Individualized Learning Plans: Basics and Beyond

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SELF-DIRECTED, LIFELONG LEARNING is an important tenet of medical professionalism because it is integral to maintaining professional competency.1–3 Although patients may assume that physicians with more clinical experience provide better patient care, the relationship between clinical experience and quality of care is not as straightforward as it may seem. Recent graduates may continue to improve their patient care in the first few years of practice as they garner additional clinical experience. However, compared with physicians in practice fewer than 10 years, physicians who have been in practice longer (more than 20 years) have declining knowledge of current medical evidence and practice guidelines and provide lower quality of care to their patients.4 Continued lifelong learning could prevent the deterioration of current medical knowledge and the decline in quality of care seen over time. In recognition of this concern, the Liaison Committee on Medical Education,5 the Accreditation Council on Graduate Medical Education (ACGME),6 and the American Board of Medical Specialties Maintenance of Certification7 all identify lifelong learning as essential to the continuum of medical education.

An individualized learning plan (ILP) is a tool designed to help develop self-directed, lifelong learning skills in learners that is now required by the ACGME’s Pediatric Review Committee.8 It is possible that ILPs could also benefit practicing physicians by helping support their lifelong learning. The American Board of Pediatrics explicitly requires pediatricians to “assess and enhance knowledge in areas important to their practice,” essential components of an ILP, in part 2 of maintenance of certification (MOC) requirements. The Royal College of Physicians and Surgeons requires a variation of ILPs (personal learning projects) for MOC of Canadian physicians.9,10 As ILPs are a recent requirement for pediatric residents and fellows, most practicing physicians are unfamiliar with ILPs. The purpose of this paper is to familiarize readers with ILPs by describing the following: 1) the basic components of an ILP, 2) how ILPs could improve lifelong learning in both trainees and practicing physicians, 3) current literature on ILPs, and 4) key research questions on ILPs.

ILP COMPONENTS

The basic elements of an ILP are 1) reflection on long-term career goals and self-assessment of areas of strength and weakness, 2) goal generation, 3) development of plans/strategies to achieve the goal, 4) assessment of progress on goal, and 5) based on assessment, revising goal/plan or generating a new goal.11 ILPs should be an iterative process, where physicians continuously revise goals or plans considering current learning needs and progress on goals and should be flexible enough to be adapted for use for learners at different levels, as well as to various learning needs and styles. Goals could be long-term or near-term and could focus on improving process (eg, “I will improve my use of evidence-based medicine by forming a clinical question based on a patient encounter every week and read about it in the medical literature”) or content (eg, “I will improve my EKG interpretation by taking a course on EKG interpretation and reading 1 EKG per week and comparing my EKG read to that of the cardiologist”).

ILPs can be written on paper or recorded electronically. The advantages of an electronic ILP include the potential ease of modifying goals or plans and having a centralized record of previous ILPs. The advantage of a paper ILP is its portability—it can be completed and carried anywhere; one does not need to be near a computer to complete it or modify it. The American Academy of Pediatrics’ PedLink12 offers an electronic ILP that many pediatric residency programs use; it is also developing the capability to carry forward an electronic ILP created during residency into fellowship and MOC. Although there are benefits to portable handwritten ILPs, there is some evidence that pediatric residents may prefer an electronic ILP.13

WHY ILPS?

Adult learning theory postulates that adults learn best when they are actively engaged in the learning process and self-direct their own learning goals and activities.14 ILPs help improve development of self-directed, lifelong learning skills by actively engaging learners to take ownership of their own learning. Self-directed, lifelong learning includes learner identification of learning needs and determination of how to meet those needs.15–17 ILPs allow
learners to practice the process of lifelong learning in a thoughtful and systematic fashion. ¹¹

A critical element of ILPs is committing to a goal and developing an organized plan by writing it down. There is limited evidence that contracts between patients and health care providers improve adherence to treatment and lifestyle changes. ¹⁸ Similarly, there is some evidence that formally writing down learning goals/plans is important to goal attainment. In a study of respiratory therapists, those with written learning contracts were more likely to have participated in continuing medical education courses and read instructional materials in the last 6 months compared with those without written learning contracts. ¹⁹ Writing down their learning goals, plans/strategies to achieve goals, and outcomes by which to measure goal achievement actively engages learners in the learning process and helps them commit to achieving the goals they set for themselves. ¹¹,¹⁴

ILPs emphasize self-reflection on career goals by offering learners time to examine their goals, practice the skill of repetitive examination of these goals, and consider processes by which they might successfully achieve a goal or restructure it so that it might be achieved. By allowing learners to practice the process of reflection, goal generation, plan development, and follow-through, ILPs represent teachable strategies for developing what has been variously described as “reflective practice,”⁹ “mindful practice,”²⁰,²¹ or “self-monitoring.”²¹,²² Reflective practice promotes continual learning from clinical experience through understanding current limitations (“I don’t know how to treat this patient’s disease”) and developing a plan to address the limitation (“I will read about how to treat this patient’s disease”),⁹,²⁰,²¹,²³

Although physicians have previously been shown to have poor self-assessment skills,²⁴ self-assessment skills can be developed and have been shown to improve with external feedback.²⁵,²⁶ ILPs in residency allow residents to develop their self-assessment skills with external feedback from evaluations and guidance from mentors. As a learners’ ability to reflect improves, external mentorship can be replaced by external evaluation (eg, patient evaluations as required by MOC), peer feedback, and mindful practice (self-reflection on patient interactions and other contexts of work).¹¹

Goal generation and plan development and follow-through can be initially difficult for learners. A study of ILPs in third-year medical students found that students were more comfortable picking learning goals from a preselected list of learning goals than generating their own list.²⁷ Although most residents felt comfortable assessing their areas of strength and weakness and generating a goal, they had more difficulty developing/following through with a plan to accomplish their goal.²⁸–³⁰ ILPs during residency allow practice of goal generation and plan development, and follow-through with guidance from a mentor. ILPs during MOC would allow practicing physicians to continue refining these lifelong learning skills in a thoughtful, organized, and systematic manner.

For faculty mentors, discussing an ILP with a learner can lead to a richer understanding of the learner, their goals, and strategies for accomplishing these goals. However, faculty members, including program directors, who are newly responsible for facilitating the development of resident learner ILPs may feel unprepared for the task. Most are just starting to get familiar with the concepts of ILPs and most have not created an ILP of their own. As ILPs are generally novel for faculty as well as residents, faculty development will be needed to optimize support for training of faculty to be ILP mentors. Sources for ILP faculty development exist on MedEdPORTAL, the Association of Pediatric Program Directors’ Share Warehouse, and other venues.³¹

**WHAT IS KNOWN ABOUT ILPS?**

There is wide variation in the way ILPs are currently used in residency training programs.³⁰ Because they are a new program requirement, pediatric residency programs are experimenting and refining their tools and processes for their accomplishment. An understanding of current literature on these plans can help direct their most effective use.

A study of resident-reported barriers to and strategies for achieving learning goals suggested that successful ILP goals and plans include certain I-SMART¹¹ strategies for goal generation and plan development. Strategies included choosing goals important to the learner and having the learner prioritize achievement of their goal, deconstructing broader goals into incremental specific steps and plans on how to accomplish each step, setting a measurable outcome to assess progress on accomplishing goals, establishing internal accountability by using a reminder and tracking system to track progress on goals and external accountability by sharing goals with others, creating and continually modifying goals and plans so that they are realistic and based on current context and available resources, and developing a timeline for achieving goals or a way to incorporate goals into daily routines.¹¹ Incorporating these strategies for goal generation and plan development into ILPs may result in more effective goal achievement.

Residents reported least confidence in their ability to develop or follow-through with a plan for achieving their learning goal.²⁸–³⁰ Factors associated with achieving progress on learning goals created in ILPs include tracking progress on achieving learning goals, greater confidence in self-directed learning abilities, greater propensity toward lifelong learning, higher level of training, writing an ILP longer ago, reporting that ILPs help align learning goals with learning needs, being decided on a career path, and male gender.³⁰ This suggests that additional resident and faculty development are needed in the areas of plan development and follow-through. Dissemination of strategies for ILP plan development (incorporating I-SMART strategies¹¹) and plan follow-through (suggestions for tracking progress on goal achievement) could help learners produce more effective ILPs and
make greater progress on addressing their self-identified learning needs.

**FUTURE DIRECTIONS**

The development and use of ILPs is an area ripe for future research. Although some characteristics of successful ILPs (e.g., tracking progress on goal achievement) are known, further delineation of characteristics of successful ILPs is needed. Some characteristics contributing to their success may be more easily modified and taught than others. Learner characteristics (e.g., propensity for lifelong learning personality of learner) may be more difficult to modify than characteristics specific to the ILP itself (e.g., type of learning goal, frequency of revisions to ILPs, tracking progress on goal attainment) or external contributions to success (e.g., degree or type of mentorship). Once characteristics of successful ILPs are identified, programs can create curricula to support effective ILP development in their learners.

Additionally, once modifiable characteristics of successful ILPs are identified, valid and reliable tools to assess the quality of ILPs should be developed. These tools would be important for both residency training and MOC. During residency training, an ILP evaluation tool would allow programs to assess trainee development of self-directed, lifelong learning skills. Programs could then set milestones for development of lifelong learning skills based on level of training and monitor attainment of these milestones. During MOC, an ILP evaluation tool would allow better assessment of lifelong learning of practicing physicians. Currently, assessment of lifelong learning is primarily based on a portion of the process of lifelong learning (self-assessment). Inclusion of ILPs and ILP evaluations in MOC would allow assessment of lifelong learning beyond self-assessment to include goal generation, plan development, and documentation of measurable progress in goal attainment.

Ultimately, the question remains whether optimal implementation of ILPs leads to better patient care outcomes. Theoretically, ILPs develop lifelong learning skills by allowing learners to systematically and actively engage in the process of lifelong learning. In turn, active engagement in lifelong learning allows physicians to continually improve their patient care skills and remain up to date on current medical evidence and practice guidelines. However, it has yet to be studied whether ILPs in residency and MOC result in meaningful prolonged behavior changes and maintenance of professional competence. We have delineated a few key questions that remain regarding ILPs. However, there are many questions yet to be explored as to the best use of ILPs and their role in improving and maintaining professional competence in training and MOC. Addressing these questions may improve the development of self-directed, lifelong learning skills needed to remain competent physicians.

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**REFERENCES**


