**Research Article**

**Interprofessional Geriatric Oncology Complex Case Presentations: Andragogical Process to Benefit Participant and Presenter**

**Cassandra Vonnes DNP, GNP-BC, APRN, GS-C, AOCNP, CPHQ, FAHA#, Leo Martinez BS, RN, Laura Bewsher MSN, RN, OCN, GERO-BC**

#H. Lee Moffitt Research Institute and Cancer Center, Florida, USA

**1#Corresponding author:** Cassandra Vonnes DNP, GNP-BC, APRN, GS-C, AOCNP, CPHQ, FAHA, Geriatric Oncology NICHE Coordinator, H. Lee Moffitt Research Institute and Cancer Center, 12092 Magnolia Drive, ampa, Florida 33612, USA

**How to cite this article:** Vonnes C, et al. (2023) Interprofessional Geriatric Oncology Complex Case Presentations: Andragogical Process to Benefit Participant and Presenter. *Int J Nurs & Healt Car Scie* 03(09): 2023-252.

**Submission Date:** 13 June, 2023; **Accepted Date:** 22 June, 2023; **Published Online:** 27 June, 2023

**Abstract**

The interprofessional case presentation program of the older adult with cancer process is described. Utilizing the infrastructure of a NICHE (Nurses Improving Care of Healthsystem Elders) organization and an AFHS (Age Friendly Health System), the interprofessional team identified an older adult oncology population. Each case presentation followed a standardized outline and learning objectives. The cancer diagnosis included incidence, prevalence, pathophysiology, and treatments across varied continuums of care, such as radiation, infusion center, inpatient, supportive care, or clinic settings. Psychosocial and spiritual needs of the older adult with cancer were illuminated by chaplaincy or social work. Treatment needs identified may include rehabilitation services or pharmacy participation. Over a six-year time frame a total of twenty-nine case presentations reached over 450 participants from ten disciplines. A robust evaluation process would enable assessment of learning, improvement strategies for the presenters and other outcome measure for program appraisal.

**Keywords:** AFHS; Case discussion; Geriatrics; Interprofessional; NICHE; Nursing professional development; Oncology

**Introduction**

Interprofessional Education (IPE) with a focus on patient centered care can foster discussions on collaborations [1]. Simulation and standardized patients are a forum for prelicensure IPE including medical students, nurses, pharmacy and physical therapy students [2]. Providing direct care teams with knowledge to manage complex patient populations such as older adults with cancer [3].

Development of case presenters provides the mentor to offer guidance for clinical organization [4] Case based learning offers a linkage to practice using applicable vignettes that promote decision-making [5]. For oncology practitioners, participants of case-based learner reported an increase in confidence related to topics [6]. Case studies in nursing education has increased problem solving abilities [7]. An integration of concepts into an unfolding clinical case offers a opportunity for knowledge acquisition [8]. For the experienced nurse real life clinical scenarios can deliver unique learning opportunities [9] and is often preferred over passive didactic modalities [10]. Preparation of the clinical cases itself allows reflection and development of oral presentation skills [11,12].

Through the use of Interprofessional Education (IPE), healthcare providers can bring about an improved outcome for patients. The World Health Organization Report Framework for Action on Interprofessional Education and Collaborative Practice [13] highlighted IPE as a means to optimize healthcare team member’s skills, and communication in a collaborative manner.

Clinical case studies are designed to represent actual patient encounters or a series of patient encounters. By presenting clinical issues in the context of an interprofessional approach in a real-life setting, the presentation can be an effective tool for strategies and new ideas through education [13].

Many mechanisms, such as the strategy of communication, the resolution of conflict, as well as environmental factors, can also be prime factors when working collaboratively [13] .To present a case in a grand rounds format, the presenter should: outline a health history and physical; analyze data from assessment; provide background of pathophysiology; identify problems; plan actions to resolve problem; include theoretical framework for plan; and facilitate discussion of plan and problem.

Within this schematic, Continuing Education (CE) is largely teacher-driven, focuses on clinical education, and predominantly builds on education theory. CE often is associated with didactic learning methods, such as lectures and seminars, which take place in auditoriums and classrooms. In theory, the purpose of continuing education is to update and reinforce knowledge, which should ultimately result in better patient care. But in practice, there often are conflicting ideas about the purpose of CE. Some health professionals see CE as a means to attain credits for the licensure and credentialing they need to practice their occupations. Employers often view CE as a way to keep staff up to date and to improve quality. Many regulators believe the purpose of CE is to maintain competence and improve quality.

In recent years, a broader concept, called Continuing Professional Development (CPD), has been emerging that incorporates CE as one modality while adding other important features. CPD is learner-driven, allowing learning to be tailored to individual needs. CPD uses a broader variety of learning methods and builds on a broader set of theories than CE (Table 1).

|  |  |  |
| --- | --- | --- |
|   | **Education Continuing Education (CE)** | **Professional Development Continuing Professional Development (CPD)** |
| Purpose | Knowledge acquisition | To encourage systematic maintenance, self-directed improvement, and broadening of knowledge and skills |
| Targets | Altered knowledge, skill, or attitudes | Outcomes-focused development of personal and professional qualities necessary through a professional career or life |
| Outcomes | Observation, analysis, and questioning to formulate hypotheses and make conclusions; actions modified according to conclusions or solutions | Reflecting on practice, identifying problems |
| Description | Serves to update and reinforce knowledge (e.g., management of heart attacks, diagnosis of HIV) | Deals with personal, communication, managerial, and team-building skills in addition to content |
| Measure | Frequently based on acquiring credits May be considered a subset of continuing professional development | May be based on acquiring credits or on processes of self-accreditation and reflection (e.g., personal portfolios) Systems for monitoring CPD require flexibility so professionals can participate in a variety of CPD activities |

**Table 1:** Education and Professional Development Comparison. From Continuing Professional Development: Building and Sustaining a Quality Workforce [28]. Redesigning Continuing Education in the Health Professions. Institute of Medicine (US) Committee on Planning a Continuing Health Professional Education Institute. Washington (DC): National Academies Press (US) [30].

**Geriatric Population Foundations**

An institution-wide strategy to improve care in the geriatric oncology population included implementation of the NICHE (Nurses Improving Care of Health System Elders) [14-16]. Participating institutions are afforded access to a variety of resources including evidenced informed practice standards and innovations to enhance the development of the geriatric nurse expert [17]. This model has demonstrated influential change in nursing perceptions, knowledge, and care for the older adult [18,19].

The key component of a NICHE organization, is the implementation of the Geriatric Resource Nurse (GRN) [20]. This clinical model promotes individual unit and clinic led direct care geriatric nurse experts that have completed a series on web-based learning activities. The GRNs function as advocates for the older adult across the continuum as leaders on quality projects, system wide committees and unit clinical experts [21]. Engagement of the GRN includes educating their interprofessional partners and Unlicensed Assistive Personnel (UAP). Many GRNs have limited experience with presentations and an opportunity to present in collaboration as a team aligns with their role as a champion of the geriatric care environment [19].

**Complex Case Presentation**

The purpose of the case study approach is to allow an in-depth, multi-faceted exploration of complex issues of the geriatric cancer patient in their real-life setting. These clinical case studies are designed to represent actual patient encounters or a series of patient encounters. By presenting clinical issues in the context of a patient's situation, these case studies can be an effective tool for demonstrating clinical decision-making and facilitating discussion of interprofessional plans of care. In order to present a case study, the facilitator should: include a health history and physical; analyze data from assessment; provide background of pathophysiology as indicated; identify problems; plan actions to resolve problem; include theoretical framework for plan; facilitate discussion of plan/problem.

The complex case presentations can offer the attendees a means to find solutions for patient care that alone would not have been identified. Using a true clinical setting that allows for nursing, spiritual, physical therapy, physician, and other practices to learn with, from, and about, is crucial for best practice. Current healthcare complexities require a pooling of insights and experiences to improve patient’s care and our own performance. Attendees can also benefit from learning about the scope of other professions and disciplines.

Collaboration with other disciplines in creating a complex case study provides for an opportunity to embrace the Duffy Caring factors of mutual problem solving, human respect, appreciation of unique meanings, and facilitating a healing environment [22]. This model was reinforced with the oncology population perception of caring within the agency [23].

For example, in The Older Patient with Chronic Myeloid Leukemia (CML); A case study and discussion, presentations were given by (2) GRNS, the Physician Assistant, and the Chaplain. This presentation included pathophysiology of CML, the patient’s history, and disease progression while being treated at this facility, geriatric end-stage experiences of this disease, and spiritual challenges encountered by the patient’s test of faith.



**Nursing Grand Rounds Format**

A Grand Rounds format is a method of IPE that delivers scenarios for team discussions [24]. Nursing Grand Rounds are describes as “presentations given by nurses who share nursing care and focus on a particular case” [25]. In nursing, this format has been used to recognize expertise while developing mentoring presenters [26]. To present a case in a grand rounds format, the presenter was expected to; outline a health history and physical; analyze data from this assessment; provide a background of pathophysiology; identify problems; include a theoretical framework for the plan; and facilitate the discussion of the plan and problem. Overarching learning objectives are 1) Review the pathophysiology related to the oncology diagnosis 2) Apply interdisciplinary plans of care to the complex case 3) Discuss the theoretical framework that impacts the nursing care.

A standardized outline was created for the NICHE Geriatric Resource Nurses (GRNs) Complex Case Discussion: The Older Adult with Cancer to facilitate the novice presenter and enable continuing education credits to be provided to participants (Table 2).

|  |  |
| --- | --- |
| Incidence and prevalence |  |
| Pathophysiology |  |
| Risk factors/Contributing factors |  |
| Patient Case including: | PMH |
| HPI |
| Medications |
| Social History |
| Unfolding hospital course discussion |
| Geriatric considerations |  |
| Interprofessional strategies |  |
| Nursing Implications |  |
| Relationship with Conceptual Framework |  |
| Guided Discussion: | Present Viable Options at Decision Points |
| Analyze Options and Select One Course of Action |

**Table 2:** Standard Outline for Complex Case.

|  |  |  |
| --- | --- | --- |
| Complex Case Discussion Title | Participant Facilitators | # Attendees |
| The Older Adult with Diffuse Large B-Cell Lymphoma | Direct Care RN (inpatient) Clinical Nurse Specialist | 17 |
| The Older Adult with Newly Diagnosed Multiple Myeloma | Direct Care RN (outpatient) Clinical Nurse Specialist | 9 |
| The Older Adult with Cancer of the Tongue | Direct Care RN (inpatient) Clinical Nurse Specialist, Speech Learning Pathologist | 11 |
| The Older Adult with Invasive Ductal Carcinoma | Direct Care RN (outpatient) Clinical Nurse Specialist, Infusion Center Team | 9 |
| The Older Adult with Secondary Hematological Malignancies | Direct Care RN, Geriatric Oncologist | 30 |
| The Older Adult with Carcinoid and Short Gut | Direct Care RN, Clinical Nurse Specialist, Registered Dietician | 9 |
| The Older Adult with Prostate Cancer and Post-operative Delirium | Direct Care RN (inpatient) Clinical Nurse Specialist | 6 |
| The Older Adult with Pancreatic Cancer Requiring Surgical Resection | Direct Care RN (inpatient) Clinical Nurse Specialist | 13 |
| Failure to Rescue the Older Adult with Bladder Cancer | Direct Care RN (inpatient) Clinical Nurse Specialist, Nurse Manager, Rapid Response | 11 |
| The Older Adult with Metastatic Colon Cancer Undergoing Local Regional Liver Directed Therapies | Direct Care RN (outpatient) Clinical Nurse Specialist, Interventional Radiology | 9 |
| The Older Adult with Breast Cancer Requiring Neoadjuvant Therapy with Treatment Related Complications | Direct Care RN (outpatient) Clinical Nurse Specialist, Pharmacist, Infusion Center Team | 27 |
| The Older Adult with Lung Cancer and DM Requiring Hospitalization | Direct Care RN (inpatient) Clinical Nurse Specialist, Diabetic Nurse Educator | 6 |
| The Older Adult with Synchronous GI and Head & Neck Cancers | Direct Care RN (outpatient) Clinical Nurse Specialist, Nurse Navigator | 11 |
| The Older Adult with Chronic Myelomonocytic Leukemia | Direct Care RN (inpatient) Clinical Nurse Specialist, Physician Assistant, Chaplain | 8 |
| The Older Adult Cancer Patient with Complicated Psychosocial and Pharmacological Needs | Direct Care RN (inpatient) Clinical Nurse Specialist, Social Worker, Pharmacist | 9 |
| The Older Adult with Lung Cancer and the Role of Pembrolizumab | Direct Care RN (inpatient) Clinical Nurse Specialist, Nurse Navigator | 14 |
| The Older Adult with Cancer and symptom Management Challenges | Direct Care RN (inpatient) Clinical Nurse Specialist, Palliative Care Nurse | 7 |
| The Older Adult with Cancer and Caring for the Caregiver | Direct Care RN (Periop) Clinical Nurse Specialist, Nurse Anesthesia | 11 |
| The Older Adult with Acute Myeloid Leukemia and Assisting with End-of-Life Decisions | Direct Care RN (outpatient) Clinical Nurse Specialist, Chaplain, Social Worker, | 8 |
| The Older Adult with Metastatic Melanoma | Direct Care RN (outpatient) Clinical Nurse Specialist, Nurse Educator | 11 |
| The Older Adult Undergoing Transplant Multiple Myeloma | Direct Care RN (outpatient) Clinical Nurse Specialist, Social Work | 11 |
| The Older Adult with Prostate Cancer Undergoing Radiotherapy | Direct Care RN (outpatient) Clinical Nurse Specialist, Radiation Oncology | 19 |
| The Critically Ill Older Adult Experiencing Spiritual Distress | Direct Care RN (inpatient) Clinical Nurse Specialist, Chaplain, Nurse Educator | 24 |
| The Older Adult with GU Cancer and Preadmission Testing Process | Direct Care RN (outpatient) Clinical Nurse Specialist | 13 |
| The Older Adult with Metastatic Breast Cancer and Multiple Geriatric Syndromes | Direct Care RN (outpatient), Medical Assistants, Clinical Nurse Specialist, Social Worker, Pharmacist | 21 |
| The Older Adult with Thyroid Cancer | Direct Care RN (outpatient), Clinical Nurse Specialist, Chaplain | 27 |

**Evaluations**

During this multiyear process, standard evaluations experienced revisions and Likert type scales would not provide consistent content for iterative reporting. Responders post survey also noted how gratifying it was to hear nurses discuss and apply to practice the NICHE foundation of nursing practice through the case studies. Comments of participants related to presentation content, format and presenters are displayed in (Table 3).

|  |  |  |
| --- | --- | --- |
| Presentation Content | Format | Presenter |
| Highly detailed | Enjoyed interdisciplinary aspect of the program | Poised and informed regarding content |
| Presentation increased my knowledge | Interesting case | Professional delivery |
| Information energized me for my practice | Love Case Studies | Engaging |
| Enjoyed the Case Study- well prepared | Pharmacist input was valued | Presenters easy to understand and relatable presenters |
| Proofread slides | Disjointed | Be aware of reading word for word |
| Outstanding presentation | Room set up ahead of time would be appreciated | Great interaction with audience |
| Helped my knowledge gap | Zoom works | Be more informed regarding content |

**Table 3:** Common Themes of Participant Comments.

**Discussion**

The team identified the need for more robust evaluation process [27]. Additional levels of professional development evaluation may questions focusing on whether or not participants enjoyed the experience. Did they feel their time was well spent? Did the material make sense to them? Were the activities well planned and meaningful? Was the leader knowledgeable and helpful? Did the participants find the information useful?

A second level of evaluation may focus on measuring the knowledge and skills that participants gained such as did the new knowledge and skills impact their professional practice? Did the professional development activities promote changes focused on best practice? Were changes at the individual level met with barriers within the system or unit level? Were sufficient resources provided during the presentation including time for questions and reflection? The current evaluation process of the presenter content and delivery does not capture the professional development activity that is presented in this complex case [28].

Developing standardized measures would represent an important step toward developing robust assessment of CPD, and an interprofessional approach to measure development will be important. Because CPD exists at the unique intersection of fields including health care, education, and the social sciences, metrics that match the unique nature of CPD will need to be developed. In a comprehensive CPD system, measures for evaluation of impact and value would be collected [29]. Studies of costs, effects, and benefits of CPD would accelerate and more fully integrate CPD with systematic efforts involving quality improvement and patient safety. Organizations such as the National Quality Forum, the Agency for Healthcare Research and Quality, the National Committee for Quality Assurance, and the Institute for Healthcare Improvement, which have developed an infrastructure to set priorities, create and endorse performance measures, and publicly report data to improve care quality, would benefit from the additional resource of CPD in helping to assure the application and measurement of innovation in clinical practice.

**Conclusions**

There has been noted that IPE activities are woven into prelicensure curricula and have been utilized in practice settings, however measurable learning outcomes are often lacking [30]. Next steps in team member professional development is an ability to link an educational activity with a downstream patient and family outcome [31].

**Conflict of Interest Statement**

None of the authors have conflicts of interest to disclose.

**References**

1. [Reeves S, Tassone M, Parker K, et al. (2012) Interprofessional education: an overview of key developments in the past three decades. Work 41: 233-45.](https://pubmed.ncbi.nlm.nih.gov/22398491/)
2. [Lairamore C, George-Paschal L, McCullough K, et al. (2013) A Case-Based Interprofessional Education Forum Improves Students' Perspectives on the Need for Collaboration, Teamwork, and Communication. MedEdPORTAL 9: 9484.](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6342377/)
3. [Bayliss EA (2012) Simplifying care for complex patients. Ann Fam Med 10: 3-5.](https://scholar.google.co.in/scholar?q=doi:10.1370/afm.1352&hl=en&as_sdt=0&as_vis=1&oi=scholart)
4. [Onishi H (2008) Role of case presentation for teaching and learning activities. Kaohsiung J Med Sci 24: 356-360.](https://www.sciencedirect.com/science/article/pii/S1607551X08701323)
5. [Thistlethwaite JE, Davies D, Ekeocha S, et al. (2012) The effectiveness of case-based learning in health professional education. A BEME systematic review: BEME Guide No. 23. Medical Teacher 34: e421-e444.](https://pubmed.ncbi.nlm.nih.gov/22578051/)
6. [Glauser TA, Nevins PH, Williamson JC, et al (2013). Assessing the Effectiveness of a Grand Rounds CME Activity for Health-Care Professionals. Journal of Cancer Education 28: 591-596.](https://pubmed.ncbi.nlm.nih.gov/23801053/)
7. [McMahon MA, Christopher KA (2011) Case study method and problem-based learning: utilizing the pedagogical model of progressive complexity in nursing education. Int J Nurs Educ Scholarsh 19: 22.](https://pubmed.ncbi.nlm.nih.gov/22718667/)
8. [Azzarello J, Wood DE (2006) Assessing Dynamic Mental Models: Unfolding Case Studies. Nurse Educator 31.](https://pubmed.ncbi.nlm.nih.gov/16601599/)
9. [Pilcher J (2018) Promoting Learning Using Case-Based Strategies in Nursing Professional Development. Journal for Nurses in Professional Development 34: 199-205.](https://pubmed.ncbi.nlm.nih.gov/29975313/)
10. [Chicca J, Shellenbarger T (2018) Generation Z: Approaches and Teaching–Learning Practices for Nursing Professional Development Practitioners. Journal for Nurses in Professional Development 34: 250-256.](https://pubmed.ncbi.nlm.nih.gov/30188477/)
11. [Waldron MK, Washington SL, Montague GP (2016) Cooperative Clinical Conferences: Nursing Student Pediatric Clinical Innovation. Journal of Nursing Education 55: 416-419.](https://pubmed.ncbi.nlm.nih.gov/30188477/)
12. [Lannon SL (2007) Leadership Skills Beyond the Bedside: Professional Development Classes for the Staff Nurse. The Journal of Continuing Education in Nursing 38: 17-21.](https://pubmed.ncbi.nlm.nih.gov/17269435/)
13. [Gilbert JH, Yan J, Hoffman SJ (2010) A WHO report: framework for action on interprofessional education and collaborative practice. J Allied Health 39: 196-197.](https://pubmed.ncbi.nlm.nih.gov/21174039/)
14. [Fulmer T, Mezey M, Bottrell M, et al. (2002) Nurses Improving Care for Healthsystem Elders (NICHE): Using outcomes and benchmarks for evidenced-based practice. Geriatric Nursing 23: 121-127.](https://www.sciencedirect.com/science/article/abs/pii/S0197457202000010)
15. [Mezey M, Kobayashi M, Grossman S, et al. (2004) Nurses Improving Care to Health System Elders (NICHE): implementation of best practice models. J Nurs Adm 34: 451-457.](https://pubmed.ncbi.nlm.nih.gov/15577667/)
16. [Bub L, Boltz M, Malsch A, et al. (2015) The NICHE Program to Prepare the Workforce to Address the Needs of Older Patients. In: Malone ML, Capezuti EA, Palmer RM, eds. Geriatrics Models of Care: Bringing 'Best Practice' to an Aging America. Springer International Publishing 15: 57-70.](https://www.researchgate.net/publication/300627813_The_NICHE_Program_to_Prepare_the_Workforce_to_Address_the_Needs_of_Older_Patients)
17. [Capezuti EA, Bricoli B, Boltz MP (2013) Nurses Improving the Care of Healthsystem Elders: creating a sustainable business model to improve care of hospitalized older adults. Journal of the American Geriatrics Society 61: 1387-1393.](https://agsjournals.onlinelibrary.wiley.com/doi/10.1111/jgs.12324)
18. [Boltz M, Capezuti E, Bowar-Ferres S, et al. (2008) Changes in the Geriatric Care Environment Associated with NICHE (Nurses Improving Care for HealthSystem Elders). Geriatric Nursing 29: 176-185.](https://www.sciencedirect.com/science/article/abs/pii/S0197457208000670)
19. [Capezuti E, Boltz M, Cline D, et al. (2012) Nurses Improving Care for Healthsystem Elders - a model for optimising the geriatric nursing practice environment. J Clin Nurs 21: 3117-3125.](https://pubmed.ncbi.nlm.nih.gov/23083387/)
20. [Pfaff J (2002) The Geriatric Resource Nurse Model: a culture change. Geriatr Nurs. May-Jun 23: 140-4.](https://pubmed.ncbi.nlm.nih.gov/12075278/) [Rosenfeld Rosenfeld P, Kwok G, Glassman K (2018) Assessing the perceptions and attitudes among geriatric resource nurses: Evaluating the NICHE program at a large academic medical center. Gerontology & Geriatrics Education 39: 268-282.](https://nyuscholars.nyu.edu/en/publications/assessing-the-perceptions-and-attitudes-among-geriatric-resource-)
21. [Duffy JR (2018) Quality caring in nursing and health systems: Implications for clinicians, educators, and leaders. Springer Publishing Company.](https://www.springerpub.com/quality-caring-in-nursing-and-health-systems-9780826181190.html)
22. [Compton EK, Gildemeyer K, Mason TM, et al. (2018) Nurses' Caring Behaviors: The Perception of Patients With Cancer at the Time of Discharge After Surgery. Clin J Oncol Nurs 1 22: 169-174.](https://pubmed.ncbi.nlm.nih.gov/29547600/)
23. [Namazi M, Holan G, McKenzie S, et al. (2019) An Exploratory Survey Study of Grand Rounds as an Interprofessional Education Tool for Graduate Students in the Health Professions. Perspectives of the ASHA Special Interest Groups 4: 1-8.](https://pubs.asha.org/doi/10.1044/2019_PERS-SIG2-2018-0007)
24. [Armola RR, Brandeburg J, Tucker D (2010) A Guide to Developing Nursing Grand Rounds. Critical Care Nurse 30: 55-62.](https://pubmed.ncbi.nlm.nih.gov/20889513/)
25. [Matamoros L, Cook M (2017) A Nurse-Led Innovation in Education: Implementing a Collaborative Multidisciplinary Grand Rounds. J Contin Educ Nurs 48: 353-357.](https://journals.healio.com/doi/10.3928/00220124-20170712-06)
26. [Moore DE Jr., Green JS, Gallis HA (2009) Achieving desired results and improved outcomes: integrating planning and assessment throughout learning activities. J Contin Educ Health Prof. Winter 29: 1-15.](https://pubmed.ncbi.nlm.nih.gov/19288562/)
27. [Guskey T (2002) Does it make a difference? Evaluating professional development. In: Leading professional learning: Building capacity through teacher leaders.](https://www.researchgate.net/publication/234648135_Does_It_Make_a_Difference_Evaluating_Professional_Development)
28. [Professions (2010) CoPaCHPEIRCEitH. Continuing Professional Development: Building and Sustaining a Quality Workforce. National Academies Press.](https://www.ncbi.nlm.nih.gov/books/NBK219809/)
29. [Teheux L, Coolen E, Draaisma JMT, et al. (2021) Intraprofessional workplace learning in postgraduate medical education: a scoping review. BMC Med Educ 21: 479.](https://bmcmededuc.biomedcentral.com/articles/10.1186/s12909-021-02910-6)
30. [Committee on Measuring the Impact of Interprofessional Education on Collaborative P, Patient O, Board on Global H, Institute of Medicine (2015) Measuring the Impact of Interprofessional Education on Collaborative Practice and Patient Outcomes. National Academies Press (US) Copyright 2015 by the National Academy of Sciences.](https://www.ncbi.nlm.nih.gov/books/NBK338360/)