience, and context. It also relates to the standards required to perform one's role(s) at the minimum level expected for a given profession. (Epstein et al., 2002; Frank et al., 2010) If a health professional including RMTs are meeting standards of practice they are performing at a minimum level, and hopefully far more.

Dyscompetence

Refers to the state of less than fully competent and may reflect a temporary situation such as severe fatigue when recovering from an illness or debilitating anxiety in anticipation of a stressful event. (Glover Takahashi et al. 2017) It can also be due to a prolonged decline of knowledge and skills from injury, disease, or the aging process affecting a health professional including an RMT's ability to meet standards of practice. This term is generally more accurate than the term "incompetent". By becoming aware of risks and supports to one's competence, one can reduce the likelihood of dyscompetence.

Risks to RMTs' Competence

Risks are patterns that signal who is more likely to experience dyscompetence among health professionals including the RMT population. (Glover Takahashi et al. 2017) For each person, risks are not indicators, they are not causal, and not 'for sure you'. It's possible or more likely that if a health professional has some of the risks, they will experience dyscompetence. Knowing one's risks to competence can help one take action and reduce the likelihood problems.

Supports to RMTs' Competence

Supports are factors or patterns that are known to protect the health professionals including the RMT population from dyscompetence. (Glover Takahashi et al. 2017) For each person, supports are not causal, they do not 'guarantee protection'. It's possible, or more likely that if a health professional has some of the supports they will not experience dyscompetence. By knowing one's supports to competence, one can put them in place or augment them to mitigate or manage one's risks and reduce the likelihood of problems.

To better understand 'risks', instead of a risk to competence, consider a health risk example well known to health professionals including RMTs…

Sitting is a known health risk for back pain. Does that mean everyone who sits for their job will experience back pain? No.

- The risk means that people who sit for prolonged periods in a day are more likely to have back pain than someone who sits less in a day, over many days, months, or years in a row.
- The risk can be mitigated, or the back pain reduced or managed, if someone routinely gets up and moves, and/or stretches, and/or limits their prolonged sitting.
- The risk of back pain may also be reduced if supports such as smart phone apps remind someone to get up move, or a workplace offers education on back pain prevention, or ergonomically adjustable chairs and desks.

Key Evidence Sources

Bismark MM, Spittal MJ, Gurrin LC, Ward M, Studdert DM. Identification of doctors at risk of recurrent complaints: a national study of healthcare complaints in Australia. BMJ Qual Saf 2013;22(7):532-40 https://pubmed.ncbi.nlm.nih.gov/23576774/

Brinkman WB, Geraghty SR, Lanphear BP, et al. Effect of multisource feedback on resident communication skills and professionalism: a randomized controlled trial. Archives of Pediatrics & Adolescent Medicine 2007;161(1):44-49 https://jamanetwork.com/journals/jamapediatrics/fullarticle/569406

Eva KW, Armson H, Holmboe E, et al. Factors Influencing Responsiveness to Feedback: On the Interplay between Fear, Confidence, and Reasoning Processes. Advances in Health Sciences Education 2012;17(1):15-26 https://pubmed.ncbi.nlm.nih.gov/21468778/

Fidler H, Lockyer JM, Toews J, Violato C. Changing physicians' practices: the effect of individual feedback. Academic medicine : journal of the Association of American Medical Colleges 1999;74(6):702 https://journals.lww.com/academicmedicine/Abstract/1999/06000/Changing_physicians__practices__the_effect_of.19.aspx

Foong-Reichert, et al. (2021). Characteristics, predictors and reasons for regulatory body disciplinary action in health care: A scoping review. *Journal of Medical Regulation, 7*(4), 17-31. https://doi.org/10.30770/2572-1852-107.4.17

Glover Takahashi, S., & Nayer, M. (2022, June). CMTO Risks to RMT Competence Data Analysis.

Glover Takahashi, S., Nayer, M., & St Amant, L. M. M. (2017). Epidemiology of competence: A scoping review to understand the risks supports to competence of four health professions.

Kain, N. A., Hodwitz, K., Yen, W., & Ashworth, N. (2019). Experiential knowledge of risk and support factors for physician performance in Canada: a qualitative study. BMJ open, 9(2), e023511. https://bmjopen.bmj.com/content/bmjopen/9/2/e023511.full.pdf

Lysaght RM, Altschuld JW, Grant HK, Henderson JL. Variables affecting the competency maintenance behaviors of occupational therapists. American Journal of Occupational Therapy 2001;55(1):28-35

Mark, S., & Gupta, J. (2002). Reentry Into Clinical Practice: Challenges and Strategies. JAMA, 288(9), 1091. https://doi.org/10.1001/jama.288.9.1091

Markert RJ, O'Neill SC, Bhatia SC. Using a quasi-experimental research design to assess knowledge in continuing medical education. Journal of Continuing Education in the Health Professions 2003;23(3):157-61

Papadakis MA, Hodgson CS, Teherani A, Kohatsu ND. Unprofessional behavior in medical school is associated with subsequent disciplinary action by a state medical board. Academic Medicine 2004;79(3):244-49 https://journals.lww.com/academicmedicine/fulltext/2004/03000/unprofessional_behavior_in_medical_school_is.11.aspx

Parcsi, L., & Curtin, M. (2013). Experiences of occupational therapists returning to work after maternity leave. Australian Occupational Therapy Journal, 60(4), 252-259.

Rochette, A., et al. (2020). What occupational therapists' say about their competencies' enactment, maintenance and development in practice? A two-phase mixed methods study. BMC Medical Education, 20:191, https://doi.org/10.1186/s12909-020-02087-4

Tamblyn R, Abrahamowicz M, Dauphinee D, et al. Physician Scores on a National Clinical Skills Examination as Predictors of Complaints to Medical Regulatory Authorities. JAMA 2007;289(9):993-1001 https://jamanetwork.com/journals/jama/fullarticle/208633

Tasker F, Newbery N, Burr B, Goddard AF. Survey of core medical trainees in the United Kingdom 2013 - Inconsistencies in training experience and competing with service demands. Clinical Medicine, Journal of the Royal College of Physicians of London 2014;14(2):149-56 doi: http://dx.doi.org/10.7861/clinmedicine.14-2-149[published Online First: Epub Date]|.

Teunissen, P. W., & Westerman, M. (2011). Opportunity or threat: the ambiguity of consequences of transitions. Medical Education, 45(51-59). doi:10.1111/j.1365-2923.2010.03755.x

Theising K, Wu K, Heck Sheehan A. Impact of peer assessment on student pharmacists' behaviors and self-confidence. Currents in Pharmacy Teaching and Learning 2014;6(1):10-14 doi: http://dx.doi.org/10.1016/j.cptl.2013.09.020[published Online First: Epub Date]|.

Wilson, M. G., Randhawa, H., & Lavis, J. N. (2015). Rapid synthesis: identifying risk and protective factors for quality clinical practice. McMaster Project http://hdl.handle.net/11375/17255

Yen, W., & Thakkar, N. (2019). State of the science on risk and support factors to physician performance: a report from the Pan-Canadian physician factors collaboration. Journal of Medical Regulation, 105(1), 6-21.

Wenghofer E, Marlow, Campbell, et al. The Relationship Between Physician Participation in Continuing Professional Development Programs and Physician In-Practice Peer Assessments. Academic Medicine 2014;89:920-27

References

Epstein RM, Hundert EM. Defining and assessing professional competence. JAMA. 2002 Jan 9;287(2):226-35. doi: 10.1001/jama.287.2.226. PMID: 11779266.

Frank JR, Mungroo R, Ahmad Y, Wang M, De Rossi S, Horsley T. Toward a definition of competency- based education in medicine: a systematic review of published definitions. Med Teach. 2010;32(8):631-7. doi: 10.3109/0142159X.2010.500898. PMID: 20662573.

Glover Takahashi, S., Nayer, M., & St Amant, L. M. M. (2017). Epidemiology of competence: A scoping review to understand the risks supports to competence of four health professions. BMJ open, 7(9), e014823. https://pubmed.ncbi.nlm.nih.gov/28864686/