Managing the diagnostic space: Interactional dilemmas in calls to a
telephone health help line
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Introduction

This paper will examine diagnostic work in calls to a telephone health help line, in England. NHS Direct is staffed by nurses and is a product of recent Government reforms (Department of Health 1997). Forecast as a first contact point for primary care it represents a radical shift in the delivery of health care in England since the inception of the NHS in 1946.

The purpose of NHS Direct is to provide 'easier and faster health advice and information' to people, (Department of Health 1997)', with the objective to (Munro *et al.* 1998)

- Provide for the public a confidential, reliable and consistent source of professional advice on healthcare 24 hours a day so that they can manage many of their problems at home or know where to turn to for appropriate care;
- To provide simple and speedy access to a comprehensive and up to date range of health and health related information;
- To improve quality, increase cost effectiveness and reduce unnecessary demand on other NHS services by providing more appropriate response to the needs of the public;
- To allow professionals to develop their role in enabling patients to be partners in self-care, and help them focus on those patients for whom their skills are most needed.

Now in its ninth year the service was quickly hailed as a success by Government, providing improved patient access to quality information and advice which reportedly enables 40% of callers to care for themselves (Department of Health 1999).

Since its inception in 1998 NHS Direct now covers the whole of England through a network of 22 sites, employing approximately 0.4% of all full time equivalent qualified nurses, who are required to have a minimum of five years post registration experience (National Audit Office. 2002). Each site covers a catchment area of between 1.3 and 4 million people (NHS Direct 2002), and it is the world's largest provider of telephone healthcare advice receiving 3.5 million calls in 2000-2001 with call volumes set to double in 2001-2002 (National Audit Office. 2002).

Clinical Decision Support Software called Clinical Assessment System (CAS) is used in all sites, and provides NHS Direct with over 200 symptom-based gender-specific and age-specific algorithms, which the nurse uses to interpret the symptoms of callers and direct them to an appropriate level of care. It also provides NHS Direct with the ability to move calls between sites ensuring best fit between demand and capacity; handle service or system failure; recruit staff in areas where it is easier to recruit; close sites for training and quality improvement activities, thus creating a virtual contact centre (NHS Direct 2002).

The Government reports that the nurse-led help line has 'shown that nurses can make a real difference to accessibility and help people make informed decisions and use NHS services appropriately' (Department of Health 1999). Moreover the Government wants to see NHS Direct expand its capacity from 7.5 million calls per year to in excess of 30 million (Department of Health 2000). In addition it is envisaged that a single phone call to NHS Direct will provide a one-stop gateway to healthcare (Department of Health 2000), providing patients with more choice about accessing the NHS with nurses advising 'on care at home, going to the local pharmacist, making a routine appointment, arranging for an emergency consultation, calling an ambulance or social services support, and ordering prescriptions and arranging delivery to the patient's door' (Department of Health 2000). Similarly NHS Direct will be triaging general practice out of hours calls, so that when the public needs urgent treatment when the surgery is closed, NHS Direct will in partnership with GPs arrange it (Department of Health 2001a). Furthermore it will take up to 1 million low priority ambulance service calls (Department of Health 2002) and contribute to the four priority areas set out in Government Health Policy: Our Healthier Nation (Department of Health 1998), and subsequently The Expert Patient (Department of Health 2001b). Evidently NHS Direct has the potential to have a far-reaching impact on how demand for healthcare is managed in the UK. This is arguably only made possible by the harmonisation of information technology and trained nurses on a national scale never before experienced.

Gaps exist in the literature about 'the tacitness of the process' of telephone consultations with a 'tendency to present the caller/ patient as the (passive) object of the study rather than as participant (knowing subject)' and the need for a 'conceptual shift towards regarding the patient/caller as participant [which] would encourage the study of patient/caller expectations, perceptions and reactions and a practice of telephone triage in which the stance of the practitioner was more about problem setting and co-managing the situation than about diagnosis and problem solving' (Lattimer 1998).

The focus of the study

The overall aim of this research is to describe and analyse a number of features of calls to NHS Direct: proposing the problem including 'lay explanations of the

callers' experience of their problem; communicating and responding to problem formulation and communicating and responding to treatment decisions.

This paper only analyses one part of this research that of problem formulation or diagnostic work. Analysis therefore requires a methodological approach, which will enable a close examination of verbal communication between nurses and callers to NHS Direct.

Research methodology

This study conceptualises nurse patient communication as a source for examining how participants accomplish their interactional activities within an institution. Seeking to discover, describe, analyse and provide theoretical explanations of the intrinsic or endogenous features and situated character of nurse patient interaction, as accomplished through the exchange of talk between the nurse and caller, this study is designed to be inductive rather than deductive; seeking to engage with the complexity of the social world, investigating nurse patient communication within the context in which it occurs. The use of predetermined theoretical conceptualisations, or category systems, using prevailing theoretical perspectives to classify and code interactions, are rejected in favour of being true to the interactional phenomena, through discovery and description, by adopting a position of 'unmotivated looking' (Psathas 1995). The components of the study therefore lend itself to a qualitative approach.

Ethnomethodology

One such approach is conversation analysis grounded within the wider philosophical orientation of ethnomethodology. Ethnomethodology resulted largely from the work of Harold Garfinkle who was influenced in the 1930s by the prevailing sociological paradigm of functionalism associated with Talcott Parsons, the phenomenology of Alfred Schutz and to some extent the contemporaneous work of Erving Goffman, and also Symbolic Interactionism.

 The emergence of the science of 'Ethnomethods' or 'Ethnomethodology' in the 1960s went beyond language as an abstract system and the objective measurement of the social world associated with for example the work of Ferdinand de Saussure and Noam Chomsky (Kress 2001). Paradigmatically interpretive, and an inherently dense topic, numerous authors have attempted to explicate the focus and activity of ethnomethodology, (Heritage 1984), (Livingston 1987), (Maynard & Clayman 1991), (Coulon 1995). The interpretation offered by Coulon is adopted for this study (Coulon 1995). Thus the activity of ethnomethodology is *to analyse the methods or the procedures, that people use for conducting the different affairs that they accomplish in their daily lives…..the analysis of the ordinary methods that ordinary people use to realise their ordinary actions'* (Coulon 1995) p2.

Ethnomethodology therefore proposes that we are all practical sociologists and that the ordinary language of people tells, describes and constitutes social reality (Coulon 1995) p2. It facilitates the shift from the interactionist perspective, focusing on how people see things to the possibility of making an accurate account of what individuals *do* to organise their social existence (Murphy *et al.* 1998), and suggests that any social group is capable of understanding itself, and commenting on and analysing itself.

Ethnomethodological studies fall into two categories, those that search the diversity within the organisation of conversations as exemplified by the work of Harvey Sacks (1992) and those more traditional sociologists that examined more conventional sociological phenomena such as organisations, justice and education, the analysis of newspaper headlines and stories. A common problem of ethnomethodological study however is how to access naturally occurring social activities for analysis.

Conversation Analysis

Founded by Harvey Sacks and emerging in the late 1960s, Conversation Analysis developed at the intersection of the perspectives of Goffman who proposed that as a fundamental social domain, social interaction, talk-in-interaction is a social organisation in its own right and can be studied as such, and Garfinkle who described as *'ethnomethods'* the ordinary practical methods that ordinary people use to get their ordinary talk-in-interaction done. From these two theoretical perspectives it became possible to investigate reciprocal contributions to talk-in-interaction.

It is important to understand that CA did not emerge in philosophical isolation from other historical developments and ideas about language use. Indeed the origins of CA are set against a backdrop of twentieth century linguistic thinking associated with among others, the 'structural linguistics' of Ferdinand de Saussure (Kress 2001), cognitive psychology associated with the work of Noam Chomsky (p32), the philosophy of Ludwig Wittgenstein (Potter 2001), and 'speech act theory' of John Austin (p45).

Conversation analysis provides a useful approach to investigating the normative structures of reasoning, which are involved in understanding and producing interaction. The primary source of data is the interaction itself made available through audio or video recordings, through which the participants either intentionally or not display their understanding of what is happening as it happens. Such implicit actions CA argues are embedded in the actions of the participants. Heritage describes the purpose of CA investigation being 'to describe the procedures by which speakers produce their own behaviour and understand and deal with the behaviour of others' (Heritage 1988).

Conversation Analysis (CA), the study of talk-in-interaction, has a similar area of sociological enquiry as ethnomethodology, insofar as it seeks to identify the

interactional procedures, practices or methods, that participants use in producing their own conduct and interpreting that of others. However it differs in its theoretical and methodological approach. First the work of Garfinkle relied on observation, and second recollection and field notes. The work of CA is principally reliant on audio or video recordings of naturally occurring interactions, in the most ordinary of settings, which are listened to repeatedly and transcribed. Naturally occurring talk is considered to exist independently of the researcher (Silverman 2001 p159), as opposed to that which is produced for the purpose of research. Enquiry seeks to characterise, discover and analyse the organisational features of naturally occurring talk. The conversation analytic perspective has developed and broadened it's scope over the last thirty years, from a focus on 'ordinary conversation' to the study of interaction in social institutions and 'institutional talk' (Drew & Heritage 1998), the former providing an important benchmark for empirical progress.

The study of institutional talk

In seeking to distinguish institutional from ordinary talk, Levinson describes 'basic features' of 'activity types' (Levinson 1992), which when extrapolated to talk at work provides three propositions for considering institutional interaction (Drew & Heritage 1998) which were adopted in this study:

1   Institutional interaction involves an orientation by at least one of the participants to some core goal, task or identity (or set of them) conventionally associated with the institution in question. In short, institutional talk is normally informed by *goal orientations* of a relatively restricted conventional form.
2   Institutional interaction may often involve *special and particular constraints* on what one or both of the participants will treat as allowable contributions to the business at hand.
3   Institutional talk may be associated with *inferential frameworks* and procedures that are particular to specific institutional contexts.

(Drew & Heritage 1998) (p22)

Fundamental to these propositions is the suggestion that institutions impose specific characters of inference on interactions. Thus analysis of the orientation by the participants to the institutional goals of a telephone health help line, the restrictions on the contributions that can be made by the nurse and patient, and the procedures necessarily specific to the institution, form the basis on which distinctive institutional features of interaction within this setting will be evidenced (Drew & Heritage 1998) using ordinary conversation as a benchmark.

Institutional talk such as that between nurses and patients, as opposed to ordinary talk, takes place in a wide variety of settings. What constitutes an

institutional interaction however is not its setting but its participant's identities insofar as how these identities are made relevant to the activities in which the participants are engaged (Drew & Heritage 1998). This study takes place within the context of an organisation, which provides a telephone health help line to members of the public and as such is an institution namely, NHS Direct. The interaction and thus the language used by the nurse and caller is supported by this institutional base, which arguably will to some extent determine the characteristics or form of the interaction (Drew and Heritage (1998)). It is precisely the textual data derived from these interactions, which will be the focus and provide the data for this study in order to analyse how individuals socially construct the world together. As Heritage argues:

'the social world is a pervasively conversational one in which an overwhelming proportion of the world's business is conducted through the medium of social interaction.' (Heritage 1984) (p 239) .

To summarise then, of primary interest in the present study are the verbal and paralinguistic features of talk between nurses and callers to a telephone health help line. Data are everyday naturally occurring telephone consultations between nurses and callers. Drawing on ethnomethodology and the application of conversation analytic practices which is described as 'the most fruitful means of doing ethnomethodological study' (Hutchby & Wooffitt 2003) (p31), and taking account of institutional settings (Drew & Heritage 1998), telephone consultations were audio taped and transcribed. Although approaches to the analysis of data are disparate within the literature, the methodological approach taken within this thesis is underpinned by the work of Harvey Sacks (Sacks 1992) the founder of CA, Gail Jefferson on transcription conventions (Atkinson & Heritage 1984), (Pomerantz and Fehr on stages of analysis (Pomerantz & Fehr 1997), and Drew and Heritage on the dimensions of interactional conduct (Drew & Heritage 1998).

Computerisation of health care

The use of computer technology in nursing documentation has been reported over the last 40 years. Indeed such systems have become increasingly popular in recent years. Studies have focused on nurses attitudes towards computers (Darbyshire 2004;Harris 1990;Strong & Brodt 1985). However how nurses interactionally accomplish nursing assessment, diagnosis and interventions whilst navigating computer software has not been reported.

Standardisation of nursing language

Flanagan (2007) argues that 'standardised languages are an important vehicle that allow nurses to describe the content of their role within today's rapidly transforming healthcare environment' and that 'without the use of standardised languages the clinical reasoning and decision making processes of nursing are obscured' (Flanagan & Jones 2007). These are powerful statements if we are to believe that whilst nurses accept medical labels they are more ambivalent about

the use of labels to that articulate their own unique contribution to patient care (ibid) with the end result that nursing becomes hidden. In addition Flanagan argues that at a time when other disciplines within health are seeking to advance their science, nursing is becoming less visible as it takes on roles which make their contribution more 'ambiguous' and 'indistinct'. This argument echoes Scherb (2003) who suggests that it is crucial that national data sets represent nursing in order to prevent it becoming unrecognised (Scherb 2003). This is never more relevant as the NHS moves towards electronic medical records and the need for nurses to communicate its practice electronically. As a manifestation of recent health reforms arguably NHS Direct is at the forefront of computerised health care. Arguably the challenge is the development of a system which makes transparent the nursing contribution of assessment, diagnosis, interventions and outcomes.

Problem formulation and diagnostic work

This paper focuses on one aspect of nursing that of diagnostic work. Unlike medical diagnosis, the concept of nursing diagnosis in the UK is virtually unknown, however much work has been done in North America and Europe to classify nursing phenomena and construct taxonomies known as North America Nurse Diagnosis Association (NANDA); Nurse Intervention Classification (NIC) and Nurse Outcome Classification (NOC). Collectively they represent the most complete nursing care data. However a number of questions still remain relating to nursing diagnosis such that the International Council of Nurses initiated a project aimed at developing an international classification of nursing diagnoses (International Council of Nurses 1999).

Conversely a number of authors have addressed the delivery (Perakyla 1998) and reception of diagnosis (Heath 1994;Maynard & Frankel 2006) in medical consultations. It is recognised that the absence of diagnostic and other forms of information provided by doctors has consequences for compliance with treatment (Heath 1994). Indeed the seminal work of Byrne and Long the phase of the consultation in which consideration of the patients condition or diagnosis is rather limited and may not exist at all (Byrne & Long 1976).

Whilst principally calls to NHS Direct take place between the nurse and caller only, crucially the interaction is conducted in the knowledge held by the nurse, that it may be heard at a later date by a third party, for training and audit purposes, during which judgments will be made about the interaction. Indeed there are constraints on the content of the nurse's turn, which should not be hearable, for example proffering a diagnosis.

Research method
The data
Local research Ethics Committee approval was applied for and granted.

The study was located in one NHS Direct site which is typical of other sites across the country in that in that broadly it provides nurse-led telephone consultation to a population of approximately two million both in rural and inner city settings, interfacing with numerous health authorities, hospitals and primary care trusts, and social services. The premises were purpose-built to include a large call center accessible only through a security door, with offices, training and conferences rooms attached. Nurse advisors are drawn from a variety of sources including the acute, primary care, and private sectors and there will be some nurse returners' who have been out of practice for a variety of reasons. The nurses are male and female with a variety of personal and professional experiences and qualifications. They have experienced the local training/induction schedule prior to taking telephone calls from the public. All sites will be involved in developing service provision for example it has integrated the Health Information Service, or Care Direct or has piloted an out-of-hours service for a GP Co-op.

The site facilitated access to and recruitment of calls to the study providing access to audio-taped consultations. Fifty six (56) randomly selected calls, which were managed by nurses, were downloaded by NHS Direct staff onto small audiotapes, from the main database held within the organisation, over a 12-month period. These calls have each been subjected to straight orthographic transcription. The next level of analysis involved subjecting each call to detailed transcription applying standard conversation analytic transcription notation (Sacks, Schegloff, & Jefferson 1974)

Multitasking

I'm just going to say a little about what happens when calls come into the call centre.

Callers access NHS Direct by dialing a single national number at a local call rate. NHS Direct operates a virtual call centre in that clusters of NHS Direct sites form a group and manage one another's calls at busy times. This seeks to ensure equal distribution of calls and call response times.
On ringing the national number the call is answered by a non-nursing Call Handler (CH) who takes demographic information and the reason for the call. In the first instance calls are treated as potentially urgent Callers (CA) can remain anonymous if they wish. The CH has access to Minicom for hearing impaired callers or Language Line for CA whose first language is not English. Using Primary Prioritisation Process (PPP) software CH identify high-risk CA who may need emergency treatment **Table 1** and gather enough information to secure safe and effective prioritization **Table 2**.
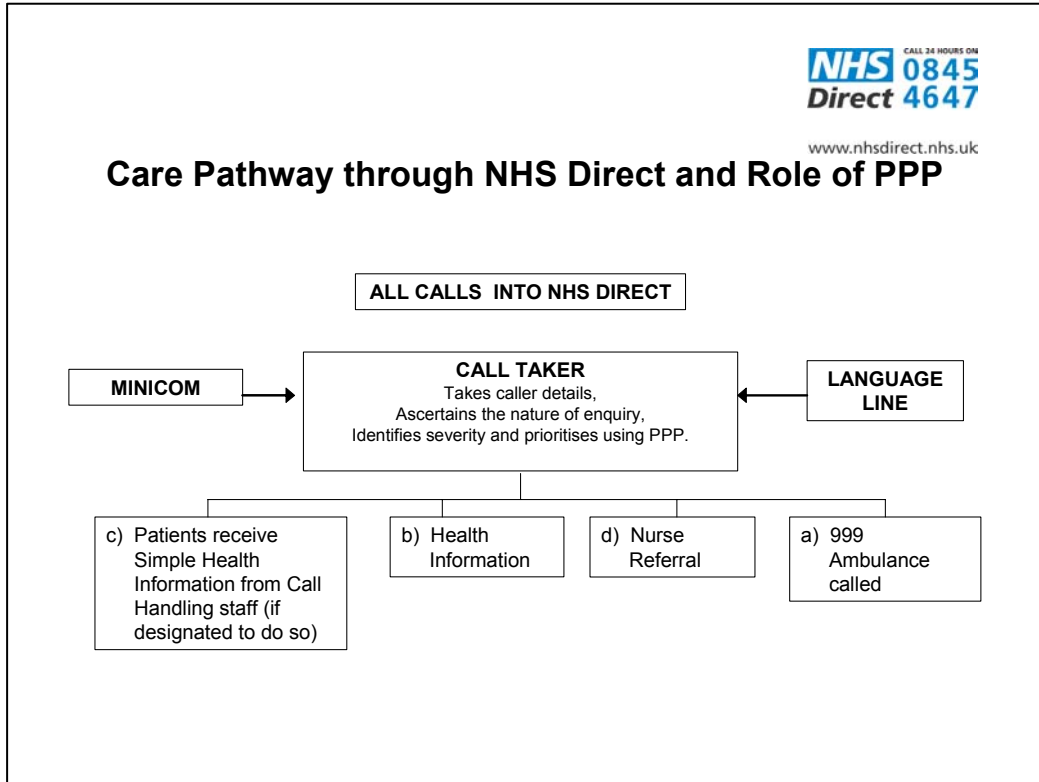
Table 1

NHS Direct CALL 24 HOURS ON 0845 4647
www.nhsdirect.nhs.uk

Care Pathway through NHS Direct and Role of PPP

ALL CALLS INTO NHS DIRECT

MINICOM → CALL TAKER
Takes caller details,
Ascertains the nature of enquiry,
Identifies severity and prioritises using PPP.
← LANGUAGE LINE

c) Patients receive Simple Health Information from Call Handling staff (if designated to do so)

b) Health Information

d) Nurse Referral

a) 999 Ambulance called

Table 2

Possible Assigned Priority
999 transfer.   - Priority 1 means immediate nurse consultation.   - Priority 2 means nurse consultation with in 30 minutes.   - Priority 3 means nurse consultation but not urgent.   - Priority 4 is a health information call.   - Priority 4QC (Quick call) is a simple information call that may be answered by the Call Handler or in line with local procedures.

Source: *NHS Direct, National Education & Training Development 'The Prioritisation Process: Introduction and Resource Pack for Staff Development. Version 1.1 October 2003 RM.'*

Priority 4QC calls are managed by the CH, an example of which is a CA asking for the nearest pharmacy or dentist. Priority 4 calls are referred to Health Information who for example provides information about the treatment of Head Lice, or conditions such as Coronary Heart Disease, Hypertension, Multiple Sclerosis. Priority 1, 2 and 3 calls are referred to the NA. Depending on urgency

the call will be managed immediately (Priority 1) or placed in a call queue and the CA is informed that a NA will call them back within a given time, for example 30 minutes. The NA has sight of the call queue as it is displayed on a screen, mounted on the wall, and they can monitor how busy the system is. It is from the call queue that nurse selects a call in order of priority and returns the call.

The call placed by the nurse to the caller represents a response to a request for help. In placing the call the nurse launches into a number of parallel activities concerned with processing the call, which include talking, listening, navigating a keyboard and computer, which using questions and prompts guides the nurses decision making, using a binary question answer system, and simultaneously dealing with the individual circumstances of each caller. The interactional task for the nurse and caller is to bring into alignment each of these activities to achieve an appropriate outcome (Zimmerman 1992). It is the point at which the nurse returns the call to the caller that this investigation is concerned.

Initial Observations

NHS Direct advertises itself as a telephone health line. As such it is a dedicated service which provides expert or specialised knowledge in a specific topic area namely health, through the medium of talk. Its mission statement reflects this:

"To provide information and advice about health, illness and health services, to enable patients to make decisions about their healthcare and that of their families."

                                        www.nhsdirect.nhs.uk 27 October 2006 15:23:54

Callers to NHS Direct therefore have a perceived need for help. They telephone NHS Direct and engage conversationally with CH and NA in order to obtain the help they need. In the majority of cases the call will have been placed in an electronic call queue in order of priority which is determined by an assessment with a CH. The call back to the caller therefore represents an answer to a summons for help. Canonically the call begins with the NA verifying demographic information previously collected by the call handler, with the caller, such as name, address, telephone number and presenting problem, by way of assuring the correct identity of the caller. The NA will then ask a series of general, followed by specific health questions related to the presenting problem. During this time the NA will offer advice and information with the aim of alleviating, resolving or otherwise managing the callers concern by referral to another health professional or agency. When this has been achieved the call will close.

The interaction is made up of a series of negotiated sequences and social actions. Analysis will begin by considering some of the early actions in these calls.

The first observation is that canonically the overall organisation of the call

progresses through a series of oriented to phases (**Table 3**). These phases are not linear but are nevertheless required by the institutional conventions of NHS Direct which govern the interaction, and regulate
turns and topics. Regular audits of telephone calls are conducted to ensure that the interactions contain these contributions by the nurse therefore the call is conducted with this knowledge.

Table 3. Functionally oriented to phases/stages or patterns

1.Opening/Greeting   Identification
2.Boundary setting

3.Interrogative phase
   General health history
   Problem specific history

4. Diagnostic work/Problem
    Formulation
    Advice giving

5.Closure

Of interest here is an altogether unacknowledged element of nursing in this context namely that of diagnostic work or problem formulation. Although a computer assisted clinical assessment is conducted, the institutional arrangements within NHS Direct, does not permit diagnosis and diagnostic categories to be hearable within the interaction. The purpose of my study is to explicate the tensions between these restrictions and the nature of the helpline. I will argue that the nurses do infact undertake 'diagnostic work' and formulate assessments.

In the first instance there is a debate to be had about what constitutes diagnosis: what it is and does. For the purpose of this study I will use the term diagnostic work and problem formulation to name the action after the clinical assessment is complete.

How the nurses do diagnostic work

First of all I would like to illustrate how in this corpus of telephone calls some nurses can be heard informing callers that they will not be undertaking a

diagnosis of the problem, illustrated in the examples below (highlighted segments).

```
 [C1:Tr2]

1. N   .hh ri:ght and have you used our service for him be,fore.
2. C   no:
3. N   .hh >now let< me just explain what we d:o then (.)
4.     .hh erm (.) n because we're nurses and not doctors we
5.     don't diagnose
6.     what we d:o instead is we assess his symptoms
7.     we go through a pro.per, assess,ment.
8.     .hh and then at the end of it
9.     we: we: erm:(.)
10.    then (0.1)
11.    then (.)
12.    advise you what to do ne:xt
13.C   okay
```

```
 [C5:Tr2]

1. C   .hh [I think
2. N       [yeah]
3. C   .hh its the heart beat a >knock on< effect of not being
4.     able to rela:x(.)
5. N   yeah(.)
6. N   .hh oka:y. right, now I-n- I'm gona a,:sk you a few
7.     questions about. this in order to: do an >assessment of
8.     your symptoms and give you some safe advice,<
9.     .hhh I cant actually diagnose. for you(.)
10.C                                Mm-
11.    (.)
12.N   tch erm (.) .hh but we can give you some advice as to the best
13.    things to do at the e[nd
14.C                        [hm
15.N   of the call alright,
16.C                                okay°
```

These sequences are designed by the nurse to establish the expectable boundaries of the interaction and pre supposes the expectation that diagnosis will be forthcoming. The following data will examine the procedures for managing interactional problems that arise when formal diagnosis is disallowed.

To begin I would like to turn our attention to the work of Perakyla and provide some examples of the delivery of medical information between GPs and their patients in a primary care setting.

In his 1998 paper Authority and Accountability: The Delivery of Diagnosis in Primary Health Care, Peräkylä suggests that the delivery of medical information takes a number of forms. The first of which we can see from this first extract.

Peräkylä A (1998) Authority and Accountability: The Delivery of Diagnosis in Primary Health Care. Social Psychology Quarterly. Vo. 61, No 4 p301-320.

Extract 1

(10) D=Doctor, P=Patient
Dr has listened to patient's chest

```
1    Dr      Let's listen from the back.
2            (0.3)
3    P       .nff
4      →     (9.0) ((P breathes in and out, Dr listens.))
5    Dr  →  That's already proper bronchitis.
6    P       Is it [hh
7    Dr            [It is
```

In this type of utterance (Extract 1 line 5) following physical examination the doctor merely asserts the patients disease, what Perakyla calls a *plain assertion.* The design of the turn is treated as unproblematic and no verbal description of the reason for the diagnosis is provided. *Plain assertions* represent the most frequent type of diagnostic turns in his data.

In a second type of diagnostic utterance inexplicit reference is made to the process from which the diagnosis marks the conclusion.

Extract 2

(4) (Dgn 24 11B3)

```
1    Dr → Now there appears to be an (1.0) infection at the contact point of
2        the joint below it in the sac of mucus there in the hip.
```

Extract 3

(5) (Dgn 37 39B3)

```
1    Dr   >Things like that but< no (0.5) bacterial infection
2      →  seems to be there.
```

Instead of portraying diagnosis as direct representations of reality as in extract 1 above, doctors use evidential verbs, 'appears' (Extract 1, line 1) and 'seems' (extract 2, line 2). These constructions however do not claim the same levels of certainty as the *plain assertions* in the first extract but do refer to general observations made by the doctor which clearly the *plain assertions* do not.

In the third type of diagnostic utterance the doctors describe specific observations as evidence for their diagnostic statements (extract 4 lines 3 and 5, and extract 5 lines 11 to 13).

Extract 4

(7) (Dgn 66 14A3:simplified)
((The doctor has just examined the patient's foot))

1   Dr   <u>O</u>kay:. .h fine do put on your,
2   (.)
3   Dr → **the p<u>u</u>lse [can be felt there in your foot** so,
4   P   [↑Thank you.
5   →   .h there's no, in any case (.) no real <u>c</u>irculation problem…
6   Dr → is >involved<

Extract 5

(8) (Dgn 26-21A1)

1   Dr   (But but) I r<u>e</u>ally can feel th<u>e</u>se with my fingers
2   Here it is you see [() this way, a <u>v</u>ery tight=
3   P   [Yes,
4   Dr   =muscle fibre,
5   (1.0)
6   P   Yes a little th[ere<
7   Dr   [It Goes here from the top but
8   It probably gives it (.) a bit further down then,
9   (1.0)
10   [((Dr withdraws her hand form P's back))
11   Dr → **As [tapping on the vertebrae didn't cause any ↑pain**
12   →   **and there aren't (yet) any actual reflection symptoms**
13   →   **in your legs** it suggests a m<u>u</u>scle
14   →   h (.hhhh) c<u>o</u>mplication so hhh it's only whether hhh
15   (0.4) you have been exposed to a <u>d</u>raft
16   Or has it otherwise=
17   P   =Oh yes,
18   Dr   .Hh got irritated,

What each of these fragments has in common is:

- A diagnostic utterance which comes after a physical examination and which identifies the patient's problem.
- Epistemic authority lies with the doctor insofar as the doctor names the problem not the patient.
- The doctor's use of technical/medical language to describe the problem.

What I would like to do now is examine how nurse advisors (NA) in NHS Direct manage the organisational restrictions imposed on diagnostic utterances.

The following extracts are 2 examples of utterances in which the nurse advisor has completed the computer assisted clinical assessment of the patient caller and produces a problem formulation.

In each of the extracts the nurse advisor has asked a number of questions prompted by the computer based Clinical Assessment System known as CAS. As each question is answered the nurse ticks a box and moves on to the next until all are completed. At this point the computer will provide information about what the patient caller should do about their problem for example see their GP, look after themselves or attend accident and emergency. This is then relayed to them by the nurse.

In the following extract a middle aged male patient caller (PC) telephones the help line in the evening concerned about injured ribs. The extract is taken 2 minutes into the call during which time routine demographic information has been confirmed and general questions asked about medical history, medicines and allergies followed by more problem specific questions. Call duration is 4.38 minutes.

Case 2

Tape marker: 2.43.71-3.26.25

```
1    C    no [no bruising or marks [(at all)
2    N       [no            [no bruising at all
3             (0.8)
4             clicking of the computer keyboard

5    N       .hhh hhhhh. .hhh okay I think probably what we need to    do::(.)  I don't  think
6    you need to see anybody at the
7             moment (.) [okay
8    C              [(okay)
9    N →   if you ha:ve erm:: .hhh
10          (0.1)
11   N →   her: fractured a rib at all then there's no not a lot they can do, [really(.)
12   C            [right that's what I thought that's why I (had to) try and ring yourselves [first
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```
13   N             [.hh yeah
14   C    before going over there(.)=
17   N    =the thing [you ca (.)
18   C              [(otherwise it'd) be a waste of time=
19   N →  =the thing you can do is eh obviously you've probably injured the
20     →    muscles and inflamed all your muscles there really.
21   C →                              ºhm hmº(.)
22   N    .hh so I would take something like Volterol or erm
23        Nurofen  or >something like< anti inflammatory(.)
24   C    Yeah(.)
```

Initial observations:

Some advice is produced (lines 5-7) **before** the problem is formulated.

The nurse advisor (NA) produces a problem formulation 'fractured a
rib' (lines 11).

Problem formulation **is prefaced** by the **conditional proposition'if'** you ha:ve
(line 9) and thereby not delivered as certain and with confidence, rather it is set
        up
to be heard as **'cautious'** and thereby contestable or disputable.

The conditional proposition **'if'** also foreshadows a second turn
component (as in if x then y), in the form of the problem formulation, which in turn
makes it sequentially possible for the NA to produce the final component
        designed to be
heard as information about what can be done about the PC concern **then there's
        no
not a lot they can do, [really(.) (lines 11-12).**

So the nurse is setting up the production of **advice as embedded** in the problem
formulation.

The silence (0.1) (line 10) prefaced by a **delaying device** erm:: .hhh (line 9)
suggests hesitation by the NA in producing the problem formulation.

The use of the conditional proposition **'if'**, and '**delaying device'** work to
downgrade epistemic authority of the nurse advisor by conveying uncertainty
and cautiousness.

The production of **problem formulation makes it sequentially possible** for the
NA to produce information about what the PC can do about their concern (lines
22-23).

The production of the problem formulation is accomplished using **language which assumes a shared understanding** of what a fracture is. This assumption is not challenged by the patient caller in lines 13-14 nor is what can or cannot be done about it. Instead the PC responds to the NA judgement with a turn designed to be heard as 'no news' **[right that's what I thought**. (line 13)

In the following extract a middle aged female PC telephones the help line in the evening with concerns about a headache. The extract is taken 5 minutes into the call during which time routine demographic information has been confirmed and general questions asked about medical history, medicines and allergies followed by more problem specific questions. Call duration is 8.13 minutes.

Case 7

Tape marker: 5.19.57-5.56.49

1	N	Right okay (1.3) Shirley for what you're telling me I-I can't (0.3) pinpoint
2		anything th-that's worrying me here: (0.4) .hh so I think **we're okay to look after**
3		**this at home:**
4	C	yeh
5		(0.1)
6	N →	**it sounds** like you've got **a bit of er er** a **temperature** there **a bit**
7	→	**of** erm you know may a bit of a **virus=but obviously I can't diagnose for you**
8	C →	yeah
9		(0.2)
10	N	**bu:t if I run through some homecare advice** for you=see if we can look after
11		this, at home↑
13	C	yeh*
14	N	and give you an idea of things to look out for=is that all right
15	C	Yeh*
16		(0.3)
17	N	Okay right ( ) **you need to go rest somewhere nice and quiet** (1.2) (background
18		call centre noise) erm in a well ventilated room=so er* (0.4) make sure you've got
19		the windows open and plenty of air circulatin [okay
20	C	[yeah

Initial observations:

Again some advice is produced (line3) **before** the problem is formulated

The nurse advisor (NA) produces a problem formulation a temperature (line 6), a virus (line 7).

Problem formulation is prefaced by the evidential verb **to sound** (line 6) which is potentially accomplishing 2 things:
  1)   Alludes to the **evidence** yielded from and is thereby **embedded** in the prior clinical assessment.
  2)   Projects problem formulation as being uncertain and '**cautious'** and thereby contestable.

There are two other devices the NA used to foreshadow uncertainty. The preface a **'bit of'** (line 6 and 7) sets up problem formulation to be heard as reserved and thereby **'cautious'** and contestable.

The **delaying device** er er (line 6) casts the upcoming problem formulation as hesitant, thereby doubtful and contestable.

The use of the evidential verb '**to sound'** and noun **'bit'** and the **'delaying device'** work to **downgrade epistemic authority** of the nurse advisor by conveying uncertainty and cautiousness.

Although the NA produces problem formulation there is a latched appeal to the
          PC not to
hear this as a diagnosis **but obviously I can't diagnose for you** (lines 7-8).

The production of problem formulation, the appeal to the PC not to interpret the
          problem
formulation as a diagnosis, makes it **sequentially possible** for the NA to
produce the final contrastive component (I can't do this (lines 7-8)-but I can do
          that (line
11) which in turn makes it sequentially possible to produce information about
          what can
be done about the PC concern (lines 17-19).

Problem formulation is accomplished using **language** temperature (line 6) and virus (line 7) which assumes a **shared understanding** of what it means. An assumption which is not overtly challenged by the patient caller.
  .
How do nurse advisors manage diagnostic restrictions?

Some advice is produced before the problem is formulated. This works to act as a 'signal' to the type of problem formulation to be produced.

NA produces a problem formulation after many computer driven questions.

What practices do they engage in to accomplish this?

The NA engage a range of devices 'conditional propositions' 'evidential verbs' and 'delaying devices' to construct problem formulation as 'cautious'.

The consequence of these strategies is to downgrade epistemic authority of the NA.

Problem formulation is accomplished using language which assumes shared understanding of what is meant, which is unchallenged by the PC.

Problem formulation makes it sequentially possible for the NA to produce advice- a theme to be examined further.

How does this contrast with GP consultations in Primary Care?

GPs produce diagnostic categories following a shorter clinical assessment. NA (are organisationally bound to) complete a lengthy computer driven clinical assessment before producing a 'problem formulation'.

GPs produce *plain assertions* delivered as unproblematic. NA produce 'problem formulations' as sources of doubt and contestability and are thereby produced 'cautiously'.

GPs engage 'evidential verbs' to make inexplicit reference to the process from which the diagnosis marks the conclusion, for example 'appears' and 'seems'. This is also evident in this data but the use of such verbs does double duty by constructing 'problem formulation' as 'cautious'.

Epistemic authority lies with the GP. The NA engages a range of devices to downgrade his/her epistemic authority.

Language used by GPs and NA assumes shared understanding of meaning between the patient and professional, which is unchallenged in this data.

Finally, 'problem formulation' accomplishes an 'anchor' or position from which the NA launches advice-giving. This will be the subject of further analysis.

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