**ORIGINAL ARTICLE**

# Genetic counseling supervisor strategies: An elaboration of the Reciprocal-Engagement Model of Supervision

Mike Darren Suguitan<sup>1</sup> | Patricia McCarthy Veach<sup>2</sup> | Bonnie LeRoy<sup>2</sup> | Colleen Wherley<sup>3</sup> |  
Krista Redlinger-Grosse<sup>4</sup> <sup>1</sup>Medical Genetics, Northwestern Medicine, Winfield, Illinois<sup>2</sup>Department of Genetics, Cell Biology, and Development, University of Minnesota, Minneapolis, Minnesota<sup>3</sup>Genomic Medicine, Children, s Minnesota, Minneapolis, Minnesota<sup>4</sup>Department of Genetics, Cell Biology, and Development, University of Minnesota, Minneapolis, Minnesota**Correspondence**

Krista Redlinger-Grosse, Department of Genetics, Cell Biology, and Development, University of Minnesota, Minneapolis, MN. Email: redli009@umn.edu

**Funding information**

No funding was received for this study.

**Abstract**

Clinical supervision plays a key role in the training of genetic counselor practitioners. The Reciprocal-Engagement Model of Supervision (REM-S) is a recently published model of genetic counseling supervision centered on the supervisor–student relationship. The REM-S comprises five tenets and 16 goals that reciprocally interact to achieve three broad supervision outcomes. Lacking, however, is a comprehensive set of supervisor strategies that correspond to the tenets and goals. This study aimed to elaborate the REM-S by identifying strategies genetic counselor supervisors use to accomplish each REM-S goal when they supervise students in clinical rotations. Nineteen prenatal, pediatric, and cancer genetic counselor supervisors from clinics in a major Midwestern city participated in one of three focus groups. Eleven semistructured questions were asked about strategies they use when attempting to accomplish each REM-S goal. Directed content analysis yielded a total of 14 different strategy domains that vary in their frequency for accomplishing each REM-S goal. Participants identified between nine and 13 strategy domains for each goal. Across all REM-S goals, the most frequent strategy domains are: Assess student; Practice self-reflection to increase supervisor self-awareness; and Establish student goals and expectations. The present findings elaborate the REM-S by identifying supervisor strategies corresponding to the REM-S goals. These strategies can inform training in clinical supervision, and they can be the focus of observational studies designed to identify supervisor behaviors that characterize each strategy.

**KEYWORDS**

genetic counseling clinical supervision, genetic counseling supervision goals, genetic counseling supervision models, genetic counseling supervision strategies, Reciprocal-Engagement Model of Supervision

## 1 | INTRODUCTION

Clinical supervision plays an integral role in the training of genetic counseling students (Callanan McCarthy Veach, & Leroy, 2016). Broadly defined, supervision is “an intervention provided by a more senior member of a profession to a more junior colleague or colleagues who (typically) are members of the same profession”

(Bernard & Goodyear, 2013, p. 9). In the context of genetic counseling training and clinical rotations, supervisors provide direction and support to students as they progress through their clinical rotations in order to help them achieve the minimal competencies necessary for certification as a genetic counselor (see American Board of Genetic Counseling [ACGC, 2015]). Throughout this process, supervisors are an essential part of students’ professional development. As such, an

empirically derived understanding of genetic counselor supervisor strategies is critical for the provision of effective supervision.

## 1.1 | Clinical supervision in genetic counseling

Under the supervision of board certified genetic counselors, genetic counseling students in their clinical rotations gain firsthand experience educating patients about genetic information, providing psychosocial support, and facilitating decision-making (ACGC, 2015; McCarthy Veach & LeRoy, 2009). Supervisors help students gain a deeper understanding of genetics, acquire medical knowledge and experience from various specialties (e.g., cancer, pediatrics, prenatal), and practice communicating information and implementing counseling skills (McCarthy Veach & LeRoy, 2009). Supervisors also promote student awareness of ethical dilemmas and assist them in developing skills to address such issues (Weil, 2000).

Genetic counselor supervisors' knowledge, characteristics, and skills facilitate supervision processes and outcomes (Eubanks Higgins et al., 2013). Eubanks Higgins et al. (2013) conducted a Delphi study to develop a comprehensive list of supervisor competencies. They identified six broad domains: (a) personal traits and characteristics; (b) relationship building and maintenance; (c) student evaluation; (d) student-centered supervision; (e) guidance and monitoring of patient care; and (f) ethical and legal aspects of supervision. The researchers did not, however, identify a model by which supervisors employ these competencies.

Drawing upon Eubanks Higgins et al.'s (2013) competencies, supervision literature in genetic counseling and related professions, and the Reciprocal-Engagement Model (REM) of genetic counseling practice (McCarthy Veach, Bartels, & LeRoy, 2007), Wherley, McCarthy Veach, Martyr, and LeRoy (2015) created a genetic counseling supervision model which they called the Reciprocal-Engagement Model of Supervision (REM-S). The REM-S is based on the "form follows function" architectural concept, where the structure of genetic counseling supervision follows the purpose of genetic counseling services. The REM-S closely parallels the empirically based REM of genetic counseling practice (Hartmann, McCarthy Veach, MacFarlane, & LeRoy, 2013; McCarthy Veach et al., 2007; Redlinger-Grosse, McCarthy Veach, LeRoy, & Zierhut, 2017). The model is visually represented as a triangle, centered on the relationship between the supervisor and student (see Figure 1).

There are five REM-S tenets (fundamental assumptions): (a) genetic information is key; (b) relationship is integral to genetic counseling supervision; (c) student autonomy must be supported; (d) students are capable; and (e) student emotions make a difference. Sixteen goals, corresponding to the tenets describe student education, development of the supervisory working alliance, and respect for students' individual attributes (see Table 4 for a list of goals). The tenets and goals reciprocally interact to facilitate student understanding and application of information to accomplish three broad outcomes: independent provision of effective services, professional development, and engagement in self-reflective practice. Wherley et al. (2015) propose that within the supervisor-student relationship, students practice genetic counseling skills with the supervisor and

patients, and supervisors provide feedback about students' performance. They further contend that opportunities to practice skills and feedback about that practice are primary vehicles for assisting students in achieving desired outcomes. As such, they may be thought of as macrostrategies, that is, broad, overarching supervisory methods. The authors note, however, that specific supervisor strategies and behaviors consistent with the REM-S goals and tenets have yet to be characterized comprehensively and supported empirically.

## 1.2 | Purpose of the study

A model of supervision helps to inform supervision practice and training. The REM-S (Wherley et al., 2015) is a proposed model of supervision practice specific to training genetic counseling students. Lacking, however, is a comprehensive set of empirically derived supervisor strategies corresponding to REM-S goals. Accordingly, the purpose of this study is to elaborate the REM-S by identifying supervisor strategies for each of the 16 goals. In this study we use Rieh and Ray's (1974) definition of *strategy* as a careful plan or method for achieving an end.

## 2 | METHODS

Prior to commencement of the study, the University of Minnesota institutional review board (IRB) determined that this study did not meet the regulatory definition of research with human subjects and therefore does not fall under the IRB's purview.

### 2.1 | Participants and procedures

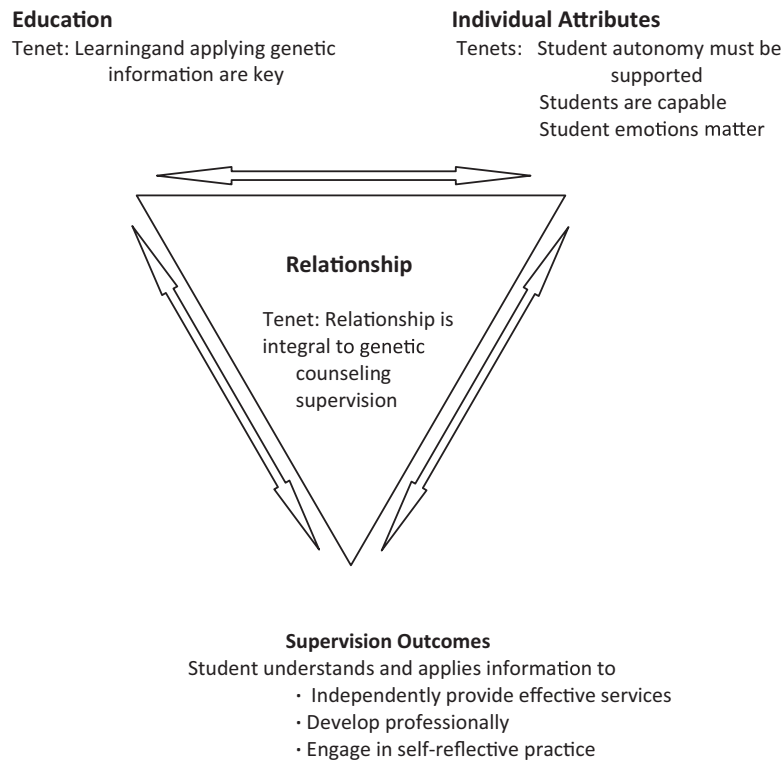
#### 2.1.1 | Participants

The population of interest was board-certified genetic counselors who provide supervision to genetic counseling students in clinical rotations. Supervisors in three different medical institutions in a major Midwestern city were purposively recruited through an emailed invitation. The invitation requested supervisors to participate in a 2-hr focus group investigating strategies they use when supervising genetic counseling students.

#### 2.1.2 | Focus group interviews

Three, 2-hr focus groups ( $n = 6, 6, \text{ and } 7$ , respectively) were conducted between September and December 2016. Guidelines for conducting focus groups indicate that three groups with a minimum of five participants per group generally are sufficient for reaching data saturation (cf. Krueger & Casey, 2008). Members of each focus group were from the same institution, but they supervised in various specialties, most prevalent being cancer, pediatrics, and prenatal. One week prior to the focus group, participants received an emailed reminder about the purpose, location, date, and time of their focus group, as well as an electronic copy of the focus group questions. The senior author served as a moderator for the three focus groups; she is an experienced genetic

## REM-S: Genetic Counseling Supervision Process



*Note.* Each element interacts with every other element. None stand alone or work in isolation.

**FIGURE 1** Wherley et al. Reciprocal-Engagement Model of Genetic Counseling Supervision (REM-S). Source: McCarthy Veach et al. (2007). Reprinted with permission from the Journal of Genetic Counseling

counselor and was license-eligible as a psychologist at the time of the study. The second author, a licensed psychologist who is involved in genetic counseling research, served as comoderator for the first two groups. The moderator conducted the interviews, and the comoderator took notes about participants' nonverbal reactions to questions and summarized major comments. Each interview was audio-recorded.

At the beginning of each focus group, the moderator gave each participant a consent document, reviewed the goals of the study and the REM-S, administered a demographic questionnaire, and distributed a list of focus group questions along with a handout of the REM-S tenets and associated goals. Discussion began with participants describing their previous supervision experiences. Next, they reviewed the definition of *strategy*, as conceptualized in this study: "a careful plan or method, especially for achieving an end" (McCarthy Veach et al., 2007, p. 714). Then the moderator led the participants in discussion of the remaining interview questions, using prompts and/or asking for examples, as necessary.

## 2.2 | Instrumentation

### 2.2.1 | Interview guide

An investigator-developed, semistructured interview guide (contained in the Supporting Information Appendix S1) comprised 11

open-ended questions, mapped to each of the 16 REM-S goals. To effectively manage time (focus groups typically do not exceed 2 hr; Krueger & Casey, 2008), some questions encompassed two REM-S goals. The questions explored supervisor strategies related to relationship establishment; goal setting; teaching and learning; communication, feedback, and evaluation; and management of intrapersonal and interpersonal issues. A final question asked participants to describe additional strategies they may not have discussed.

### 2.2.2 | Demographic form

Demographic information was collected from each focus group participant. Questions asked about participant age, gender, years of experience as a practicing genetic counselor, and primary work setting. Participants were also asked about their experiences supervising genetic counseling students, including the number of students supervised, average days per week spent with students, and number of supervisors on site.

## 2.3 | Data analysis

The focus groups recordings were transcribed by a research assistant who was not affiliated with a genetic counseling program. The first and second authors independently analyzed the transcripts

using a directed content analysis method (Curtis et al., 2001; Elo & Kyngäs, 2008; Hsieh & Shannon, 2005). Directed content analysis involves testing theoretical frameworks to describe or quantify phenomena and involves the use of predetermined codes to capture “all the potential occurrence of a particular phenomenon” in a data set (Hsieh & Shannon, 2005, p. 1,282).

As the REM-S is an isomorph of the REM of genetic counseling practice, its tenets and goals parallel those of the REM (Wherley et al., 2015). It follows logically, that REM-S strategy domains would parallel those of the REM. In order to test this theoretical framework, the coders used an a priori codebook initially containing 15 strategy domains found by Redlinger-Grosse et al. (2017) in their study of strategies corresponding to the REM of genetic counseling practice. Using Rieh and Ray's (1974) definition of strategy (described earlier), Redlinger-Grosse et al. employed a theory-driven method (MacFarlane & O'Reilly-de Brun, 2012) to extract genetic counselor strategies from focus group data. This method yielded an initial a priori codebook containing a list of genetic counselor strategies. Next they used the initial codebook to conduct a directed content analysis of written descriptions of successful and unsuccessful genetic counseling sessions. The researchers used a deductive process involving predetermined codes to validate or extend a theoretical framework (Curtis et al., 2001; Elo & Kyngäs, 2008; Hsieh & Shannon, 2005). As directed content analysis also allows researchers to extract new codes during the data analysis, the researchers also used Q-sort methods to further organize data based on their subjective interpretation of the data (Akhtar-Danesh, Baumann, & Cordingley, 2008). Their analysis yielded a final version of the a priori codebook consisting of the REM goals, corresponding strategy domains, and illustrative strategy examples.

In the present study, the coders modified the strategy domains slightly to replace “patient” with “student.” They also created descriptions of each strategy domain to reflect strategies used in genetic counseling clinical supervision. During the coding process, they deleted one a priori domain, “Facilitate decision making with student” as it appeared to be synonymous with the domain, “Establish student goals and expectations.” No additional codes emerged during data analysis. Thus, the final code book contained 14 of the Redlinger-Grosse et al. (2017) strategy domains. The coders used an iterative process to extract and classify specific strategies from the focus group transcripts within the strategy domains. Throughout this process, they discussed any disagreements to reach concordance. Following coding of the transcripts, they mapped the identified strategy domains to the corresponding REM-S goals.

Descriptive statistics (frequencies, medians, and ranges) were calculated for participants' demographic data.

### 3 | RESULTS

#### 3.1 | Participant characteristics

Participant characteristics are presented in Table 1. Nineteen board-certified genetic counseling supervisors participated in one of three focus groups. The majority were female (18/19, 94.7%) and Caucasian

(18/19, 94.7%). Genetic counseling experience ranged from <1 year to >20 years, and supervision experience ranged from <1 year to >20 years. The most prevalent years of counseling and supervision experience were 6–10 years. Most participants provided supervision to genetic counseling students either in a private hospital or facility (13/19, 68.4%), or in a university medical center (6/19, 31.6%), and the most prevalent specialties were pediatrics, specialty clinics, and cancer.

#### 3.2 | Strategy domains

The redundancy in participant responses across the three groups suggests that data saturation was reached. Across the focus groups, participant responses aligned with all 14 of the predetermined supervisor strategy domains: Assessment of student, Collaborate with health professionals with student, Empower student, Establish student goals and expectations, Establish good communication with student, Establish working alliance with student, Facilitate patient care with student, Gather information from/with student, Give information to student, Practice self-reflection to increase supervisor self-awareness, Provide culturally competent supervision, Provide pre- and postclinical sessions, Provide resources to student, and Use psychosocial counseling skills/strategies in supervision. A description of each domain is contained in Table 2, and the strategy domains and illustrative quotations extracted from the interviews are presented in Table 3.

#### 3.3 | Strategy domains associated with the REM-S goals

All identified strategies were coded and tallied for each of the 16 REM-S goals. A number of strategy domains were identified for each REM-S goal (Range: 9–13 domains per goal). Two REM-S goals, “Student feels empowered and more in control,” and “Foster student confidence” had the greatest number of associated strategy domains (13 domains each). The REM-S goal, “Student acquires skills and/or draws upon knowledge appropriately,” had the least number of associated strategy domains (nine domains). Every strategy domain was observed in each focus group, with the exception of “Provide resources to student” (identified in 2/3 focus groups).

Table 4 contains the most frequent strategy domains for each REM-S goal organized by the five REM-S tenets. As each interview question encompassed one or two REM-S goals, the domain lists may not represent one REM-S goal exclusively. Each strategy domain in Table 4 includes an example of a specific supervisor strategy for illustrative purposes. For example, “Practice self-reflection to increase supervisor self-awareness” is one of the most frequently cited strategy domain for the REM-S goal, “Supervisor knows what information to impart,” and a specific strategy example is “Give feedback based on patient needs.”

Across all REM-S goals, the most prevalent strategy domains were: “Assess student”; “Practice self-reflection to increase supervisor self-awareness”; and “Establish student goals and expectations”; focus group participants described specific strategies consistent with these three domains for almost all of the REM-S goals. The least prevalent strategy

**TABLE 1** Focus group participant characteristics (N = 19)

Variable	n (%)
Gender	
Female	18 (94.7)
Male	1 (5.3)
Ethnic background	
Caucasian	18 (94.7)
Non-Caucasian	1 (5.3)
Age (years)	
<30	4 (21.1)
31–45	11 (57.9)
46–60	4 (21.2)
Years with ABGC certification	
<1	2 (10.5)
1–5	3 (15.8)
6–10	6 (31.6)
11–15	3 (15.8)
16–20	3 (15.8)
>20	2 (10.5)
Years of supervision experience	
<1	2 (10.5)
1–5	5 (25.3)
6–10	6 (31.6)
11–15	3 (15.8)
16–20	1 (5.3)
>20	2 (10.5)
Current clinical supervision setting <sup>a</sup>	
Cancer	6 (17.6)
Diagnostic laboratory	1 (2.9)
General genetics, adult	3 (8.8)
General genetics, pediatric	12 (35.3)
Prenatal genetics	2 (5.9)
Specialty clinic (e.g., CF, cardiology)	7 (20.6)
Other	3 (8.8)
Primary clinical supervision setting <sup>a</sup>	
Private Hospital	13 (68.4)
University Medical Hospital	6 (31.6)
Median no. of days per week with student	2.5 (R: 2–4)
Median no. of students supervised	12 (R: 2–80)
Median no. of supervisors per site	13 (R: 8–15)

<sup>a</sup>Participants could select more than one category; R: Range.

domain was “Provide resources to students”; participants described strategies consistent with this domain for only four REM-S goals.

### 3.4 | Macrostrategies associated with REM-S goals

Wherley et al.’s (2015) macrostrategies—“Practice targeted skills with student” and “Provide student feedback”—were identified

for almost every REM-S goal. “Provide student feedback” was the most frequently cited macrostrategy, mentioned for every goal and by each focus group. “Practice targeted skills with student” was identified for every REM-S goals with the exception of the goals: “Supervisor and student know student concerns” and “Supervisor addresses student’s feelings and responses to supervision and genetic counseling.”

#### 3.4.1 | Additional strategies

When asked about strategies not discussed in the focus group, participants identified a handful that was classified accordingly into existing strategy domains. They did not identify any unique strategy domains.

## 4 | DISCUSSION

In this focus group study, 19 supervisors described supervision strategies they used to accomplish the 16 goals of the REM-S. Overall, the present findings help to elaborate the REM-S by offering strategy domains and specific strategy examples for the REM-S goals.

### 4.1 | Genetic counseling supervisor strategies and the elaboration of the REM-S

#### 4.1.1 | Alignment of strategies with REM-S goals

Strategies representing the 14 predetermined domains were identified from supervisors’ descriptions of the strategies they perceive themselves as using when supervising genetic counseling students in clinical rotations. The 14 strategy domains align with one or more of the 16 REM-S goals. The domains were only slightly modified from 15 genetic counselor strategy domains identified by Redlinger-Grosse et al. (2017) in their elaboration of the REM of genetic counseling practice. Only one Redlinger-Grosse et al. (2017) REM strategy domain, “Facilitate student decision making,” was removed from the present data analysis as it was too synonymous with the REM-S strategy domain, “Establish student goals and expectations.” This finding suggests a notable difference between genetic counseling practice and genetic counseling supervision. In genetic counseling practice, genetic counselors promote collaborative decision-making in order to preserve patient autonomy (McCarthy Veach et al., 2007). In supervision, supervisors use collaborative decision-making to invite student input on clinical rotation goals and processes (Wherley et al., 2015). Overall, the participants’ responses were congruent with the remaining a priori supervisor strategy domains. While not unexpected given this study was grounded in the strategy domains identified in Redlinger-Grosse et al. (2015), the strategy domains provide evidence for Wherley et al.’s (2015) contention that the REM-S is an isomorph of the REM of practice. By isomorph, we mean that, the REM-S corresponds in form with the REM of genetic counseling practice with respect to tenets, goals, and strategies.

**TABLE 2** Codebook of strategy domains used in data analysis

Strategy domain	Description
Assess student	Gauge student's current level, development, and progress; the supervisor gains information about student's knowledge, skills, or stage of development.
Collaborate with health professionals with student	Utilize support from other health professionals in supervising student; other health professionals are involved in supervision activities with the student
Empower student	Promote student autonomy, and provide positive reinforcement and support; supervisor encourages student growth and builds on student strengths
Establish good communication with student	Reference communication expectations, skills, and styles with student; supervisor facilitates bidirectional discussions with the student during supervision
Establish student goals and expectations	Ascertain the goals and/or expectations in supervision from specific assignments to broad clinical rotation expectations
Establish working alliance with student	Attempt to build rapport, create a bond, or get to know student; supervisor aims to strengthen the supervisor-student relationship
Facilitate patient care with student	Model genetic counseling practice with student, or provide intervention with student to facilitate patient care; promote delivery of quality patient care with student present
Gather information from/with student	Elicit information from student; attempts to discern student's knowledge, experience, or ongoing developmental issues and needs
Give information to student	Impart supervisor knowledge, guidance, or advice related to student development or genetic counselor development; this domain differs from "Provide feedback to student" as the provision of information excludes evaluative responses due to student performance or stage of development
Practice self-reflection to increase supervisor self-awareness	Practice self-reflection to increase supervisor self-awareness; self-reflection incorporates issues of student, oneself, or the supervision relationship
Provide culturally competent supervision	Engage in self-reflection and/or initiate conversation about cultural factors in the supervision relationship and/or genetic counseling relationships with patients
Provide pre- and postclinical sessions	Allow opportunities for student participation before or after patient session
Provide resources to student	Share materials or assets that can be drawn upon by the student in order to function effectively in clinic or in supervision
Use psychosocial counseling skills/strategies in supervision	Support student in management of intrapersonal and interpersonal issues between student and patient; this domain describes counseling strategies that support the student in addressing psychosocial issues that impact clinical dynamics

Every supervisor strategy domain was evident in each focus group, with the exception of "Provide resources to student" (identified in 2/3 focus groups), and none of the participants described strategies that could not be classified within one of these domains. Moreover, every domain aligned with one or more of the REM-S goals and their corresponding tenets. Thus, the present sample of supervisors described supervision practices that are consistent with the REM-S, suggesting it is a viable model of student supervision. Further research is needed, however, to replicate these findings with larger and more diverse samples, as qualitative data are not intended to be generalized to the population of interest.

The 14 strategy domains were evident multiple times during the focus groups and in reference to multiple REM-S goals. Thus, supervisors appear to use the strategy domains to achieve different REM-S goals. This is not surprising given Wherley et al.'s (2015) contention that the elements of the REM-S mutually influence each other; a given strategy neither stands alone nor works in isolation. The mutual influence of the strategies in the REM-S parallels the mutual influence of strategies in the REM of genetic counseling practice, providing further support for the REM-S as an isomorph of the

REM. While these strategy domains are reciprocal amongst REM-S goals, it is important to note that further research to parse out more specific strategies within these domains may help to illustrate the ways in which supervisors tailor each strategy domain in subtle and differing ways to achieve a specific REM-S goal.

The number of identified strategy domains varied across REM-S goals. The goals with the greatest number of identified domains were "Student feels empowered and more in control," and "Foster student confidence." These findings suggest supervisors attempt to achieve these goals in multifaceted ways. Perhaps individual differences in how students gain empowerment and confidence necessitate different strategies; this hypothesis could be investigated in future studies. In contrast, the REM-S goal with the fewest identified strategy domains was "Student acquires skills and/or draws upon knowledge appropriately." This latter goal appears to be a more circumscribed one for which supervisors focus on the student's application of specific skills and/or knowledge (McCarthy Veach & LeRoy, 2009). As a goal, it is primarily driven by the student, more than the supervisor, which may partly explain the relatively fewer number of strategy domains.

**TABLE 3** Strategy domains and illustrative quotations extracted from focus group interviews

Strategy domain	Quote 1	Quote 2	Quote 3
Assess student	A good barometer is their ability to self-assess after a session. To be able to identify what they did wrong or what they could have done better... How do you think that went? And their response can give me a good sense of where they're at in terms of their development. (F3)	I usually give a people a case prep to do for the first day. You can tell a lot about a student based on how much information they bring. You can also tell what type of information...also their willingness to jump in is an important thing to notice. (F1)	I tend to use those guidelines that we have [program expectations for students]. Okay, you're a first rotation student. These are the things we would expect you to do. Some people who are first rotation students and they're acting like a fourth year range. (F1)
Collaborate with health professionals with student	There's the primary supervisor and that primary person tends to sort out those details and be the main point person throughout their rotations (F3)	I would give [the program director] a call and just let her know what's been going on [with the student], talk through and get a sense from the program's perspective. Have they been noticing concerns on an academic level to get that sense and see if this is a trend? If this is isolated, come up with an appropriate plan. (F3)	I've never met an interpreter that won't tell you some tidbits about the culture. I have left students with interpreters before, "Oh, I just want to have you ask a few questions. Here's a few things that maybe you would need to know about folks who are [name of cultural group] and how they think of things." (F1)
Empower student	When you have that trust relationship, I let them do things on their own... There has to be a trust relationship where you trust them to be in the room by themselves. Being able to give them that control is really helpful especially in their last rotation, then they're going to be on their own afterward. (F3)	Ask the student, "So, what's your plan? What have you put together?" I would still want that information. I'm empowering them to be the person in charge versus a new student when we would be telling them what they needed to do. (F3)	Repetition obviously helps in our practice. It's really nice if you can make sure a student has several, fairly uniform, experiences. They can build on each experience. "You know you did this much, this time. Let's do a little bit more." Then they can continue to build confidence. (F1)
Establish good communication with student	Having those early conversations with them about "How do you best perceive feedback? Do we want to do this after every session? Should we do it after the end of each day and cover the whole clinic?" Letting them make some of those decisions. (F1)	Allow time for communication, having that 45 min or half an hour before you see the patient together to make sure there's time to address those things and maybe some time after the session as well. Just making sure that you're conscious of that if you're having a particularly busy day. (F2)	I think the only way to address it [cultural differences] is to just talk about it. I don't know what else you can really do aside from, hopefully have an open line of communication where you would have discussions about what is going on, what the conflict is, and if there is a plan to move it forward. (F3)
Establish student goals and expectations	I usually start by having a little contracting session with the student. The Friday before the student starts was always a good time to meet to go over what their goals were, what information I had from past rotations they did. We would always talk a little bit about how the rotation was structured and what my goals would be for them. (F1)	We sit down with the student before the clinic day and go through the schedule and explain what each patient's story is and what the plan is going to be. "This is probably what you're going to have to do. This is what you need to get ready in order to see that patient or to see a new diagnosis. Do everything you need to do and everything you need to know about that condition. Print up stuff." Spell it out for each student. (F3)	I'm extremely direct about this. If they keep asking me, "What should I do as follow up?" Without any grace I say, "What do you think you should do as follow-up? ... What do you feel like you still need to work on? Alright, let's have that be your follow-up to this case... I want them to be a go-getter, so I just force them into that position. (F1)
Establish working alliance with student	Making sure from Day 1, you build a little bit of a rapport with them, not just about being in clinic and what to do. Know that there are some other conversations you have with them to make them feel like you are approachable. (F2)	They're introduced to everybody; they're part of the team. We try to give them a tour when they come. This is where you're going to be, and you don't need to have hand-holding while you're here. You work here now. (F2)	I want them to be very comfortable. Starting out with a very clear expectation that we're working together, that they're free to ask questions. Just trying to make sure that it's not this kind of relationship where I'm [up] here and they're down there. It's much closer than that. (F2)

(Continues)

**TABLE 3** (Continued)

Strategy domain	Quote 1	Quote 2	Quote 3
Facilitate patient care with student	I really just teach by modeling. If we're in there and we're doing a session and there's something that I really think should be said, I'll just jump in and say it. (F3)	"You need to go in and see these return patients with the doctor where you're really not doing anything but standing in the room. But you're getting exposure to different patients and different syndromes and discussion." Not practicing skills but still gaining from the observation piece." (F1)	If they're struggling with a piece or having a bad week, it's good to have them watch. It's hard sometimes for them to see us do it a couple of times and then we expect them to try it on their own. If it's not going well, there is some value in saying, "Okay, just sit and watch a session." (F1)
Gather information from/with student	We all probably do this, but even at the end of every clinic day, doing the check-in. "How did that go today? Was that right? Did that feel good? Did that not feel good? Do you feel like you're working towards this goal?" "Hey, it was crazy today. Let's talk." (F1)	I like to know personal information... I always want to know, are you single or are you married? Where are you living? What their interests are? Maybe they're interested in pediatrics specifically, or maybe they've already established that they want to be a cancer genetic counselor. (F3)	I always try to ask in general if their learning style is more self-directed in the sense that they perceive themselves as being able to push themselves where they need to go; or if they perceive themselves as the kind of person who really needs external pushing, or nudging. (F2)
Give information to student	"Well, this is why I did the [cancer risk] models I did. This was my thought on the family history. This is why I chose this particular family history. This is why I chose this particular test to offer. These were the NCCN guidelines I got for this particular patient and why"—a hands-on approach before they actually jump into doing the cases themselves... (F2)	For someone who is less familiar with the technical pieces, even guiding someone how to use the medical record, going through the prep and actually showing them. "This is where you're going to find the piece of information that you need and look for. This is the minimum that you need to look for." (F2)	I would provide some guidance just in our prep work with our patients and we've had some families where we know they're difficult... "This has been an issue. This might be something that could come up, and I just want you to mentally prepare for that possibility. Think about ways you might address it and talk it through if we need to." (F3)
Practice self-reflection to increase supervisor self-awareness	"These people are grad students, like we all were. They're independent. They're driven. They're motivated. They're smart. They want to be genetic counselors in five minutes." I don't think they need hand holding. That's my hope and expectation. I want to give them the benefit of the doubt and if it backfires, then maybe that's my fault and I need to reassess. (F2)	If they may have said something inappropriate to a patient, I have a harder time addressing that and giving that feedback right away, but I know it needs to happen because I don't want it to happen with the next patient. I have to step back and ask myself if it was really wrong that this student went into this conversation with the patient, or would I have done something similarly. (F2)	In general we've [the supervisors] learned from each other with regard to some of the expectations. We've gotten better at frankly noting that different rotations have different supervisors that do have different expectations on some of the stuff. (F2)
Provide culturally competent supervision	[Re: cultural differences between supervisor and student] I would ask the student to tell me more about their culture, and how it might come into play in the clinic, if there are things that they are opposed to doing, or if there were some issues that may come up in a session... I would hope that I would be up front about it and just tackle it in the beginning before it really came [up]. (F3)	We had a lot of [name of cultural group] patients, we had a lot of immigrant, other immigrant populations...We would talk to students about when you see a [name of culture] woman, this is what tends to happen. This is what they tend to come in with in their belief system. Obviously it doesn't apply to everybody, but here's an average person. This way they at least had some basis for what might happen in the consult. (F2)	With parental testing in pediatrics, it's with parents having a real anxiety there. "This helps with my child's testing, so I have an obligation to do it." When a student observes that, "What was the theme of the room? What were the emotions you were getting from mom and dad? Reluctance? Okay. Where did that reluctance stem from? How did I address that? How could I address that? How would you have addressed that?" (F1)

(Continues)



**TABLE 3** (Continued)

Strategy domain	Quote 1	Quote 2	Quote 3
Provide pre- and postclinical sessions	There's a lot of e-mail communication... "This is our schedule for the day tomorrow or next week. These are the things you should do in advance to prep for it." The sort of prep e-mails that don't always happen in person. (F3)	Usually we sit down with the student before the clinic day and go through the schedule and explain what each patient's story is and what the plan is going to be. (F3)	I say, "That's a really good description of how you would generally describe that to a patient, but now pretend your patient is coming from a background where they have very little education background. How might you share this information with them?"... You can send them home to think about these things and then talk about them briefly when they come back. (F2)
Provide resources to student	I'm happy to share visual aids that I use and always encourage students to find their own or make their own. It depends on the situation. (F3)	I have shared our short letter template with students, too. We've developed this short letter format, which is really nice and exchangeable for a lot of diagnoses. I've shared that with students so they can see how we write letters. They're less than two pages usually. (F3)	I've also talked with students about how I found my jobs. This job was more word-of-mouth. Another job was through the different avenues. I've also told students specifically to go to NSGC and talked about some of the job stuff that goes on there. (F3)
Use psychosocial counseling skills/strategies in supervision	"I've noticed you've been struggling across the board in some of these sessions for the past couple of weeks. I just want to get a sense of why that might be. If you perceive you are struggling in the same way that I'm perceiving it." Maybe it's something small or something big. (F2)	If it is really significant anxiety, I try and break the session down. "Let's just think about these components today. Not the whole thing. Not beginning to end, opening and closing." (F1)	Sometimes, a little bit of self-disclosure with a student if they really struggle with a particular thing—drawing back to when I was a student, this was my wall that I struggled to get past. Being able to relate, make you a little more relatable... I remember especially as a student when I would observe people with 20 or 30 years of experience. I would think, "Oh, I'm never going to be there." Sometimes relating back to going through something similar helps. (F1)

Note. F1: focus group one participant; F2: focus group two participant; F3: focus group three participant.

As a whole, perhaps the REM-S goals vary in their importance and/or in their complexity/difficulty to accomplish and thus, require a different number and type of strategies. It is likely that supervisors use strategies based on contextual factors such as a student's developmental stage, student anxiety, specific clinical situation, and/or supervisor experience/confidence (Berg et al., 2017; MacFarlane, McCarthy Veach, Grier, Meister, & LeRoy, 2016; Masunga, Wusik, He, Yager, & Atzinger, 2014; Venne & Coleman, 2010). Further studies should be done to determine factors that influence supervisor utilization of strategies to accomplish each REM-S goal.

The strategies identified in this study support Wherley et al.'s (2015) assertion that evaluative feedback and facilitation of opportunities to practice skills are two supervisor "macrostrategies" for assisting students in achieving desired outcomes. Feedback/evaluation was evident across the 14 strategy domains. These findings are consistent with assertions that feedback is a lynchpin of genetic counseling supervision activities (McCarthy Veach & LeRoy, 2009). They also are consistent with a major domain of supervisor competencies identified by Eubanks Higgins et al. (2013). When done effectively, feedback can contribute to effective supervision processes and outcomes (Hendrickson, McCarthy Veach, & LeRoy,

2002; MacFarlane et al., 2016). Opportunities for skill practice are also evident in the strategies identified in the current study. The supervisors described a number of specific strategies for practicing skills (e.g., modeling, role-playing, having students conduct part of or all of a genetic counseling session). The two macrostrategies may be reciprocal in that student skills practice likely provides rich experiences for evaluative feedback, and feedback and evaluation shape future skills practice activities.

#### 4.1.2 | Prevalence of strategy domains

Across the 16 REM-S goals, three strategy domains were the most prevalent: "Assess student;" "Practice self-reflection to increase supervisor self-awareness;" and "Establish student goals and expectations." Assessment and goal setting are key components of clinical supervision in human services professions (Bernard & Goodyear, 2013), and they comprise important genetic counselor competencies (Eubanks Higgins et al., 2013). In genetic counseling, these competencies ensure a standard of patient care, allow supervisors to monitor student achievement of practice-based competencies, and serve a gate-keeping function for the profession (McCarthy Veach &

**TABLE 4** Summary of the most prevalent strategy domains and examples of specific strategies organized by REM-S tenets and goals

REM-S tenets and goals	Strategy domain	Specific strategy example
<b>Tenet 1: Learning and applying genetic information is key</b>		
Goal 1: Supervisor knows what information to impart	Practice self-reflection to increase supervisor self-awareness	Give feedback based on patient needs
	Assess student	Assess student development based on previous student rotation performance
	Establish student goals and expectations	Establish goals for session based on student feedback
Goal 2: Supervisor teaches knowledge and skills	Assess student	Assess student performance of specific GC skill
	Facilitate patient care with student	Model GC skills during session
	Empower student	Assign exercises to build confidence
	Give information to student	Provide possible patient perception to student
Goal 3: Student acquires skills and/or draws upon knowledge appropriately	Practice self-reflection to increase supervisor self-awareness	Gauge student knowledge and experience levels
	Assess student	Evaluate student knowledge from activity
	Provide pre- and postclinical sessions	Assign self-reflection activity postclinic
<b>Tenet 2: Relationship is integral to genetic counseling supervision</b>		
Goal 1: Supervisor and student establish a bond	Practice self-reflection to increase supervisor self-awareness	Use self-awareness on supervisor emotions
	Assess student	Evaluate student knowledge from activity
	Provide pre- and postclinical sessions	Assign self-reflection activity postclinic
	Practice self-reflection to increase supervisor self-awareness	Use self-awareness on supervisor emotions
Goal 2: Good supervisor-student communication	Establish student goals and expectations	Establish student goals for the rotation
	Gather information from/with student	Ask question about student's perceived strengths
	Collaborate with health professionals	Introduce student to professional health team
	Establish good communication with student	Discuss communication styles with student
Goal 3: Supervisor and student characteristics positively influence process	Establish good communication with student	Facilitate bidirectional communication with student
	Collaborate with health professionals with student	Facilitate student evaluation with other supervisors
	Establish working alliance with student	Establish expectations to increase openness and approachability
Goal 3: Supervisor and student characteristics positively influence process	Provide culturally competent supervision	Build rapport based on shared culture
	Give information to student	Share known patient background to student
	Use psychosocial counseling skills/strategies in supervision	Use primary empathy (affect)
<b>Tenet 3: Student autonomy must be supported</b>		
Goal 1: Establish supervision agreement/contract	Establish student goals and expectations	Establish pre-session expectations
	Assess student	Assess student skills based on previous rotation
	Practice self-reflection to increase supervisor self-awareness	Use self-awareness of own genetic counseling style
Goal 2: Integrate personal, professional, and cultural context into the supervision relationship and decisions	Provide culturally competent supervision	Establish session expectations based on cultural context
	Give information to student	Provide anticipatory guidance on how culture informs decision-making
	Use psychosocial counseling skills/strategies in supervision	Use self-disclosing statement (e.g., I would do it this way)
Goal 3: Student feels empowered and more in control	Empower student	Use positive reinforcement
	Use psychosocial counseling skills/strategies in supervision	Address student defence mechanisms
	Facilitate patient care with student	Intervene in student-led session based on student reaction
Goal 4: Facilitate collaborative decisions	Establish student goals and expectations	Establish patient follow-up with student
	Gather information from/with student	Check-in with student postsession
	Assess student	Compare assessments between other supervisors

(Continues)

**TABLE 4** (Continued)

REM-S tenets and goals	Strategy domain	Specific strategy example
	Practice self-reflection to increase supervisor self-awareness	Draw insights from previous supervision experiences
Tenet 4: Students are capable		
Goal 1: Recognize student stage of development	Practice self-reflection to increase supervisor self-awareness	Use self-reflection about student readiness
	Assess student	Quiz student knowledge
	Gather information from/with student	Ask questions about student self-assessment.
Goal 2: Tailor supervision to student skill level	Practice self-reflection to increase supervisor self-awareness	Reference personal experience as a student
	Assess student	Evaluate student's case preparation
	Gather information from/with student	Assess quality of case preparation/outline
Goal 3: Foster student confidence	Empower student	Respect student's autonomy in session
	Use psychosocial counseling skills/strategies in supervision	Use advanced empathy
	Facilitate patient care with student	Intervene in student-led session upon student request
Tenet 5: Student emotions make a difference		
Goal 1: Supervisor and student know student concerns	Use psychosocial counseling skills/strategies in supervision	Ask questions about student concerns
	Practice self-reflection to increase supervisor self-awareness	Recognize supervisor–student boundaries
	Establish good communication with student	Discuss student reaction postsession
Goal 2: Both supervisor and student understand supervisor–student and student–patient dynamics	Establish good communication with student	Discuss communication preferences with student
	Collaborate with health professionals with student	Utilize program director
	Establish working alliance with student	Establish clinic expectations with student and other supervisors
Goal 3: Supervisor addresses student's feelings and responses to supervision and genetic counselling	Use psychosocial counseling skills/strategies in supervision	Use primary empathy (content)
	Practice self-reflection to increase supervisor self-awareness	Recognize limits of one's supervisory role
	Establish good communication with student	Discuss countertransference postsessions

Note. Every REM goal had at least three prevalent strategies. For some REM goals, there were ties for the third most prevalent domain, and in those cases, four or five strategy domains were listed.

REM-S: Reciprocal-Engagement Model of Supervision.

LeRoy, 2009). The present sample of supervisors described continually gauging their students' stage of development, skills, and intrapersonal and interpersonal dynamics. They also noted tailoring and revising session and/or rotation goals as students' skills and comfort levels changed.

The participants described practicing self-reflection in order to gauge and respond to the interpersonal and intrapersonal dynamics of the student, the patient, and themselves. Self-reflective practice is critical to effective supervision (McCarthy Veach & LeRoy, 2009), and it also constitutes another important genetic counselor supervisor competency (Eubanks Higgins et al., 2013). In addition, supervisor self-reflection arguably provides a model for students to achieve a major REM-S outcome: "Student understands and applies information to engage in self-reflective practice" (Wherley et al., 2015).

Establishment of goals and expectations for students is also essential for the student's ongoing growth and development. Contracting, clarifying expectations, and goal setting are important strategies for establishing a working relationship between a student and supervisor (Hendrickson et al., 2002; McCarthy Veach & LeRoy, 2009). The prevalence of this supervisor strategy suggests goal setting is not limited to the beginning of the clinical rotation; it is an ongoing process as described in the REM-S (Wherley et al., 2015).

Providing resources to students was the least frequently noted strategy domain. This strategy appears to be more straightforward as supervisors can provide concrete tools and/or information to students. Perhaps the supervisor participants were less cognizant of this practical strategy and thus, did not note it in the focus group interviews. Alternatively, they may have assumed

that training programs provide these resources to students. Also of note, one of the least frequently mentioned strategy domains across the REM-S goals was "Provide culturally competent supervision." Participants in all three focus groups expressed that it is difficult to articulate strategies specific to culturally competent supervision between themselves and their students. Perhaps their responses reflect the lack of cultural diversity in the profession (NSGC, 2016). It is also possible that participants were thinking narrowly about culture as racial and ethnic differences. Regardless, supervisor awareness of their own cultural identities and other strategies for recognizing and addressing differences between themselves and their students are important (cf. Lee, McCarthy Veach, & Leroy, 2009). Cultural discussions enhance trust and communication in supervision (Wherley et al., 2015), and one could hypothesize that limited awareness of/attention to culturally competent supervision may increase student anxiety and/or hinder the development of a working alliance (Wherley et al., 2015).

#### 4.2 | Study limitations

There are several limitations that impact the generalizability of the present findings. As mentioned earlier, qualitative data are not intended to be generalized to the population of interest. The focus group participants were all associated with one genetic counseling program in a major city, and they do not represent all genetic counseling practice specialties. Therefore, the results may not be reflective of the population of genetic counselor supervisors in North America.

Another limitation is that participants in each focus group were colleagues, which may have prompted some socially desirable responses. Furthermore, the findings are based exclusively on self-reported experience, possibly introducing recall and selection bias. There were also limitations to the focus group guide. Given time limits, some of the REM-S goals were combined within interview questions. Supervisors were therefore sometimes asked to simultaneously identify strategies to accomplish two REM-S goals. Participants were not asked whether they agreed with the 16 REM-S goals. None of the participants' comments, however, suggested disagreement, and everyone was able to identify strategies related to each goal. Finally, identification of particular strategies and strategy domains does not indicate if or how often supervisors actually use the strategies.

#### 4.3 | Training and practice implications

As stated, this study elaborates the REM-S by characterizing strategy domains supervisors reportedly use in clinical supervision with genetic counseling students. The strategy domains and specific strategy examples denoted in Table 4 provide a framework to guide supervisors in working with students. A supervision framework can be likened to a road map for supervisors working with students (Wherley et al., 2015). The results of this study describe broad

strategy domains currently being used in genetic counseling supervision, and they provide some initial examples of each strategy domain. While the specific examples of strategies are not exhaustive, they do suggest some supervisor "tools." These specific strategies or tools, as noted earlier, provide evidence as to how the broader strategy domains may differ in subtle ways based on the REM-S goal. Whether through role plays to assist a student in mastering the delivery of genetic information, or through preclinical rotation meetings to outline a student's goals and expectations, these are tangible strategies that supervisors can use in their supervision practice.

The strategy domains identified in this study are consistent with supervisor competencies outlined by Eubanks Higgins et al. (2013) and with other training and supervision frameworks (e.g., Shugar, 2016; Venne & Coleman, 2010). As such, they may assist genetic counseling programs in developing curricula on genetic counseling supervision. Prior research demonstrates the need for in-depth formal supervision training (Hendrickson et al., 2002; Lindh, McCarthy Veach, Cikanek, & LeRoy, 2003). Although opportunities for supervision training are available (Atzinger et al., 2014; Lindh et al., 2003; Masunga et al., 2014), no standardized formal training exists based on empirically derived supervisor competencies and a model of supervision practice (Wherley et al., 2015). Practicing genetic counselors may also benefit from formal supervision training. A recent publication on the barriers of genetic counseling supervision expansion identified that nonsupervisors were more likely to rate a lack of training in and confidence regarding clinical supervision than supervisors (Berg et al., 2017). The integration of the REM-S tenets, goals, and strategies, the supervisor competencies with other supervision materials could inform workshops and seminars.

As discussed earlier, culturally competent supervision was one of the least prevalent strategy domains identified by participants. Genetic counseling programs could provide opportunities for supervisors and students to improve their self-perceived competence and confidence in recognizing and addressing multicultural issues in supervision.

#### 4.4 | Research recommendations

Validation and further elaboration of the REM-S is needed through observational or analog (simulated) studies to determine the extent to which the REM-S characterizes actual supervision practice. Studies of this type would also help to identify a more comprehensive list of specific supervision strategies, as well as specific behaviors associated with those strategies.

Researchers should also examine whether and how the REM-S strategies generalize to practice across genetic counseling practice specialties. Finally, studies are needed to assess the effectiveness of different supervisor strategies. Such investigations should include an assessment of both supervisors' and students' perceptions of supervisor goals and strategies to substantiate the extent to which different supervisor strategies align with the accomplishment of REM-S goals and REM-S outcomes.

## 5 | CONCLUSION

The present focus group study characterized genetic counselor supervisors' perceptions of strategies they use during clinical supervision. Their strategies correspond to the goals and tenets of the REM-S. The results support the proposed isomorphic nature of the REM-S to the Reciprocal-Engagement Model (REM) of genetic counseling practice (Wherley et al., 2015). Further elaboration and extension of the REM-S has the potential to empirically characterize the clinical supervision provided in the training of future genetic counselors; enhance genetic counselor supervisors' skill set when providing genetic counseling supervision; improve the learning experiences of future genetic counselors; and promote research on effective genetic counseling supervision practices.

### AUTHOR CONTRIBUTIONS

Michael Suguitan, M.S., CGC participated in the concept, design, and analysis, and is the primary author of the manuscript. Krista Redlinger-Grosse, Sc.M., LGC, Ph.D., LP participated in the concept, design, data collection and analysis, and writing of the manuscript. Patricia McCarthy Veach, Ph.D., LP participated in the concept, design, data collection, and writing of the manuscript. Bonnie LeRoy, M.S., LGC participated in the concept, design, and writing of the manuscript. Colleen Wherley, M.S., LGC participated in the concept, design, and writing of the manuscript.

### ACKNOWLEDGEMENTS

This study was completed in partial fulfillment of the requirements for the principal investigator's Masters of Science degree from the University of Minnesota. The authors would like to thank Alexandra Tsai for her time and involvement in the transcription process. The authors confirm that the work was conducted to fulfill a degree requirement or as part of training.

### COMPLIANCE WITH ETHICAL STANDARDS

#### CONFLICT OF INTEREST

Mike Darren Suguitan, Krista Redlinger-Grosse, Patricia McCarthy Veach, Bonnie S. LeRoy, and Colleen Wherley claim no conflicts of interest.

#### HUMAN STUDIES

Upon review by the University of Minnesota IRB, this study was found to not meet the regulatory definition of research with human subject and thus, did not fall under the IRB's purview. The methods in this study adhere to the ethical standards of the committee on human experimentation (institutional and national) and to the Helsinki Declaration of 1975, as revised in 2000.

### INFORMED CONSENT

Informed consent was obtained from all individual participants included in the study.

### ANIMAL STUDIES

This manuscript does not involve any studies with animals.

### ORCID

Krista Redlinger-Grosse  <https://orcid.org/0000-0002-9051-1693>

### REFERENCES

- ACGC (2015). Practice-based competencies for genetic counselors. Retrieved from [http://gceducation.org/Documents/ACGC%20Core%20Competencies%20Brochure\\_15\\_Web.pdf](http://gceducation.org/Documents/ACGC%20Core%20Competencies%20Brochure_15_Web.pdf)
- Akhtar-Danesh, N., Baumann, A., & Cordingley, L. (2008). Q-Methodology in nursing research: A promising method for the study of subjectivity. *Western Journal of Nursing Research, 30*(6), 759–773. <http://doi.org/10.1177/0193945907312979>
- Atzinger, C. L., Lewis, K., Martin, L. S., Yager, G., Ramstetter, C., & Wusik, K. (2014). The impact of supervision training on genetic counselor supervisory identity development. *Journal of Genetic Counseling, 23*, 1056–1065. <https://doi.org/10.1007/s10897-014-9730-7>
- Berg, J., Hoskovec, J., Hasmi, S. S. M. C., Veach, P., Ownby, A., & Singleary, C. N. (2017). Relieving the bottleneck: An investigation of barriers to expansion of supervision networks at genetic counseling programs. *Journal of Genetic Counseling, 27*(1), 241–251. <https://doi.org/10.1007/s10897-017-0142-3>
- Bernard, J. M., & Goodyear, R. K. (2013). *Fundamentals of clinical supervision* (5th ed.). Upper Saddle River, NJ: Pearson Inc.
- Callanan, N., McCarthy Veach, P., & LeRoy, B. (2016). The evolution of clinical supervision in genetic counseling: Theory, research, and practice. *Clinical Supervisor, 35*(2), 210–226. <https://doi.org/10.1080/07325223.2016.1224992>
- Curtis, J. R., Wenrich, M. D., Carline, J. D., Shannon, S. E., Ambrozy, D. M., & Ramsey, P. G. (2001). Understanding physicians' skills at providing end-of-life care. *Journal of General Internal Medicine, 16*, 41–49. <https://doi.org/10.1046/j.1525-1497.2001.00333.x>
- Elo, S., & Kyngäs, H. (2008). The qualitative content analysis process. *Journal of Advanced Nursing, 62*(1), 107–115. <https://doi.org/10.1111/j.1365-2648.2007.04569.x>
- Eubanks Higgins, S., McCarthy Veach, P. M., MacFarlane, I. M., Borders, L. D., Leroy, B., & Callanan, N. (2013). Genetic counseling supervisor competencies: Results of a Delphi study. *Journal of Genetic Counseling, 22*(1), 39–57. <https://doi.org/10.1007/s10897-012-9512-z>
- Hartmann, J. E., McCarthy Veach, P. M., MacFarlane, I. M., & LeRoy, B. S. (2013). Genetic counselor perceptions of genetic counseling session goals: A validation study of the reciprocal-engagement model. *Journal of Genetic Counseling, 24*(2), 225–237. <https://doi.org/10.1007/s10897-013-9647-6>
- Hendrickson, S. M., McCarthy Veach, P. M., & LeRoy, B. S. (2002). A qualitative investigation of student and supervisor perceptions of live supervision in genetic counseling. *Journal of Genetic Counseling, 11*(1), 25–49. <https://doi.org/10.1023/A:1013868431533>
- Hsieh, H.-F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research, 15*(9), 1277–1288. <https://doi.org/10.1177/1049732305276687>

- Krueger, R. A., & Casey, M. A. (2008). *Focus groups: A practical guide for applied research*. Thousand Oaks, CA: Sage Publications.
- Lee, H. K., McCarthy Veach, P., & Leroy, B. S. (2009). An investigation of relationships among genetic counselors' supervision skills and multicultural counseling competence. *Journal of Genetic Counseling*, 18(3), 287–299. <https://doi.org/10.1007/s10897-009-9219-y>
- Lindh, H. L., McCarthy Veach, P. M., Cikaneck, K., & LeRoy, B. S. (2003). A survey of clinical supervision in genetic counseling. *Journal of Genetic Counseling*, 12(1), 23–41. <https://doi.org/10.1023/A:1021443100901>
- MacFarlane, A., & O'Reilly-de Brun, M. (2012). Using a theory-driven conceptual framework in qualitative health research. *Qualitative Health Research*, 22, 607–618. <http://doi.org/10.1177/1049732311431898>
- MacFarlane, I. M., McCarthy Veach, P., Grier, J. E., Meister, D. J., & LeRoy, B. S. (2016). Effects of anxiety on novice genetic counseling students' experience of supervised clinical rotations. *Journal of Genetic Counseling*, 25(4), 742–766. <https://doi.org/10.1007/s10897-016-9953-x>
- Masunga, A., Wusik, K., He, H., Yager, G., & Atzinger, C. (2014). Barriers impacting the utilization of supervision techniques in genetic counseling. *Journal of Genetic Counseling*, 23(6), 992–1001. <https://doi.org/10.1007/s10897-014-9722-7>
- McCarthy Veach, P., Bartels, D. M., & LeRoy, B. S. (2007). Coming full circle: A reciprocal-engagement model of genetic counseling practice. *Journal of Genetic Counseling*, 16(6), 713–728. <https://doi.org/10.1007/s10897-007-9113-4>
- McCarthy Veach, P., & LeRoy, B. (2009). Student supervision: Strategies for providing direction, guidance, and support. In W. R. Ullman, J. L. Schuette, & B. M. Yashar (Eds.), *A guide to genetic counseling* (2nd ed.). Hoboken, NJ: John Wiley & Sons Inc.
- NSGC (2016). Professional status survey: Executive summary. Chicago, IL. Retrieved from <http://www.nsgc.org/page/whoaregeneticcounselors>
- Redlinger-Grosse, K., McCarthy Veach, P., LeRoy, B. S., & Zierhut, H. (2017). Elaboration and elaboration of the Reciprocal-Engagement Model of genetic counseling practice: A qualitative investigation of genetic counselor goals, strategies, and behaviors. *Journal of Genetic Counseling*, 26, 1372–1387. <https://doi.org/10.1007/s10897-017-0114-7>
- Redlinger-Grosse, K., Veach, P. M., Cohen, S., LeRoy, B. S., MacFarlane, I. M., & Zierhut, H. (2015). Defining our clinical practice: The identification of genetic counseling outcomes utilizing the Reciprocal Engagement Model. *Journal of Genetic Counseling*. <http://doi.org/10.1007/s10897-015-9864-2>
- Rieh, J. P., & Ray, C. (1974). *Conceptual models for nursing practice*. New York, NY: Appleton-Century-Crofts.
- Shugar, A. (2016). Teaching genetic counseling skills: Incorporating a genetic counseling adaptation continuum model to address psychosocial complexity. *Journal of Genetic Counseling*, 26(2), 215–223. <https://doi.org/10.1007/s10897-016-0042-y>
- Venne, V. L., & Coleman, D. (2010). Training the millennial learner through experiential evolutionary scaffolding: Implications for clinical supervision in graduate education programs. *Journal of Genetic Counseling*, 19(6), 554–569. <https://doi.org/10.1007/s10897-010-9319-8>
- Weil, J. (2000). *Oxford monographs on medical genetics : Psychosocial genetic counseling*. New York, NY: Oxford University Press.
- Wherley, C., McCarthy Veach, P., Martyr, M. A., & LeRoy, B. S. (2015). Form follows function: A model for clinical supervision of genetic counseling students. *Journal of Genetic Counseling*, 24(5), 702–716. <https://doi.org/10.1007/s10897-015-9837-5>

## SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section at the end of the article.

**How to cite this article:** Suguitan MD, McCarthy Veach P, LeRoy B, Wherley C, Redlinger-Grosse K. Genetic counseling supervisor strategies: An elaboration of the Reciprocal-Engagement Model of Supervision. *J Genet Couns*. 2019;28:602–615. <https://doi.org/10.1002/jgc4.1057>