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Displays of authority in the clinical consultation: A linguistic ethnographic study of the electronic patient record

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ABSTRACT

The introduction of computers into general practice settings has profoundly changed the dynamics of the clinical consultation. Previous research exploring the impact of the computer (in what has been termed the 'triadic' consultation) has shown that computer use and communication between doctor and patient are intricately coordinated and inseparable. Swinglehurst et al. have recently been critical of the ongoing tendency within health communication research to focus on 'the computer' as a relatively simple 'black box', or as a material presence in the consultation. By re-focussing on the electronic patient record (EPR) and conceptualising this as a complex collection of silent but consequential voices, they have opened up new and more nuanced possibilities for analysis. This orientation makes visible a tension between the immediate contingencies of the interaction as it unfolds moment-by-moment and the more standardised, institutional demands which are embedded in the EPR ('dilemma of attention'). In this paper I extend this work, presenting an in-depth examination of how participants in the consultation *manage* this tension. I used linguistic ethnographic methods to study 54 video recorded consultations from a dataset collected between 2007 and 2008 in two UK general practices, combining microanalysis of the consultation with ethnographic attention to the wider organisational and institutional context. My analysis draws on the theoretical work of Erving Goffman and Mikhail Bakhtin, incorporating attention to the 'here and now' of the interaction as well as an appreciation of the 'distributed' nature of the EPR, its role in hosting and circulating new voices, and in mediating participants' talk and social practices. It reveals – in apparently fleeting moments of negotiation and contestation – the extent to which the EPR shapes the dynamic construction, display and circulation of authority in the contemporary consultation.
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1. Introduction

The introduction of computers into general practice has changed the dynamics of the clinical consultation, particularly through the widespread adoption of the electronic patient record (EPR) to support patient care. General practitioners spend about 40% of the consultation interacting with the computer (Kumarapeli and de Lusignan, 2013).

Like its predecessor, the paper medical record, the EPR is a place where patients' medical notes are recorded. Previous research has shown that paper medical records mediate social relationships and play an active, constitutive role in medical work, shaping consultations, organising and transforming professional conduct to some extent (Berg, 1996; Heath, 1982, 1984; Robinson, 1998). However there are important differences between paper and electronic records which may point to EPRs having greater potential to shape and transform. For example in EPRs diagnoses, procedures and results can be assigned unique codes which make them searchable for audit purposes; electronic templates (or forms) are used to structure the chronic disease consultation, offering limited fields for completion; reminders and prompts urge clinicians to take specific action at specific times; inbuilt calculators estimate medicines usage and disease risk. The EPR supports not only the management of individual patients (the 'primary use' of data) but also produces aggregated data on organisational performance, costs and other metrics ('secondary use') (Berg, 2001).

Researchers have coined the term 'triadic' consultation to capture the notion of the computer as an influential 'third party' in the consulting room (Booth et al., 2002; Chan et al., 2008; Margalit et al., 2006; Pearce, 2007; Pearce et al., 2009; Scott and Purves, 1996; Ventres et al., 2006). Most empirical studies which claim to investigate the impact of the computer on the consultation do so from a perspective that *separates out* the computer from the communication arising between clinician and patient. This is despite evidence from the early 1990s (when computer use was gathering momentum in UK general practice) that computer use

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and communicative conduct between doctor and patient are intricately coordinated (Greatbatch, 1992; Greatbatch et al., 1995, 1993). Greatbatch et al. challenged the assumptions underpinning much previous work in the field of human–computer interaction by showing that *apparently* 'single user' activities around a computer are often – on closer scrutiny – collaborative activities requiring an appreciation of the computer as being *embedded* within work practices (Greatbatch, 1992; Greatbatch et al., 1993). Recent research confirms the value of appreciating the EPR as *integral to* the practice of consulting, showing the extent to which it shapes, and is shaped by these practices (Pearce et al., 2012; Rhodes et al., 2008; Swinglehurst et al., 2012, 2011; Swinglehurst and Roberts, 2014).

With notable exceptions (Kumarapeli and de Lusignan, 2013; Pearce, 2007; Pearce et al., 2012, 2009, 2008; Rhodes et al., 2006) most research to date has focused on 'the computer' as a relatively simple 'black box', or as a material presence in the consultation. For the purposes of this paper, I use the term electronic patient record (EPR) to refer to the clinician's desktop computer (including monitor, mouse and keyboard for example) and the display of clinical information that is visible on the monitor. This brings together both the material dimension of the EPR, which holds consequences for the interaction as an embodied practice *and* the textual dimension of the EPR.

One enduring characteristic of the medical consultation which has fascinated social theorists, medical sociologists and analysts of health communication is how authority 'plays out' between clinician and patient. Authority has been defined as the legitimate exercise of power in an asymmetrical relationship, by those 'in authority' over those who are subjects of authority, either by virtue of specialised knowledge or by holding a particular political or social position (Anon, 2011). Early research on the asymmetrical nature of the clinical consultation tended to assume this asymmetry resulted from pre-existing institutional 'structures', *brought to* the consultation and leading to the subordination of the patient's perspective to the professional perspective (Freidson, 1970). Examples of such institutional structures might include a doctor's mandatory qualifications, professional registration and gatekeeping privileges. More recent research has shown that this asymmetry is not simply a *given* or a product of the clinician's abstract power but is *brought about* within the consultation and achieved interactionally to a greater or lesser extent (Ariss, 2009; Hak, 1994; Heritage, 2005; Maynard, 1991; ten Have, 1991). For example, a study of consultations involving 'frequently attending' patients has shown how doctors and patients display normative entitlements to knowledge (epistemic authority) which relate to their identities as 'patient' or 'doctor' (Ariss, 2009). These entitlements tend to be maintained, although participants can – and sometimes do – achieve more equal claims to authority through collaborative interactional strategies (Ariss, 2009).

In this paper I adopt a perspective that authority is both *brought to* the interaction (through institutionalised practices) and also *brought about* in the interaction (in its moment-by-moment unfolding between social actors) There exists a recursive relationship between the two, and it is in the ongoing productive relationship between the two that what is recognisable as legitimate authority may be shaped or redefined over time. Attention to the micro-detail of the interaction provides insights into how and to what extent authority is accomplished and reproduced.

Early interest in (and criticism of) the authoritarian 'paternalistic' nature of the medical consultation (Mishler, 1984) has shifted more recently towards an emphasis on concepts such as patient-centeredness, patient 'choice' and 'empowerment', shared decision-making, patient participation, the 'expert patient' and the 'activated, self-managing patient' (Collins et al., 2005; Edwards and Elwyn, 2009; Entwistle et al., 2004; Greene and Hibbard, 2011; Stewart, 2001; Towle et al., 2006). Arguably these descriptors do not represent well-defined social phenomena or theoretically coherent constructs. Rather they signify a shift in the underpinning ideology of health care away from one which assumes the unquestioned authority of the clinician towards one which espouses greater involvement of the patient.

The increasing use of the EPR in primary care – both in terms of geographical coverage (almost universal in the UK) and technical capability (what the EPR is used *for*) – has evolved in parallel with these developments and has largely been informed by a range of different (and potentially competing) ideologies. These include the evidence based medicine movement, clinical governance, rising managerialism and a general move towards valuing standardisation and eliminating what are perceived to be undesirable variations in care. Although there is enthusiastic optimism for the potential of EPRs to foster doctor–patient collaboration and patient activation within the consultation, there is as yet little evidence to support this (Saleem et al., 2013; White and Danis, 2013).

Authority, asymmetry and power are not inherently 'bad' things (Blommaert, 2005; Schei, 2006). Indeed some commentators argue that an undue emphasis on the 'autonomous' patient can lead to a situation of harmful indifference (Mol, 2008; Schei, 2006), suggesting that the structural and symbolic power wielded by doctors is legitimate, socially conferred and indispensible for help and healing to occur (Schei, 2006). However, the exercise of authority involves responsible moral work, and how authority is established in the consultation provides an interesting lens through which to examine the contribution of the EPR to contemporary consulting practices.

One researcher who recently explored this by analysing video-recorded consultations concluded that the computer demonstrates agency, vying for recognition as a source of authority in its own right, with a flexible set of alliances evolving among the three 'players' (actants) in the consultation, and authority shifting amongst them in "ever revolving circles" (Pearce, 2007; Pearce et al., 2008). In one of the few studies that has engaged with the EPR as text, Pearce has drawn attention to the way in which the EPR articulates several influences in the consultation (e.g. those of system designer, government agencies and commercial entities), concluding that the more active the mode of presence, the more patients and doctors have to adapt their communicative styles to accommodate it (Pearce et al., 2012). Pearce has identified a need for further research to examine in more detail how authority is created dynamically in the consultation (Pearce, 2007), and also highlights the potential value of combining screen capture with analysis of micro-interaction (Pearce et al., 2012). This paper develops and extends this work by using a novel methodological and conceptual approach (Swinglehurst, 2011; Swinglehurst et al., 2011) to illuminate how authority is constructed in the consultation, conceptualising the computer not as 'agent' or 'partner' in its own right (Pearce, 2007) but as a collection of multiple significant and consequential 'voices' – stratified, ordered and meaningful within a specific social, professional and institutional context. This orientation shifts the enquiry away from a sole focus on which party in the consultation is the source of authority, or where authority resides at any point in time and allows us to extend our analysis to the *practice* of authority building – the *doing* of authority within the consultation and its relationship with wider social and institutional contexts.

2. Methods and methodology

The study was part of the Healthcare Electronic Records in Organisations (HERO) study, funded by the UK Medical Research Council under a 'new methodologies' call. The research was granted

NHS ethical approval by Thames Valley Multi-centre Research Ethics Committee (06/MRE12/81) and subsequent amendments. The methods have been described elsewhere (Swinglehurst et al., 2011) and are summarised here.

DS (a general practitioner) conducted 8 months (187 h) of ethnographic observation in two UK urban general practices, observing clinical and administrative areas. Both practices used the EMIS-LV clinical system (the most widely used system in the UK at the time of the study, 2008–2011). The practices were bigger than average, with 11,800 and 12,600 registered patients. Observations and detailed recording of field notes began in administrative and reception areas of the practices, shadowing individuals as they worked. DS then observed clinical consultations directly. Fifty-four consultations were then video-recorded using a discretely placed digital camcorder (without ethnographer presence), with parallel screen capture of the computer display (using a commercially available screen capture tool which ran from a USB stick). The two video streams were merged and synchronised using video editing software, opening up the 'EPR-in-use' to analysis. The data presented here is drawn from the corpus of video data, the analysis of which was informed by the ethnographic work. This linguistic ethnographic approach brings together the study of language – in this case detailed microanalysis of the interaction – with ethnographic appreciation of the wider institutional context (Rampton et al., 2004). Videos were viewed multiple times. Twenty were selected to represent a variety of consultation styles (including different styles of engagement with the EPR), consultation types (e.g. new problems, follow up consultations, chronic disease reviews) and different clinicians. Of these, twelve were transcribed in full, using standard Jefferson conventions for the spoken word, as in conversation analysis (Atkinson and Heritage, 1984) extended to incorporate direction of gaze (→ or ↔), bodily conduct and notes on the EPR, with different modes presented in adjacent columns, using time as an anchor (Jewitt, 2006) (see Appendix A). Selected sequences of further consultations were transcribed to enable analysis of emerging themes in more detail. Analysis paid attention to the *material* features of the EPR (e.g. screen, keyboard) and the *textual* features (e.g. displayed information, template fields, and alerts).

Analysis was sensitised by a conceptual framework informed by a theoretical interest in Goffman's 'interaction order' (Goffman, 1983) and the work of linguistic philosopher Bakhtin/Vološinov (Bakhtin, 1981, 1986; Vološinov, 1973). Most relevant to this paper is Goffman's notion of involvement/engagement: "to be engaged in an occasioned activity means to sustain some kind of cognitive and affective engrossment in it, some mobilisation of one's psychobiological resources; in short it means to be *involved* in it" (Goffman, 1966). In the consultation clinician and patient actively *display* involvement and also actively evaluate the involvement of the other party, with consequences for how the consultation unfolds. Goodwin extended this work, studying the importance of gaze and bodily conduct in establishing and dissolving 'engagement frameworks' and arguing for the importance of the role of the 'hearer' in the interaction (Goodwin, 1981, 2007). It is now recognised that it is at least in part the contingencies of *how* EPRs are used that consultations assume their character; direction of gaze and bodily orientation are particularly influential in EPR-mediated consultations (Rhodes et al., 2006). Also relevant to the analysis presented in this paper are Goffman's related notions of 'footing' and 'facework'. Footing refers to the way roles and relationships of participants can change during interaction, as participants change their alignment (or stance or projected self) towards each other (Goffman, 1981). 'Face' is "a person's immediate claims about 'who s/he is' in an interaction" and 'facework' is that work which interactants do in order to maintain a consistent image of self, whilst also actively seeking to save the face of other participants in the interaction (Heritage, 2001). The maintenance of face is therefore an inherently social, cooperative and moral affair, involving each party in a careful balancing act of attention to the current circumstances, with an eye to the social world beyond the immediate encounter.

Bakhtin/Vološinov identified language as *dialogic*, meaning that spoken utterances and written texts be understood in terms of how they respond to and anticipate other utterances or texts i.e. the word is a "two-sided act … the product of the reciprocal relationship between speaker and listener" (page 86) (Vološinov, 1973). Arguing that language is always evaluative and always a site of social struggle, 'voice' is conceptualised as "speaking consciousness", the enactment of particular values and viewpoints, as speakers populate words "with their own intentions, their own accent … they appropriate the word, adapting it to their own semantic and expressive intention" (page 293–4)(Bakhtin, 1981). In what was a radical departure from the dominant Saussurean structuralist assumptions regarding language use prevalent in the early 20th Century, Bakhtin/Vološinov argued that meaning only becomes possible at the point at which speaker and listener (or writer and reader) connect, irreducible to either one or the other, and crucially dependant on the immediate social context (Bakhtin, 1981). The fundamental question for Bakhtin/Vološinov is "Who is doing the talking?" since each time language is used the voices of others are invoked. The production of meaning is contested, constructed through chains of representation as voices become transformed through the 'evaluative accent' afforded to words (Vološinov, 1973). Bakhtin points to the dynamic struggle between what he calls 'authoritative' and 'internally persuasive' discourse, or the degree to which one voice has the authority to come into contact with, and interanimate another (Wertsch, 2001). Centripetal forces produce authoritative, fixed, inflexible discourses (e.g. of scientific 'truth') and these are in tension with centrifugal forces which result in 'inwardly persuasive discourse' which remains open, provisional and flexible (Maybin, 2001). For Bakhtin, the realisation of power relates to the extent that an actor can "temporarily arrest the multivocality of meaning within discourse" (Steinberg, 1998) privileging certain meanings whilst suppressing alternatives.

The EPR brings new social demands to the consultation – new material constraints and possibilities, new voices, new chains of representation and a new social context within which interaction is built and sustained. Goffman's work alerts us to the struggle entailed in making 'on-the-spot' evaluations about the allocation of involvement in the 'here and now' as the consultation evolves. Bakhtinian theory draws our attention to a related struggle – the dynamic, dialectic struggle to produce meaning from a range of contradictory possibilities, or what Steinberg calls "a process of joint ideological labor" (Steinberg, 1998). This extends the analysis by allowing a more sophisticated appreciation of the 'distributed' nature of the EPR and its role in bringing voices from 'out there' into the interaction.

3. Findings

In this section I present four short case studies of the EPR-in-use, selected as 'telling cases' (Mitchell, 1984) to show how the EPR contributes to shaping interactions and to constructing displays of authority in the consultation. The emphasis here is on depth of analysis and on what each case illustrates about the nature of the EPR's contribution to contemporary consulting practices, through an appreciation of what Stakes has called "its particularity and its ordinariness" (Stake, 2005). For each case I will present some brief context as orientation, a multimodal transcript of a selected data extract and a detailed analysis. I will bring together the analytic themes emerging from the cases studies in the discussion.

3.1. Case 1. Looking to the EPR for the 'answer'

The first transcript (Fig. 1) is taken from the opening of a consultation between a female general practitioner (GP) and a female patient. The GP sits with her knees under her desk, facing the EPR. She consults over the corner of her desk, the patient to her right, rotating her head towards her to make eye contact. The EPR screen is slightly rotated, visible to the patient if she looks to her right.

This transcript (Fig. 1) illustrates a phenomenon (at 1.16) which was common in the data set. The GP turns to the EPR to seek the 'answer' to a question of the patient's past (and therefore possibly recorded) medical history before her question is fully formulated. The sequence opens with the patient describing her "*problems*", using the medical category "*urine infection*" rather than a more symptom focused description. The doctor displays attentive hearership (Goodwin, 1981) by using back channel cues (e.g. "*right*" at 1:05 and two episodes of nodding at pauses) which encourage the patient to continue talking. The doctor's head is turned towards the patient, her folded arms appearing to place a symbolic barrier between herself and the EPR. Doctor and patient display mutual involvement (Goffman, 1966) looking at each other while the patient explains her trouble.

At 1:16 there is a change in footing (Goffman, 1981). The doctor interrupts the patient mid-sentence, quickly turning her gaze towards the EPR screen. This is accompanied by an elaborate circular hand gesture as she brings her right hand to the computer keyboard, asking: "*have you had them when you've brought in:: (.) samples and they've been positive*." This utterance does complex interactional work. Its immediate effect is that it closes down the patient's talk before she has completed her explanation, allowing the doctor to take the interactional floor (Edelsky, 1981). It is rather face-threatening, in that it seeks to bring a more precise definition to the term "urine infection" – one requiring positive test results from urine samples (a biomedical definition). Her emphasis on "samples" and "positive" gives the talk its evaluative accent (Vološinov, 1973) – a urine infection is 'proven' when there is such a result. It also marks it as professional talk; she is orienting not only to the immediate active responsive understanding but to what Bakhtin calls a 'superaddressee' (Bakhtin, 1986), in this case biomedical science. The doctor's swift orientation to the screen just as she seeks to establish the 'facts' of the case not only aligns the EPR with the biomedical account (thus privileging the biomedical) but also contributes to constructing this account as more likely to be authoritative than that of the patient.

The patient responds affirmatively at 1:19 but the doctor continues navigating down the "*Values and Results*" screen. The patient keeps gazing at the doctor who asks "*so when was the last*". Given that the doctor is already focused on the account in the EPR (where results might be recorded) it is perhaps unsurprising that at 1:25, after a two second pause (during which the doctor is making keystrokes), the patient says that she "*can't remember*". She then physically realigns herself, joining the doctor in gazing at the EPR, where a single positive result was recorded five months earlier. We

Time	D P	Words spoken /sounds	Bodily conduct	EPR Screen
1.00	P	I've uhm (1.6) I've been having problems with urine infections	P < - > D; D arms folded on desk	Consultation screen. QOF alert showing in bottom R corner: Smoking Data (displays throughout consultation)
		(0.4)	D nods	
1.05	D	°°right°°		
		(0.8)		
1.06	P	and uhm (0.8) its:: almost constant now	P < - > D	
		(1.4)	D nods	
1.12	P	it was just >y'know< I had one and uhm [tak-	P gestures with hand to emphasise "had" ; P <-> D	
1.16	D	[have you had them when you've brought in:: (.) [samples [(C) and they've been positive	D turns head quickly to EPR and draws circle with R hand as brings it towards computer keyboard; P - > D	Navigates to "Values and Results" screen
		(0.6)		
1.19	P	yes	P - > D	Values and Results – no urine results shown (back to 4 months earlier)
		(0.6)		
1.20	D	right (0.4) so when was the last (0.4)	D - > EPR, R hand poised on keyboard	
1.23	P	uhm		
		(2.0)	D keystrokes	D navigates down list of results
1.25	P	the last sample I can't remember	D glances towards P briefly D - > EPR	
1.27		(2.0)	D and P - > EPR	D navigates down list of results. Results of urine culture >10^5 / ml of coliform dated approx 5 months earlier. No other urine results. Results shown to 3 years earlier.

Fig. 1. Looking to the EPR for the answer.

do not know whether the patient could or could not *actually* remember the timing of the sample. More significant is the way in which the EPR gradually becomes constructed as a more authoritative source of relevant knowledge. It occurs over a series of turns, initiated first by the doctor (1.16) but culminating in both doctor and patient looking at the EPR (1.27) – the 'temporary arresting of the multivocality of meaning' (Steinberg, 1998) when 'problems with urine infections' (1.00) become preferentially constructed in terms of documented laboratory results.

The recursive relationship between the doctor and the EPR is at work here, the EPR shaping the doctor's actions and the doctor in turn shaping the EPR's contribution. Doctor and patient do not have equal access to the EPR, and although we see the EPR is constructed as authoritative, this is within an institutional context where the *doctor* decides how to manage the interaction between herself, the patient and the EPR. An example is the quick orientation towards the EPR at 1.16 which, combined with an interruption, curtails the patient's narrative in favour of a search for evidence of 'positive samples'. It is in the recursive relationship between the doctor and the EPR – and how the patient responds to this – that institutional authority and asymmetry is constituted. It is particularly difficult for the doctor to maintain full involvement with the patient (Goffman, 1966) when integrating the EPR requires physical realignment towards the screen.

3.2. Case 2. Maintaining engagement through interactional work

The next case study (Fig. 2) shows a doctor constructing authority very differently. The patient has recently registered with the surgery and is meeting the GP for the first time. She has been having daily headaches for over two years. The transcript begins after the patient has spent about 1.5 min presenting a narrative about her headaches, during which the GP asks for one brief point of clarification. In this 12.5 min consultation, the GP rarely looks at the EPR. He consults across the corner of his desk. Although the patient can see the screen by turning to her left, it is unlikely that she can read its details.

At 3:47 the GP refers back to the narrative that the patient has just shared, ("*you tell me…*") displaying a 'hearing' of the story (Goodwin, 1981). His body and gaze are towards the patient, his hands together on his lap. In contrast to the previous example (Fig. 1), the doctor gives the patient time to construct her answer to his question about her medical history. She hesitates as she begins and there are three long pauses, one of which lasts 2.5 s, but the doctor continues to demonstrate involvement (Goffman, 1966) as the patient formulates her response, by maintaining his gaze and nodding appropriately. Only when she finally concedes "*I don't know*" does the doctor then turn towards the EPR, at the same time saying "*can I just check on here just see what you're taking*". This rhetorical question performs politeness, conveying a sense that it would be inappropriate to turn away from the patient (and risk dissolving the engagement framework) (Goodwin, 1981) without some justification. The insertion (twice) of the word "just" performs some mitigation work; it minimises the significance of the "checking" and "seeing", normalising these actions and rendering them relatively unimportant (Lee, 1987). As he says this he orients his chair and body towards the EPR, and puts his left elbow onto the desk, resting his chin in his hand, a move which is immediately mirrored by the patient who also turns to look in the direction of the EPR, elbow to desk. This mirroring activity has been previously described in EPR-mediated consultations (Rhodes et al., 2008).

The way this GP interacts with the patient and the EPR in this sequence contrasts not only with the previous example, but with many other examples in the data set. In particular the doctor begins by constructing the patient as more likely (than the EPR) to offer an authoritative account of her own past medical history. He does this through: building on the patient's narrative (rather than interrupting it); giving the patient plenty of time to respond; waiting until after the patient has expressed her own uncertainty before turning to the EPR; and using politeness/mitigating strategies at the point of incorporating the EPR. By orienting first to the patient as a reliable authority on her past history, maintaining involvement, and keeping open the multivocality of meaning, the authority which is ultimately conferred on the EPR *emerges from* their joint

Time	N/P	Words spoken /sounds	Bodily conduct	EPR Screen
3.47	D	Now you tell me you're taking amitriptyline how long have you been taking amitriptyline for	D < - > P; D's hands together on his lap	Consultation screen
		(0.4)		
3.50	P	U::hm (2.5) °U::::hm° °my old doctor at my other surgery put me on them ° (0.8) probably at the beginning of the year (0.8) I don't know	D < - > P P looks up; D - > P D nods ->P, P still looking up	
4.00	D	[can I just check on here	D turns and leans towards EPR, bringing R hand forward onto keyboard. Inaudible keystroke on "here"	Navigate to prescription screen "no prescriptions for [name]"
4.00	P	[its gone so quickly this year		
4.02	D	just see what you're taking	D pulls chair towards desk / EPR, brings L elbow onto desk and supports his chin; P also puts L elbow on desk, rotates towards screen	Navigates to "past drugs" Two prescriptions for amitriptyline 10 mg tablets (3 months and 5 months earlier)
		(0.4)	Keystroke. D - > EPR; P - > EPR, both resting head in hand	

Fig. 2. Maintaining patient engagement.

dialectical struggle to search for meaning rather than *contributing* to this struggle.

3.3. Case 3. "My computer's asked me…" New authorities and the 'dilemma of attention'

This example revisits the consultation introduced in Fig. 1. The consultation continued with relatively little reference to the EPR as the patient explained her symptoms and the doctor suggested a possible explanation of the problem. In the transcript in Fig. 3, the doctor goes on to attend to an institutional requirement, responding to a prompt ('QOF alert') displayed in the corner of the computer screen throughout the consultation. QOF (Quality and Outcomes Framework) is an incentive scheme which rewards practices financially for demonstrating nationally approved quality standards, comprising about 30% of practice remuneration. Outstanding items identified as missing from background searches of the patient database (in this case 'recent smoking data') may or may not be immediately relevant to the current consultation (in this case it is not) but deliver an institutional voice into the 'here and now'.

At 14:32 the doctor changes footing (Goffman, 1981), looks at the screen and points to it, saying, in an ironical face-saving move "*now my computer's asked me whether you smoke*". The patient looks towards the EPR and hesitates. Through the design of this question the doctor gives the computer a voice, attributing agency to the EPR, and introducing what Clayman calls 'attributional distance' (Clayman, 1992) between herself and the delicate question she asks. This 'agency' of the EPR is partial, arising in this instance from the immediate social context of its use (Swinglehurst et al., 2011). An appreciation of the ethnographic context is useful in the microanalysis. The doctor is required to identify all patients aged over fifteen as either 'smokers' or 'non smokers' for QOF, although (as this transcript shows) even this apparently simple act of categorisation can be complicated in practice. The EPR contributes in this moment to constructing authority at several levels. It influences the doctor's behaviour; it defines what important 'knowledge' about patients is; it reproduces particular definitions of 'quality' in practice – gathering 'routine' data about smoking for QOF is an example. In pre-EPR days the medical record was (among other things) a source of information about what was known (and documented) about the patient – the 'patient inscribed' (Robinson, 1998). Here it is not what is known but what is *not known (and ought to be known)* which comes to the foreground. The doctor's professional authority is at issue, her own practices coming under scrutiny alongside those of the patient.

The doctor goes on at 15:29 to say "*so* (0.2) *y'know obviously* °< *as your doctor* > *I have to advise you that you shouldn't*°". This is an interesting utterance in which the doctor displays another obvious change in footing (Goffman, 1981) mediating between the EPR and her own professional role. Firstly, she slows down and quietens her speech as she says "< *as your doctor* >" deliberately constructing herself as active in her professional capacity, anticipating and legitimising the upcoming advice-giving. She then uses a highly stylised voice as she adds: "*I have to advise you that you shouldn't.*" This is an example of 'hybrid discourse'. On the one hand it is legitimate 'professional' advice; on the other it orients to a higher 'institutional' order in which the doctor *accounts* for her talk (Roberts et al., 2000; Sarangi and Roberts, 1999). The institutional imperative is conveyed both through the words "*I have to*" and the stylisation, affording a particular evaluative accent, creating distance between the professional identity which she has established so far in the consultation, and a 'new' identity as she incorporates institutional business. Goffman refers to this as the "embedding"

Time	D P	Words spoken /sounds	Bodily conduct	EPR Screen
14.32	D	now my computer's asked me whether you smoke	D - > EPR. D points to screen D - > EPR, L hand to mouth; P –> EPR;	Medications screen. QOF alert showing in bottom R corner: QOF Recent Smoking Data (displays throughout consultation)
		(1.2)	D - > P; P - > EPR	
14.35	P	uhm	P - > EPR	
		(1.0)		
14.36	P	yes (.) no	P - > EPR; D - > P	
		(1.0)	P - > D	
14.38	D	he what's [that mean	D - > EPR, laughing	
	P	[I've had one in the last three days	D < -> P	
14.41	D	right (.) so (.) very occasionally	D < - > P	
14.43	P	yeah (0.2) I'm (.) I'm very much a s:ocial smoker nowadays=		
14.46	D	= so with- in a (0.2) in a week uhm how many do you get through °d'you think°		
14.49	P	well last week I think I had three		
14.52	D	right (0.4) right		
		(5.0)	D turns - > EPR; P - > D. At 14.57 D turns to P again	
Transcript not shown – doctor establishes that patient smoked three cigarettes last week and suggests it would be better for patient's general health if she could "ignore them", since although it is not doing "horrendous damage" it is still keeping the "receptors flapping"				
15.29	D	so (0.2) y'know obviously °<as your doctor > I have to advise you that you shouldn't°	D - > EPR; P - > D D < - > P; D using highly stylised voice	
		(1.6)	D nods, smiling	

Fig. 3. My computer's asked me.

function of talk, whereby speakers can convey words which are not their own, or which reflect a different aspect of themselves (Goffman, 1981).

Ostensibly, offering 'health promotion' advice about smoking might simply be considered good consulting practice (Stott and Davis, 1979). However when the prompt to this kind of talk is the EPR it constitutes a shift from professional interaction towards an emphasis on institutional evidence and accountability. This 'deontic' voice is an example of a silent but consequential voice mediated by the EPR, active in shaping the consultation by marking out what *should* be done, as the institutional imperative trumps the 'personal' record.

As I have suggested elsewhere, the EPR presents a 'dilemma of attention' to the clinician who must make ongoing judgements about whether, when and how to attend to its institutional voice, balancing the immediacy ('here and now') of the interaction with the more institutional ('there and then') demands of the EPR (Swinglehurst et al., 2011). In this example the doctor makes the contribution of the EPR explicit, but in doing so she has to engage in additional interaction work, and then has to be creative in managing the transition between her professional self and her role as institutional representative, as the EPR shapes what it means to be a clinician in the contemporary consultation (Swinglehurst et al., 2012).

3.4. Case 4. Synergy, surveillance, 'sharing' and 'shouldness' – the struggle for symmetry in the contemporary consultation

The final transcript (Fig. 4) is from a follow up consultation. The 63 year old female patient, who is well known to her GP (also female), has been taking a weight reducing drug called rimonabant. The patient has already explained that she ran out of these tablets and had "borrowed" some from a friend. She steps off the weighing scales and sits down, positioning herself so she can see the EPR screen very easily. The doctor enters the patient's weight into the EPR, confirms she has lost weight since her previous review, then turns to issuing a prescription.

In this example the doctor and patient are both looking deliberately at the screen; this was relatively unusual across the dataset. At 06:59 the doctor actively includes the EPR as part of the 'shared' interactional context. Although there is greater sharing of the EPR than in the previous examples, the doctor retains control over the way in which the EPR mediates and structures the talk; her allocation of involvement (Goffman, 1966) lies primarily with the EPR.

At 06:44 the doctor types a prescription for rimonabant. She is given the option to print it, prompting her to ask "*Do you need other things*" organising the topic and timing of her question around the material constraints of working with the EPR (it is quicker to issue several items together than separately). As the patient is actively

Time	D/P	Spoken word	Bodily conduct	EPR Screen
06.44	D	((typing)) (8)	D typing, facing EPR. P has elbow leaning on corner of desk, head in hand and watches EPR.	D selects rimonabant from "past drugs", defines it as a "repeat" medication. Screen displays *"Is this correct? Y/N"*. D selects Y and is given option to print
06:52	D	Do you need other things	D -> EPR	
		(0.4)		
06.53	P	I just need aspirin (0.5) and ramipril (0.4) ramipril	P turns head away from D / screen and looks down. D-> EPR	Repeat Prescription screen; 3 items incl. atorvastatin (28 days supply issued 49 days ago on 26th July – usage is shown in red at 50%). GP keys "I" for "Issue"; Screen shows: *Select items (ABC etc) to issue*
		(1.5)	P turns head back -> EPR. D types keystroke	
06.58	P	°°I don't take (many [others)°°		
06.59	D	[Do you] not need atorvastatin	D points L hand to screen then rotates screen towards P and points at it again, her R hand still poised on keyboard	
		(1.5)	P -> EPR	
07.02	P	Uu[uh		
07.03	D	[It's the twenty sixth of July::	D moves finger to point to date (of issue) 26th July on screen. P -> EPR.	
		(0.5)		
07.05	P	I probably just need one yeah I'm not without but yeah probably cos I've got a box [(inaudible)	P and D -> EPR P -> D. D keystroke	Enters "C" – atorvastatin is highlighted on screen
07.09	D	[>I mean< in a month:: (1.0) ((C)) within a month (.) you should need them=	P - > D; D looking at screen D keystroke	2nd Repeat Prescription screen; 4 items including aspirin (56 days supply issued 49 days ago on 26th July)
07.11	P	=yeah I will =	P - > D; D - > EPR	
07.12	D	=yeah aspirin I m- aspirin was the same date.	D and P - > EPR D keystroke	Enters "F" - aspirin is highlighted on screen.
		(0.4)		

Fig. 4. 'Sharing' the screen.

watching the screen it is obvious that the doctor is 'doing prescribing' and that "*other things*" refers to additional prescription items. With minimal hesitation the patient responds "*I just need aspirin and ramipril*". After a 1.5 s pause the patient continues talking but the doctor interrupts with "*do you not need atorvastatin*" simultaneously pointing to the screen and rotating it further towards the patient, while taking the speaking floor (Edelsky, 1981). This shift from asking a question to posing a challenge constitutes a change in footing and produces an awkward, confrontational and face-threatening moment for the patient (Goffman, 1967, 1981). It is met by another 1.5 s pause and the patient hesitates as she starts to speak, only to be interrupted again. The doctor points to the screen again (specifically at the 'last issue' date and a red alert suggesting 50% usage which becomes supporting evidence) adding: "*It's the twenty sixth of July*::". This accountability work challenges the patient further as she is invited to engage with a representation of herself in the EPR (the 'patient inscribed') which is at odds with that she has just offered (Robinson, 1998). The doctor's move is simultaneously *involving* and *distancing* of the patient. Inviting the patient to look closely at the EPR includes her in a world which often remains hidden to patients, but it also sets the agenda for this moment, achieved through interrupting and closing down the patient's talk. The material arrangements (with the doctor looking and pointing towards the EPR) are effective in creating some distance between the doctor and her avowal. At the same time the doctor is drawing rhetorically on the documentary evidence which she points towards, building an argument that the patient *should* have run out of tablets (or at least be *about to run out*). Authority becomes both distributed between doctor and EPR, and also strengthened through the interaction between doctor and EPR. It is not the doctor or the EPR *per se* but their synergistic recursive interaction which construct interactional asymmetry and authority (with similarities to the sequence in Fig. 1). This example again illustrates the EPR's delivery of a silent 'deontic' voice, contributing forcefully to definitions of what '*should*' or '*ought to be*' the case through its calculation of (assumed) medicines usage.

The patient responds and repositions herself: "*I probably just need one yeah I'm not without but yeah probably cos I've got a box*." It is partly in the patient's response that we see the ongoing display of authority at work. Here she performs some face-saving work (Goffman, 1967) in which she ensures that her original statement (that she just needs aspirin and ramipril) remains true ("*I'm not without*"; "*I've got a box*"), whilst also doing the work of agreeing – at least partially – with what the doctor (and the EPR) has communicated. She hedges her statement with the use of the word "*probably*" on two occasions. Still without the full commitment of the patient, the doctor interrupts again to do some further accountability work, this time reframing her utterance, such that she projects the 'need' for medication into the future "*I mean in a month:: (0.2) within a month (.) you should need them*". Here she justifies her previous assertions whilst also responding to the fact that the patient has said that she has a supply of tablets already. On this occasion the patient agrees without hesitation: "*yeah I will*".

At 06:53, the 'needs' defined by the patient appear to be different 'needs' to those defined by the EPR. The interactional work achieved with the word 'need' can be traced through this sequence (06.52–07.11) in a good illustration of what Bakhtin meant when he referred to the 'socially charged' life of a word and the way in which speakers adapt words to express their own intentions (see Methodology, page 11). The doctor moves from "*Do you need*" (question) to "*Do you not need*" (confrontation) to "*You should need*" (evaluative judgement), drawing rhetorically on the EPR as documentary evidence along the way. This evidence spans time from past ("*26th of July*") to future ("*within a month*") and sharing it makes visible to the patient the ease with which the EPR provides a view beyond the 'here and now'. The patient moves from "*I just need*" (statement) to "*I probably just need*" (tentative statement/partial agreement) to "*I will [need]*" (confirmatory statement/full agreement) and from an orientation focused on the present to an orientation which incorporates the future. As the authority of the doctor and EPR grow, so the patient's position becomes increasingly subject to it. These are two sides of the same interactional coin, as we see how authority is enacted and co-constructed, the patient's 'need' becoming redefined. Whether or not the patient is taking the atorvastatin as prescribed is glossed over and remains unaddressed.

This short segment of interaction constitutes a display not only of an awkward confrontational moment in the 'here and now' of the consultation, but also of the EPR's facility for surveillance of medicines usage and its potential to be consequential beyond the 'here and now'.

4. Discussion

In this paper I have shown how the EPR contributes to the display and circulation of authority in the consultation, using detailed analyses to illustrate how complex the consultation becomes when the EPR is integrated into it. The EPR creates new opportunities, including: medication surveillance; prompts to health promotion; registration, recall and structured review of patients with chronic diseases; complex risk calculations. It also places new demands on the consultation and introduces new tensions, both in its contribution to the moment-by-moment unfolding of the interaction (the 'here and now') and through hosting and circulating new voices, constituting a "dilemma of attention" (Swinglehurst et al., 2011).

The EPR is not only a source of patient information but also a means of highlighting what information *ought* to be sought, constituting new external lines of accountability (as illustrated in Case 3). Additional pressure is placed on clinicians to attend to issues which may or may not be immediately relevant to the consultation. With limited appointment time an inevitable additional institutional constraint, this poses a challenge for priority setting in the consultation – or as one GP put it: "*If they want me to collect brownie points then I can … but the patients are being robbed of their consultation*". The challenge is not simply one of attending to additional topics, but also finding new ways to manage the interaction itself – for example whether and how to account for this institutional activity, and how to foster and maintain the involvement of the patient in this new environment (Cases 2 and 3). It is in this 'working through' that authority is displayed and negotiated between clinician, patient and a range of 'silent' but consequential voices become mediated through the EPR. The EPR starts to define not only what *ought* to be done by highlighting what is 'missing' from the institutional account, but also contributes persuasively to notions of what *should be the case*. As illustrated in Case 4 (and to a lesser extent, Case 1) clinicians have to negotiate different (and potentially competing) versions of reality presented to them by patients and the EPR, and in each of these situations lies the opportunity for the shaping of authority. The patient also has a burden of additional interactional work to maintain or retrieve the attention of the clinician when faced with 'outside' competition (and as Case 4 illustrates, this may include different versions of themselves).

It is often the recursive synergistic relationship between clinician and EPR that contributes to asymmetry and authority building in the consultation. If a clinician turns to face the EPR while posing questions ostensibly designed for the patient, this action may display an assumption to the patient that the EPR is a more reliable authority than the patient (Case 1) This is not to suggest that this is the clinician's *intention*. But as Goffman argues, actual intentions are inaccessible and may be of little significance when it is only the

display or outward expression that interactants (and analysts) have to go on in their ongoing evaluation of a social situation (Goffman, 1966).

Recent work on the use of electronic templates in the context of chronic disease management in general practice shows that their use may privilege 'hard' biomedical data over 'softer' more personal information (Checkland et al., 2007; Rhodes et al., 2006, 2008; Swinglehurst et al., 2012). This paper shows that on careful inspection similar tensions are also apparent in consultations which fall outside the 'template-driven' approach, the EPR contributing to the construction of certain hierarchies of knowledge wherein some forms of knowledge are treated as more 'valuable' than others. This value comes about because some forms of knowledge are more readily open to manipulation, measurement and external scrutiny (in the case of QOF – the 'value' has direct financial consequences). In this way the EPR contributes to a shift away from professional interaction towards interaction which is more closely aligned with institutional concerns (e.g. Case 3). The EPR is not itself *prescriptive* of which kinds of knowledge are privileged within the consultation, nor how this becomes enacted, since there remains scope for creativity in how the EPR's different voices are incorporated (as illustrated in Case 2). However the voices which the EPR admits into the consulting room are forceful, pervasive, difficult to ignore and constitute particular ways of accounting for clinical practice, legitimising particular ideals of what 'good care' consists of.

The combination of defining what *ought* to be done or *should* be the case (the 'deontic' voice of the EPR), the shift towards institutional accountability and the burden of additional interactional complexity profoundly shape the consultation, challenging normative understandings of what the consultation actually 'is' and what is going on in this context. Arguably the notion of the 'triadic' consultation is inadequate as a way of making sense of the EPR, and the depiction of the EPR as an "equal partner" may also be somewhat simplistic (Pearce, 2007; Scott and Purves, 1996; Swinglehurst et al., 2011).

Studying the construction and circulation of authority in the contemporary consultation also illustrates the ways in which the contribution of the EPR is highly contingent on, and tied to, immediate local practices (Swinglehurst et al., 2011). It is in the recursive relationship between clinician, EPR and patient that authority emerges and gets played out in embodied practices. That the clinician retains a degree of control over the operation of the EPR (that is, by comparison with the patient) inevitably poses an additional challenge to the 'symmetrical' consultation. The patient and the clinician do not have equal access to the EPR as a resource for shaping and constructing authority. This may remain so even (as in Case 4) when the patient can easily *see* the EPR, and may further contribute to what Pilnick and Dingwall have called the "*remarkable persistence of asymmetry*" in the clinical consultation (Pilnick and Dingwall, 2011).

The EPR plays an important role in the building and shaping of authority, but any claim to its authority is partial, a product of the particularities of the interaction and the particular voices which it conveys. One limitation of this study is that the participants all used the same clinical system (EMIS-LV). Clinical systems vary in the force of particular influences that they bring to the consultation (Pearce et al., 2012) and further research which brings the methodology outlined in this paper to consultations involving different clinical systems might provide useful insights into how particular aspects of system design become enacted in the detail of the interaction. This research shows that authority is woven not only through the words and actions of people who are present, but also the words and actions of people (and institutions) who are absent from the consultation but whose presence is brought about *through* the EPR. Through interaction, authority can come to be located within, shared with, or enhanced by the EPR. Drawing on Bakhtin, we can say that the EPR, like all talk and text, is inherently heteroglossic – meaning that its 'sense' is governed as much by context as by text on any particular occasion of its use (Bakhtin, 1981).

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Appendix A. Transcribing conventions, adapted from Atkinson and Heritage (1984)

[onset of overlapping speech	**.hhh** inbreath
] end of spate of overlapping talk	**Hhh** outbreath
[[speakers start a turn simultaneously	**=** no pause between speakers; contiguous utterances
: preceding sound is lengthened or drawn out (more : means greater prolongation)	**(( ))** a non verbal activity (e.g. **C** = keystroke in this work)
Underlining emphasis	**(text)** unclear fragment of text
(.) pause of less than 0.2 seconds	**.** falling tone (not necessarily end of sentence)
(0.4) pause, in tenths of a second	**?** rising inflection (not necessarily a question)
↑↓ marked rising / falling intonation	**CAPITALS** louder than surrounding talk
>text< the talk they surround is quicker than surrounding talk	**<text>** the talk they surround is slower than surrounding talk
°° the talk they surround is quieter than surrounding talk	

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