Role models of New Zealand house surgeons:

Characteristics, identity and consciousness.

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Introduction

The MCNZ Intern Handbook is distributed to senior clinicians who supervise recent graduates with provisional general registration in New Zealand. A page in the 2005 handbook is dedicated to outlining the characteristics and influence of role models (1). The document makes it clear that role modeling and mentoring by clinical supervisors is encouraged in the contemporary New Zealand health system. This reflects a global trend for medical councils and regulatory bodies to explicitly highlight the role of models. The American Medical Association website boasts a monthly feature entitled 'Profile of a Role Model' (2), and the British General Medical Council and Australian Medical Council both address role models in their medical school accreditation guidelines (3, 4). These examples indicate that role models are widely identified as vital components of professional socialization.

Recognition of the value of role models in medical education is supported by a growing body of academic literature. It seems that role models are inescapable conduits of medical socialization and professional development (5-13). Research indicates their influence over specialty selection (14-19), ethics (20, 21), professionalism (22-24), and the patient doctor relationship (25-27). Given that medicine is a fusion of art and science, it makes sense that learners develop their academic knowledge from books and lectures; but the intangibles of professional style, identity, and values, develop largely through interaction with other clinicians. Clearly, this has been recognized in policy and in education literature. However, it is unclear whether the process of role modeling has become equally valued in the wards where it occurs.

This research was conducted to establish the nature of role modeling experiences for contemporary New Zealand house surgeons, PGY1-3. Examining these formative working years is important. House surgery represents the first time that many young doctors have been outside formal, full time education. It is a period of transition from student to doctor, and may be marked by a loss of some of the structure and support associated with the student years. This makes medical postgraduates especially dependent on role models for support, encouragement, and leadership. Insight into this relationship is important because of the immense influence role models exert on the newest members of the profession.

In addition to understanding current experiences, this research facilitates comparison with an earlier study (28). The first phase of this project involved interviews with urban Dunedin General Practitioners about their role models during house surgery. These practitioners were house surgeons in hospitals throughout New Zealand between ten and twenty years ago. The earlier interviews with general practitioners provided insight into the experiences of house surgeons over recent decades. By comparing responses of the two groups it may be possible to identify changes in role modeling, and in medical culture, during the intervening years.

Methods

In November 2004 a convenience sample of six male and six female General Practitioners in the urban Dunedin area was interviewed. Subjects completed their house surgery years throughout New Zealand[1] and were provisionally registered at least ten years ago[2]. Practitioners gave one, approximately half hour, semi structured interview, conducted in person at practice rooms around the city. These interviews covered examples of positive and negative role models, with interviewer prompts regarding reflection and consciousness. Participants from this first phase are referred to as group one.

In December 2005 a similar convenience sample of three male, and ten female, current house surgeons was identified at the Dunedin Public Hospital[3,4]. These volunteers underwent the same taped, semi-structured interview as the earlier general practitioner group. The interviews were held in person, most at the Dunedin Public Hospital while the house surgeons were on duty. Two interviews had to be cut short when the volunteers responded to urgent pager calls. In general, the second round of interviews was shorter and slightly less structured than the first. Participants from this phase are discussed as group two.

Tape recordings from both groups were independently transcribed, and underwent multiple readings to identify key themes. These themes are illustrated with verbatim quotes in the results section; numbers in parenthesis refer to individual respondents. Ethics approval was granted by the University of Otago Ethics Committee under the auspices of the Hidden Curriculum Project.

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[1] With the exception of one participant who left New Zealand after their Trainee Intern year to complete house surgery in Australia.
[2] With the exception of one participant provisionally registered five years ago.
[3] With the exception of one participant who was a house surgeon three years ago and is now a General Practice Registrar.
[4] One house surgeon was trained in Britain but completing a second year of house surgery in New Zealand

Results

Identity of role models

Each interview began by asking the participant to nominate a person, or incident, which they considered as positive role modeling. Senior teaching clinicians, specifically registrars and consultants, were the vast majority of positive models. A small number of participants also identified nurses, and their peers, as positive role models. They indicated that other house surgeons were less threatening than senior clinicians, and represented more attainable, immediate aspirations.

> *"I guess I felt they* [second year house surgeons] *were a bit more caring than the people who were directly above me like my registrar, consultant… They weren't so far advanced that…I wasn't afraid to ask them simple questions about what to do in this situation or whatever" (Group 2, 2)*

> *"Sometimes you look at the role models at your own level and think: 'This is what I need to do today to be more like what I want to be like today'" (Group 2, 6)*

Most volunteers identified a number of positive role models. Group one tended to have three or four role models who they could describe in detail. Group two seemed to be more aware of having more models, and some explicitly described this process;

> *"I think it's hard to embody everything in one person but I think there are elements of people that I'm working with that have all been potential* [role models]*" (Group 2, 12)*

In the second part of the interview, participants were asked to describe a negative role model. Volunteers from group one generally identified consultants as negative models. Participants from group two seemed reluctant to clearly identify individuals that they did not want to emulate. Instead, they spoke about broad categories - superiors, consultants, and supervisors - not single clinicians. When the information was volunteered, consultants and registrars were the most frequent negative role models.

Characteristics of role models

Analysis revealed three relationships which house surgeons in this study seem to use for identifying role models: the relationship between house surgeon and their model, the model's relationship with patients, and the model's relationship to medicine.

Relationship between house surgeon and role model

Participants from both groups identified supportiveness as the most important trait of their positive role models. They also described senior clinicians who were 'nice',

generous with their time, engaging, patient, accessible for questions, and easy to work with. This domain also encompassed role modeling of professional skills; house surgeons had a special admiration for colleges who were calm and controlled in difficult situations.

> *"… you can have a day where heaps of really horrible things happen but you had someone really supportive to work with... and someone who you have sort of trusted and stuff... it doesn't seem as bad as other days where there is maybe not so much support around." (Group 2, 3)*

> *"His manner was kind and warm and uncritical and he was always very approachable, always very very helpful, never made you feel as a learning house surgeon as though you were stupid or you made a foolish error"(Group 1, 1)*

A small number of volunteers from group one discussed having an explicit mentoring relationship during, and beyond, their house surgery years. Some participants from group two had had experience with a recent mentoring program for medical students. This was not explored in depth during the interviews, and the house surgeons did not seem to feel this was especially significant in terms of their role modeling experiences.

Participants also described senior clinicians whom they had difficulty interacting with. Poor support, or poor communication, typified the relationship with senior clinicians who were negative role models. The incidents reported by group one participants were generally more serious.

> *"I had to ring someone at home one night and they were just really horrible and unhelpful and I just sort of found that quite negative." (Group 2, 3)*

> *"… I rang him up about a baby who had been sent in and I started doing the presentation as I'd been taught to do and he sort of interrupted me and said 'What the fuck are you telling me this for?'. That is something that certainly stuck in my mind" (Group 1, 2)*

Relationship between role model and patients

Senior clinicians who demonstrated a good relationship with their patients were widely admired by participants from both groups. These doctors were described as being compassionate, caring, and engaging. Volunteers made note of watching their consultant break bad news, obtain consent for a procedure, or explain a diagnosis. Many said that they wanted to remember, and use, the words or phases which had been effective.

> *"He was a registrar and he was just really good with patients… he always used their name, always made a joke, or would take their*

> *hand, or he might just pop his hand on their knee or leg, or something, so he made patient contact really well. He really engaged the patient." (Group 2, 9)*

> *"And if you see someone, say, tell bad news really well and you kind of store it away a bit because that's important." (Group 2, 3)*

Negative role models who had poor relationships with patients were described as uncaring and disinterested. Poor communication with patients was typical of negative role models in this domain.

> *"... Some of the consultants I was working with, and registrars as well, spoke to patients in ways that I didn't think was acceptable, and didn't seem to care as much as I thought senior doctors should care for their patients..." (Group 2, 2)*

> *"Sometimes you get doctors that just focus on what they are interested in – they just don't care about listening to what the patient has to say." (Group 2, 8)*

Volunteers expressed frustration, anger, and disbelief at the treatment of some patients. A significant number of participants in group two described their attempts to make up for poor communication by their consultants.

> *"... if my consultant had gone around in the morning and was being really rude to the patients, then I would often go back and clarify what was going on for patients... often they didn't realize what was happening, or understand what the consultant was saying." (Group 2, 2)*

> *"I do find myself as a house surgeon going back and doing a second ward round sometimes... and actually going through things* [explanations to patients] *in a bit more depth and detail" (Group 2, 5)*

When these experiences were volunteered, the behavior was explored with participants. They suggested that intuition, training, and other role models motivated their attempts to rectify perceived inadequacies in patient communication.

Relationship between role model and medicine

Participants from both groups addressed the attitudes their role models displayed about medicine, their career, and their work life balance. Although this relationship has less emotional impact that the other two, the behavior of senior staff in this area was consistently noted. A number of participants described, and admired, their positive role models for enjoying their job, or having maintained interests outside medicine. Some volunteers found the enthusiasm of their positive role models reassuring and reinforcing

of their own career choices. These sentiments were especially apparent from recent graduates in group two.

> *"…it can be done. They're happy." (Group 2, 1)*
>
> *"…you can go home if you have had a really good day, and you are feeling really good about sort of your prospects for the future, and you think 'oh, yeah, they* [the role model] *like their job and this is working out all right, yeah, yeah." (Group 2, 3)*

Contrastingly, doctors who were bitter or cynical in their relationship with medicine were identified as negative role models. This was identified more by participants from group one, but alluded to by participants from group two.

> *"I think in hindsight definitely the registrars and consultants I didn't like were basically the people who didn't enjoy the job and you did sort of wonder why they were in medicine actually" (Group 1, 10)*

As an extension of their relationship with medicine, role models demonstrated a relationship with their specialty. Participants from both groups felt that role models had been influential in their thinking about specialty selection.

> *"… if you are contemplating it* [a given specialty], *you are not quite sure where you are going to, and you look at all the people that are working there and they don't look happy, or things aren't going well in that specialty then that puts you off doing it" (Group 2, 1)*

Most role models who had been significant in specialty choice had had a negative impact. This occurred when negative role models who worked in a given area directly dissuaded learners, or when senior specialists 'badmouthed' other disciplines.

> *"He was vitriolic of them in his condemnation of GP and always about, you know, the crap and the dross that was referred... and why was this patient in, and why was that patient in... and stupid GP didn't see this, and stupid GP didn't notice that. And that was enormously destructive" (Group 1, 1)*

Invariably, surgery was identified as an area with many negative role models. Some volunteers described choosing runs to work with consultants they liked but avoiding supervisors who were difficult to work for. This may bias graduates towards experiences in certain areas. There was a general sense that passive role modeling alone would be a superficial basis for career choice, but that active mentoring would be more valuable.

Consciousness

Participants were asked directly about how conscious they were of role models on the wards, whether they discussed role models with their peers, and whether they reflected on role modeling. Most participants said that they were aware whether other clinicians were 'good' or 'bad' while watching them on rounds.

> *"I think, because you see good and bad all the time you stand there with your gob open as some nasty bugger talks to a patient and, you know, in a really incomprehensible way and you see the blank look on their face and then you see someone else do it, and you see them feeling they can ask questions, and feeling they can understand what's going on." (Group 2, 11)*

Participants demonstrated a wide range of consciousness, reflection and analysis of role models and medical socialization. The vast majority of volunteers from group one could discuss who, why, and how they had been influenced by their interaction with senior doctors. They described a superficial awareness of role models during their house surgeon years, but growing reflection and consciousness over time. They could generally identify and articulate key characteristics of individuals that they wanted to emulate.

> *"But when you think back from... however many years later I am now, twelve or thirteen, I guess... I do remember individuals and they do start to stick out a as sort of positive role model" (Group 1, 10)*

In contrast, current house surgeons from group two found it more difficult to single out individual doctors who had influenced them. They tended to identify a wide range of positive and negative models who had helped to shape their professional style. It is difficult to know whether this reflects insight into the subtle influences of multiple models, or whether they were vague because they are genuinely unclear about the characteristics and identity of their role models. For some group two participants, these interviews represented the first time they had clearly identified role models as a component of their education.

> *"The whole role modeling thing to me is just something I've never thought about as being part of medicine and if I sit here and think about it, it's a huge huge part. It's just not something I'd really considered was – was a big deal" (Group 2, 11)*

There were some participants from group two demonstrated insight into the contradiction between the taught values of medicine and actual practice;

> *"... a person is telling you 'no, don't do it this way, do it in that way', but them you see them doing it the reverse every single day on the ward" (Group 2, 6)*

> *"There is, in some ways, a cynical, really negative, disrespectful environment and unfortunately it still is here - less so than what I thought, which is reassuring - but you see it and you see people perpetuate that and you know that… how badly you are treated to make you think that this is an acceptable way to behave?" (Group 2, 7)*

Both groups confirmed that house surgeons talk about their colleagues and senior clinicians. These discussions rarely focused on the clinician as a role model. Instead, house surgeons shared information about the idiosyncrasies of senior clinicians, or informally debriefed after negative experiences.

> *"I mean, we were very busy, we work really hard, and, you know, we kind of talked about the patients, and there were good clinicians and bad clinicians, and you knew which they were. And, you might tell stories to each other about bad things that happened but not in the sense of analyzing that person's behaviour as much" (Group 1, 3)*

> "[informal discussion is] *not a reflective sort of process, it would be more of a fairly short sort of a comment." (Group 2, 5)*

A significant number of participants in group one provided unprompted explanation for poor behavior by negative models. They cited external stress, exhaustion, bureaucracy, and family pressures as factors contributing to unprofessional behavior by their superiors.

> *"Looking back you can see that I am… perhaps a bit sort of softer on them than I perhaps was sometimes at the time… just because you understand that they were probably under a lot of stress from all sorts of different things and perhaps were completely unaware of this house surgeon" (Group 1, 4)*

> *"In time my attitude would have mellowed somewhat towards those displays of... those particular displays of attitude given the experiences in terms of the hours worked and the tiredness and lethargy, and lack of resources" (Group 1, 9)*

In contrast, participants from group two made only very rudimentary attempts to explain or understand the behavior of their negative role models. They occasionally identified that negative models were very busy or stressed, but were less sympathetic to these demands than participants from group one.

(9, 13)Discussion

These interviews, spanning three decades of house surgery in New Zealand, suggest that role modeling is a complex and intrinsic component of the early post graduate years. Participants provided insight into who, why, and how, some of their clinical teachers have become role models. Understanding this process is important in giving real meaning to the idea of role modeling, so often cited as a key influence on professional development.

A number of descriptive studies have attempted to define the traits of influential models. The characteristics of positive role models are generally accepted: clinical excellence, good teaching, compassion, focus on the patient-doctor relationship, and certain elements of personality (19, 29-32). It is easy to oversimplify these traits as tick boxes on the path to role modeling stardom. In fact, it is rare for students and junior staff to have global role models who represent the endpoint of all their professional aspirations (33). Instead, learners work with vast numbers of role models as clinicians, teachers, supervisors, and as people (34, 35). These interactions become part of an amalgam contributing to the professional style of new doctors (9, 13). Role modeling is an interactional, transactional process which occurs simultaneously with multiple models and changes over time (9, 19, 34). Understanding how young doctors interact with their role models is better served by examining relationships than lists of adjectives. Analysis of these interviews revealed three broad relationships that house surgeons consider important for identifying their role models: the relationship between house surgeon and the model, the model's relationship with patients, the model's relationship with medicine.

Clinical skills are generally a poor demarcation between positive and negative role models because both groups can be technically excellent. In keeping with the schemata from Wright and Carress, positive role models identified in these interviews practiced above a threshold level of clinical excellence (30). However, most negative role models are also clinically proficient. It seems reasonable to assume that the overwhelming majority of clinical teachers who constitute role models for house surgeons are biomedically skilled. Clinical skills are generally explicitly taught and therefore less subject to modeled, observational learning. Thus, technical clinical proficiencies are largely excluded from the following discussion.

Relationship between house surgeon and role model

The relationship between house surgeon and role model was explicitly discussed by the majority of participants. Volunteers from both groups could identify excellent clinicians who enjoyed their work and related well to patients. However, it was their supportiveness towards junior staff which many participants said made them stand out as positive role models. Supportiveness describes a wide range of teaching and interpersonal behaviors which help new doctors feel comfortable in their role (25). Elements of this behavior have been described in other studies; senior clinicians who spend non-essential time with house surgeons, make an effort to build relationships with them, and have a positive

attitude towards junior staff are most likely to be considered positive role models (19, 25, 29, 36, 37). Practical support and advice during difficult procedures is also highly valued by medical learners (38). These varied forms of personal encouragement have been identified as one of the key influences of the hidden curriculum (37). Clearly, being supportive transcends the boundaries of positive role modeling, encompassing good teaching and good supervision (39). Perhaps supportive behavior is more of a portal to positive modeling a variety of other skills, rather than the actual trait learners seek to emulate. It makes sense that junior staff would be more receptive to observing, and imitating, someone they had a working relationship with, rather than an anonymous clinical teacher. Irrespective of the explanation, supportive relationships between house surgeons and their role models seems to facilitate positive role modeling and should be encouraged.

A strong relationship between learner and role model may explain why some participants identified their peers and close colleagues as positive role models. Learning theory suggests that similarity between learner and model enhances the observational learning process (40). Understandably, shared age, training, and experience make it easier for house surgeons to relate to each other, and to registrars, than to consultants. Likewise, house surgeons are natural role models for medical students (13).These relationships can be beneficial when students, house surgeons, and residents are able to provide support for each other. However, Ficklin suggests that the pressures on residents and house surgeons make it more likely that they will become negative role models for students, and for each other (13).Thus, the exhaustion, clinical insecurity and role stress of junior doctors have simultaneous opposing effects. Superficially they produce collegial empathy which would seem to facilitate positive role modeling between registrars, house surgeons and students. However, but the destructive nature of these demands actually make junior staff prone to becoming negative role models for one another.

Negative role models who had poor relationships with house surgeons were identified by both groups. Participants described senior clinicians who were terse when called for clinical advice, unreasonable in their expectations, and unsupportive of junior staff. This behavior has been widely reported in work on student abuse, and as part of the hidden curriculum (37, 41, 42). Negative interactions with senior staff have been identified as one of the most memorable, stressful, and influential experiences for junior doctors (35, 43-45). This was evidenced by the emotive tone and vocabulary participants used to discuss negative role models in this domain. Although gross examples of student abuse may be becoming less common, it seems that a cycle of poor relationships between senior doctors and their junior staff still exists. This is reflected in the examples volunteered by group two which were generally less serious than those from group one. However unsupportive and rude behavior towards junior staff is still regularly reported. It seems likely that this may be perpetuated in a similar cyclical mechanism to other abusive behavior (41).

The relationship between house surgeon and role model is probably the most significant of these three role model determining relationships early in the house surgery experience. A difficult relationship with a senior clinician personally affects young doctors when they

are most vulnerable. As learners develop skills and confidence, they develop greater awareness and the other two relationships become more important for role model identification. This widening criteria for role model selection over time has been obliquely reported in work by Elzubeir and Rizk. Their study indicated that young doctors value more diverse skills in their role models than medical students do (19). That learners become increasingly discerning about their models may explain why residents seem to have more difficulty identify positive role models than medical students do (32, 38). It seems that supportive role models may reduce some of the role stress for junior doctors, allowing them to focus on emulating a broader range of skills.

Relationship between patients and role model

Most participants discussed communication and the patient doctor relationship when they identified role models. This is possibly because junior doctors have a unique opportunity to observe how patients respond to different kinds of communication. Students and house officers tend to be mute observers of conversations between senior clinicians and patients. They also spend many hours of contact time with patients, carrying out patient care and fielding patient questions. This observation and interaction give junior staff a unique insight into the effect of skilled or inadequate communication. Some participants reported that supervisors did not value their distinctive relationship with patients, and that their insights were discounted or overlooked.

Positive role models who displayed effective communication and patient doctor relationships were greatly admired by participants. In particular, consultants who made time to give thorough explanations, or provide reassurance, were singled out as role models. Participants from group two, who have been more exposed to the principles of a biopsychosocial teaching, were particularly appreciative of this. The importance of the patient doctor relationship is widely reported in literature on role model selection (35). This may indicate the high value that medical learners say they place on compassion and humanism. A good patient doctor relationship may also be used by house surgeons as a proxy term for being clinicians who are ‘good doctors’. Finally, it is possible that these positive role models stand out amidst a background of clinicians who are rushed, and prone to mediocre relationships with patients.

Negative role models who display poor patient doctor relationships are an unfortunate constant for junior staff (46). Half the house officers in a Quebec study believed that their clinical teachers were negative role models for the patient doctor relationship (46, 47). This may represent the influence of a number of systemic, multifactorial pressures acting on role models and their junior staff. For example, subspecialisation has undermined holistic care because the management of patients with comorbidities is increasingly supervised by a number of different specialists (48). This makes it difficult for senior clinicians to have ongoing therapeutic relationships with their patients. Likewise, subspecialisation has been blamed for fragmentation of medical communities and an increasing distance between role models and house surgeons (22). Finally, faculty members may be precluded from modeling exceptional skills in the patient doctor relationship due to competing research demands (48).These elements expose junior staff to harried consultants who are not directly responsible for the holistic care of any

individual patient. This makes it difficult for them to model effective patient doctor relationships. These pressures may also explain why participants from group one described being mentored more than volunteers from group two. Apprenticeship and mentoring may have developed more commonly when traditional generalist clinicians interacted with junior staff and students. Presumably, many of these relationships developed naturally through shared interests and compatible personalities. Modern mentoring programs which try to simulate these bonds seem less successful, and this may explain why mentoring was rarely discussed by group two volunteers.

In this study, negative role models who communicated poorly with patients were discussed by both groups; irrespective of advances in communication training which group two were more likely to have been exposed to. However, only participants of group two described 'fixing' the communication of senior doctors after ward rounds. Completing a second ward round to clarify the communication of consultants is a significant investment of time for a house surgeon. It is heartening to think that junior doctors are taking positive action to address perceived deficiencies; however there are questions about appropriateness and efficacy of this practice. Certainly, doctors should be available to answer patient questions, but it is worrying to think that contemporary house surgeons feel the full weight of this responsibility. Junior staff may lack the experience, knowledge, and insight, to undertake all the intricacies of communicating clinical issues. Learners need to observe excellent consultants display the subtleties of the patient doctor relationship to fully develop their own skills. House surgeons being thrust prematurely into a key communication role – because of the inadequacies of their seniors - is concerning. Perhaps additional patient explanations initiated by house surgeons represent weakening of medicine's traditional hierarchy and the empowerment of junior staff. Alternately, it may be a manifestation of the recent increase in communication training and emphasis on the biospsychosocial model in the preclinical years. Most worryingly, it may reflect a general trend for poor communication by senior staff. Understanding why young doctors seem to be taking on additional responsibility to compensate for the perceived inadequacies of their seniors should be carefully examined in a dedicated study.

Relationship between role model and medicine

House surgeons are at the very beginning of their working life in medicine. It is logical that they would look to more senior clinicians to model workable approaches to a relationship with the profession (13). Young doctors want to reassurance that medicine is challenging, manageable, and satisfying. These needs are probably greatest in the midst of the high stress PGY1 year when house surgeons are vulnerable to doubts about their clinical abilities and career choices. Participants from both groups identified positive role models who were enthusiastic about medicine. However, current house surgeons in group two extrapolated this theme; they described senior clinicians who had maintained outside interests and demonstrated a work life balance. This probably represents a wider generational shift towards career flexibility (17).

Negative role models who had become cynical, disillusioned, weary, or bored with medicine were also identified. These included senior clinicians, and junior doctors who

were unsatisfied with their career choice. A poor relationship with medicine is thought to be an area of considerable unconscious influence of role models. This may contribute to the well documented decrease in idealism during student and early clinical years (13, 49). Reduced idealism is very much at odds with the characteristics learners profess to admire in their role models. This dichotomy may indicate the immense power of role modeling, especially if it is unconscious and unexamined.

As well as observing the enthusiasm and satisfaction senior clinicians feel for medicine per se, house surgeons are deeply interested in the issue of specialty selection. The influence of role models on specialty selection has been well researched as various colleges and fellowships investigate how to boost flagging applicant numbers (14, 32, 50, 51). It seems that the influence of colleagues occurs on two levels; active conscious influence, and more subtle insidious influence. These two processes were identified during interviews with participants from both groups. Volunteers were conscious of the explicit, personal advice which they had received from mentors, or active role models. They also identified clinicians whose behavior and attitudes had made their specialty unappealing. Some also referred to the subtle influence of casual comments or remarks they had overheard during training. This 'badmouthing' of specialties, by potential role models, is exceptionally common in medical school and can seriously undermine learner's confidence in their career choices (13, 52). A yet more subtle influence occurs when students and house surgeons choose runs based on which consultants are 'nice to work with'. Biased run selection can limit exposure to an entire field based on negative behavior by a single senior clinician. This may help explain why negative role models are more influential in dissuading from specialty choice, than positive role models are at encouraging recruitment (15). Specialty selection is a complex, multifactorial issue compounded by implicit influences. The number and constancy of subliminal messages about a given specialty – especially the surgical specialties - could be expected to have a significant influence on house surgeons. Analysis of these interviews indicates that this continues to be the case for modern house surgeons.

Consciousness

The profession's drive to understand role modeling is fundamentally driven by a desire to produce talented, effective physicians. Examining the characteristics of people junior doctors look up to is an important beginning. However, there is a significant misalignment between the qualities learners profess to admire, and the characteristics they ultimately develop. Research reliably indicates that students and young doctors become progressively less compassionate, idealistic, humanistic and empathetic during their training (9, 13, 45, 53, 54). Personal accounts of early clinical years provide vivid anecdotal insight into this process (55, 56). Changes in the values and attitudes of students and new doctors are undoubtedly multifactorial (9); Conrad elucidates the factors contributing to decline of idealism "the medical student's life of long hours, sleep deprivation, excessive responsibility, and dealing with unreflective and arrogant superiors inhibits the growth of compassion and empathy" (57). In particular, interacting with negative role models has been linked to attitude change in one paper (45). Junior doctors seem largely unaware of these influences; they consistently describe aspiring to

professional ideals of compassion, idealism and humanism; yet research indicates that they consistently develop the inverse of these traits during socialization. It is possible that if junior staff were conscious of this dichotomy they would be better equipped to deal the myriad of negative influences which shunt them away from their stated ideal.

It makes sense that students and house surgeons who can analyze the behavior of role models are most likely to benefit from their interactions. Being conscious of role modeling allows medical learners to selectively integrate multiple models, and facilitates reflection. This process reduces the impact of negative role models, and strengthens the influence of positive models. In the absence of understanding and appreciation of role modeling, young doctors passively absorb a multitude of mixed messages about medicine, patients, communication, and professional values (11, 58-60).

These interviews were designed to try and establish how aware house surgeons are of the role modeling and socialization they experience on a daily basis. This involved asking explicitly about awareness, informal reflection, discussion with peers and formal reflective opportunities. A spectrum of role model consciousness was revealed. All participants could recall encounters which they considered to be role modeling. Most said that they had been aware the interaction was 'good' or 'bad' as the event occurred. In positive examples, this often meant that they heard a specific phrase or description which seemed valuable and wanted to remember. Positive role modeling during difficult or traumatic cases was also especially memorable. Conversely, participants described being frustrated or horrified as senior clinicians demonstrated inappropriate behavior. It seems that house surgeons are generally aware that the positive, and negative, interactions which they experience on the wards could be described as role modeling.

Some volunteers displayed deeper insight and went on to discuss role modeling as an active process, occurring simultaneously with multiple models. A few identified that most of their colleagues had been influential in forming their professional style and identity. Awareness of multiple models was more apparent in group two; this was reflected in their tendency to be vague when identifying or describing single individuals as role models. This may reflect a genuine awareness by current house surgeons that they have been influenced by a range of different interactions. It may suggest a move away from the traditional, heroic, notions of good role models. It is also possible that this 'awareness' actually represents a genuine struggle for current house surgeons to identify and articulate their experiences with role models. In essence, house surgeons from group two described their modeling experiences in a more complex way which is more congruent with socialization literature. It is unclear whether this congruence really is awareness or whether their inexperience and uncertainty produces responses which coincidentally mirror theories of role modeling. The explanation is probably different for different individuals, explaining the wide variation of insight displayed by participants.

Personal reflection on role models and professional socialization was generally limited. Many participants only described thinking over especially memorable or difficult experiences. Some of the current house surgeons from group two referred to formal team debriefings after traumatic cases; they valued these forays into a formal reflective

process. A few participants described mulling over the events of their day. Most indicated that these thoughts were an effort to check that everything had been done, and elements of clinical care had not been overlooked. A small number of participants extended this rumination to include thinking about things that they wanted to improve, or incidents that they had observed. However, volunteers generally indicated that surviving the house surgery experience was a much higher priority than thinking about role models. Time and subsequent general practice training seemed to have increased the reflective abilities of participants from group one.

Self reported discussions between house surgeons were also heavily influenced by the time and role demands of house surgery. Conversations were generally focused on sharing practical information, or tips about a working with given consultant. This may include some rudimentary analysis on the relationship between house surgeon and role model. Discussions with peers also serve as an important informal debrief after difficult experiences. Many of these challenges are stressful clinical scenarios, but may also include interactions with senior staff. Discussing negative role models is generally more emotive than analytical; although recounting a story about what happened on the wards does force learners to identify and articulate their experiences. These stories about senior clinicians who are disliked generally occur outside the hospital, in bars and social settings. One volunteer explicitly identified that these conversations allow house surgeons to compare their experiences and ensure they are not 'making a fuss over nothing'. Participants also reported retelling these negative incidents to domestic partners after a difficult day. However, once again, the primary focus was to describe, not understand, things that had happened. Participants from both groups consistently alluded to the time pressure and clinical demands which superseded discussion of role modeling. In place of constructive, reflective analysis it seems that past and present house surgeons rely on informal storytelling to peers and friends as a way of coping with the stresses of their role. This should be an area of consideration, and possible concern, in terms of the wellbeing of junior doctors.

Inter group analysis

Decades of difference in age and experience were evident between the two groups, but not overwhelming. The fundamental fears of house surgeons are clinical, and transcend generations. Participants from group one were distinguished by their greater life experience; they referred to overseas examples, personal research interests, empathy with consultants, and were generally more opinionated. This group also expressed a general view that the house surgery experience has changed and is now less traumatic. There was little evidence that this was the case. A significant area of distinction was the willingness of group one to explain, justify, or excuse, the behavior of negative role models. This was an unexpected outcome with a number of potential explanations. One previous study has suggested that students become less critical of faculty as they gain experience (47). Perhaps participants in group one had continued this process throughout their career. Alternately, their progression through the medical hierarchy may have provided insight into the pressures experienced by their role models. This 'insight' may be compounded by an alarming normalization of poor behavior as house surgeons progress through medicine. Some volunteers identified that their general practice training had emphasized

reflective skills; it is possible that their reflective development enhanced their empathy with role models. Maturity and medical experience probably also influenced the recall of the general practitioners. These elements may explain why current house surgeons in group two made little comment about the context of negative role modeling.

Volunteers from group two seemed somewhat muted in comparison to group one; their interviews were considerably shorter and they were understandably more self absorbed by their own experiences. This reflects a natural parallel with child development, as neophytes move from an egocentric focus to an appreciation of self, and others, as participants of a greater whole (61). There were a small number of participants from group two who were clear exceptions to this generalization. Participants who had had other careers before medicine, and those who had been involved in student medico political activities, displayed a wider perspective in their interviews. A self-centered focus may explain the difficulty in recruiting current house surgeons to participate in this research; despite emails, posters and phone calls, finding willing volunteers was challenging. House surgeons are immensely busy, but general practitioners in group one also have challenging schedules. The difference in willingness to be interviewed could be attributed to an egocentric focus from current house surgeons, or confidentiality concerns about discussing their current supervisors. Group two were more likely to want to 'fix' inadequate communication by their supervisors and were more focused on models with an effective work life balance. Participants from group two also indirectly displayed a greater awareness of the socialization process; they stressed that they had multiple models who they emulated to create their own personal style. It is unclear whether this indicates a genuine awareness or simply an inability to be definitive about the people and qualities that they admire.

Conclusion

This study adds to our understanding of role modeling for house surgeons in the New Zealand health system. It demonstrates the importance of providing multiple models who excel clinically, and in the three relationship domains that house surgeons use to identify role models. Supportive colleagues, who have excellent relationship with their patients, were greatly admired by house surgeons from both groups. Doctors who displayed poor relationships with their junior staff and patients were a source of anger and frustration for participants. Some volunteers from group two initiated attempts to rectify inadequate communication with patients. This is an area which requires further careful examination to ensure that communication about clinical issues is adequate. Participants from group one had developed a greater appreciation for the underlying causes of unprofessional behavior by negative role models during the years between house surgery and these interviews. Awareness, understanding and reflection on role models were variable in both groups. Participants from group one could frame their analysis of role models in the context of subsequent experience and were quite definitive in their descriptions. Participants from group two had a greater awareness of multiple models and subtle influences but were less able to contextualize these experiences. Overall there was a low level of awareness about role modeling.

Methodological weaknesses stem from recall bias, potential gender selection bias in group two, geographic bias, and the single specialty represented in group one. It is possible that doctors who entered other specialties would have identified different traits in their role models during house surgery (46). It is also possible that women identify slightly different characteristics for their role models, and that these are over represented. Similarly, group one were reporting house surgery experiences from hospitals all over New Zealand, in comparison to group two who could only describe their time at Dunedin Public Hospital. It is possible that role modeling may occur differently in small rural centers than in a tertiary teaching hospital. However, qualitative analysis revealed consistent key themes, and correlates well with other research in role modeling.

A recent paper from the New Zealand Medical Journal calls for district health boards to take increased responsibility for providing mentorship for resident doctors (62). A mentoring program for house surgeons begins at Dunedin Public Hospital in 2006. This increasing awareness and support of mentoring is to be applauded. It would be especially admirable if junior doctors formed meaningful relationships with senior clinicians who were engaging, supportive, and reflective. However, even the most talented of mentors can not hope to single handedly outweigh the incidental influence of other clinicians. A better teaching climate for junior staff requires attention to both mentoring and to role modeling. If students and junior staff could have a greater understanding of socialization, role modeling, and mentoring then they would be more equipped to analyze, and benefit, from the interactions they have with professional colleagues (13, 63). Clearly this increased awareness needs to be parallel in senior clinicians. All members of clinical teams need to view themselves as role models, and appreciate the impact and influence they have on young doctors. Excellence in teaching, role modeling, and mentoring must

be rewarded alongside research and clinical excellence as criteria for recruitment and promotion. Placing explicit value on these skills can only make senior staff more cognizant of acting as role models. The values, skills, attitudes, and behaviors which role models imbue in learners are some of the most important elements of clinical training. Although this is increasingly recognized by medical councils and educators, it is not yet common knowledge in wards where role modeling occurs. Addressing this lack of awareness should be a primary consideration in order to improve the teaching, socialization, and professional development of junior staff in New Zealand hospitals.

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