**Title:** Identifying high attendees in General Practice

**Authors**

Glenda Cook, PhD; MA (Medical Ethics); BSc (Hons) Psychology; Cert Rd; RGN; RNT

Professor Nursing,

Faculty of Health and Life Sciences,

Northumbria University, Newcastle upon Tyne.

glenda.cook@northumbria.ac.uk

0191 2156117

Akhtar Ali PhD (Computer Science), MSc (Computer Science)

Senior Lecturer in Computer and Information Sciences,

Faculty of Engineering and Environment,

Northumbria University,

Newcastle upon Tyne,

NE1 8ST

Akhtar.ali@northumbria.ac.uk

0191 2273521

Roger Dykins MBBS DRCOG MRCGP

GP principal

Corbridge Medical Group,

Newcastle Road,

Corbridge.

NE455L

Groger.dykins@nhs.net

01434 632011

Robin Hudson FRCGP  MFSEM  DIMC RCSEd MBBS

GP partner and Clinical Director Northumberland Vanguard Programme

Corbridge Medical Group

Newcastle Road,

Corbridge

NE45 5LG

robinhudson@nhs.net

01434 632011

Julie Johnstone BSc (Hons) Psychology, Postgraduate Diploma in Enterprise Management

Practice Manager

Corbridge Medical Group,

Newcastle Road,

Corbridge

NE45 5LG

juliejohnston1@nhs.net

01434 632011

Jill Mitchell

Deputy Chief Executive CBC Health,

5/6 Enterprise House,

Queensway North,

Gateshead

NE11 0SR

jill.mitchell@gateshead-cbc.com

0191 4977710

**Corresponding author**

Glenda Cook, PhD; MA (Medical Ethics); BSc (Hons) Psychology; Cert Rd; RGN; RNT

Professor Nursing,

Room H013,

Coach Lane Campus East

Faculty of Health and Life Sciences,

Northumbria University,

Newcastle upon Tyne.

NE7 7XA

glenda.cook@northumbria.ac.uk

0191 2156117

**Title:** Identifying high attendees in General Practice

Primary care is critical to the effectiveness and sustainability of the health system in the UK. This is recognised in the current transformation of healthcare that aims to provide care and treatment in the community rather than through hospital-centric services(1, 2). The effects of an ageing population with complex multiple morbidities coupled with increased consumerism has placed an unprecedented demand for access to General Practice. Combined with specific supply-side factors including diminished funding of General Practice and an imminent recruitment crisis brings to the fore the need for new approaches to the delivery of primary care.

One area that has received little attention within the context of transformation is the phenomena that a proportion of the registered practice population consult their General Practitioner frequently (3, 4, 5). Gill and Sharpe’s (1999) systematic review of frequent consulters in general practice concluded that there were two general approaches used to define a frequently consulting group. One approach is to identify a cut off point in the distribution of consultation activity (e.g top quartile). The other approach is based on a minimum number of consultation (e.g. cut-off of 9-14 consultations per annum). These patients have highly complex health problems including combinations of multimorbidity, frailty, dementia, polypharmacy, and problems requiring complicated management plans. Personal circumstances and health anxiety are also prevalent.

Practitioner behaviors also contribute to regular consultations by frequently attending patients. A welcoming approach with positive regard maintains interaction. Hence, when a patient is reliant on a particular GP, the GP is not necessarily in a position to challenge the situation as this may damage the patient-doctor relationship. Alternatively, offering regular review may also be more concerned with addressing issues of confidence and offering support to patients when all treatment options have been provided. Whilst there is much known about the characteristics of these patients and practitioner behaviors; few processes have been developed to identify these individuals during the routine delivery of primary care services.

General Practices have accumulated significant amounts of data from their registered patient population and is locally hosted in clinical information systems. The mining of information systems can be undertaken for a variety of purposes, including identification and monitoring of consultations, clinical management of patients, audit and quality assurance. Through a combination of discovery and predictive data mining techniques clusters of patients with similar characteristics and attendance behavior could be identified. With the developing sophistication of clinical information systems there is an opportunity to use practice data differently. There is also the potential to quantify the impact of the demand for consultations by frequent attenders on the capacity of primary care to respond effectively to the requirement of current NHS policy to release capacity in secondary care.

In a practice development project led by Corbridge Medical Group with researchers from Northumbria University, processes have been developed that enables use of General Practice information systems to identify consultation behaviour and the associated workload. In this practice it was identified that 6% of registered patients use 24% of all GP face-to-face, telephone and home visit consultations (based on the analysis of consultation data for 2013). These procedures have been tested in two other practices with similar results (5-7% of the registered population use 24-27% of GP face-to-face, telephone and home visit consultations; 2015 consultation data). Analysis of the presenting problem titles recorded for these consultations reveals patterns in patient behaviours and clinical clusters. This new business intelligence capability generated through advanced mining of data has highlighted the potential for clinical information systems to be used very differently, and for contemporaneous data to be used to inform the way that primary care is delivered.

We have also developed search tools that enable us to ‘flag’ patients who frequently attend the practice on a near to real time basis. This has led to some surprising outcomes. We thought we knew the patients who frequently requested consultations. We do know some of these patients; however, others see different GPs and practice nurses for many different problems. There was the belief that frequent attenders were primarily those who were older, had multimorbidity or were end-of-life patients. However, our findings have not been limited to these conditions. For example, a group of 53 high attendees have an average age of 43 years and consult GPs on average 34 times a year. The clinical information systems did not readily highlight consultation use and associated patterns. The alert draws attention to the number of attendances within a 12-month period. Once activated we may explore their history further to identify why they require appointments, in order to take a holistic consideration of their problems and unmet need such as health anxiety or somatization.

The intention of our team in developing these systems and tools is not to castigate patients who frequently attend the practice. By understanding patient and practitioner behaviour we seek to identify unmet need, and to use practice clinical information systems in a way that informs clinical decisions. As a practice team we are using patient data to explore if there are different ways of delivering our services that has the potential to support patients to live more healthily and manage their conditions more effectively. We have implemented and are testing new pathways of care and services in the practice that may have the potential to provide a quality service to patients whilst reducing the number of consultations. For example, we have implemented extended 30-minute review appointments that are conducted by the GP and practice nurse together. We ask the patient to complete an SF36 and prioritization of their life and health needs prior to the appointment. This information informs the discussion; and development of a life care plan and emergency health care plan. Initial evidence from implementation and feasibility studies indicate that there is a reduction in consultation rates. These outcomes do need to be subjected to systematic investigation in order to assess causality, effect size and how long the effect is sustained. Importantly the impact on patient quality of life needs to be understood. Our aspiration is that these new approaches may release capacity within the practice to provide other services such as advanced care planning for high risk patients and those patients needing end of life care.

New models of General Practice Federations and Alliances are emerging. These models support the delivery of scaled-up solutions of General Practice as evidenced through the NHS England GP Access Fund Scheme (6) and NHS England New Models of Care Programme (7). Use of Alliance/Federation-wide enterprise licenses and establishing data sharing agreements would provide the capability to implement centralized solutions for data mining, searching and reporting across all GP Practices within the group. This ‘at scale’ approach to data mining would usefully identify the frequent attender patient cohort informing both practice-based solutions and exploring locality (population-based) solutions.

Groups of practices operating at scale have the opportunity to support population-based initiatives. The use of local data to support business intelligence in General Practice has much potential to support transformation of General Practice. Applying the findings from the Corbridge project on a federated basis has the opportunity to release significant capacity within local health systems aligning with the vision of improved access to General Practice (2).

**References**

1. Health and Social Care Act (2012) Retrieved on 20.10.2016 from http://www.legislation.gov.uk/ukpga/2012/7/contents/enacted
2. NHS England (2016) General practice forward view. Retrieved on 20.10.2016 from <https://www.england.nhs.uk/ourwork/gpfv/>
3. Gill D and Sharper M (1999) Frequent consulters in general practice: A systematic review of studies of prevalence, associations and outcome. Journal of Psychosomatic Research 47(2) 115-130
4. Neal RD, Heywood PL, Morley S, et al. (1998) Frequency of patients' consulting in general practice and workload generated by frequent attenders: comparisons between practices. British Journal General Practice 48(426):895–898
5. Karlsson H., Lehtinen V., Joukamaa M (1994) Frequent attenders of Finnish public primary health care: Socio-demographic characteristics and physical morbidity. Family Practice 11(4 )424-430
6. NHS England (2015a) Prime Minister’s Challenge Fund: Improving access

 to general practice: First evaluation report. Retrieved on 20.10.2016 from

[https://www.england.nhs.uk/wp-content/uploads/2015/10/pmcf-wv-one-eval-](https://www.england.nhs.uk/wp-content/uploads/2015/10/pmcf-wv-one-eval-%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20report.pdf)

 [report.pdf](https://www.england.nhs.uk/wp-content/uploads/2015/10/pmcf-wv-one-eval-%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20report.pdf)

1. NHS England (2015b) Multispecialty community provider vanguards. Retrieved on 20.10.2016 from <https://www.england.nhs.uk/ourwork/futurenhs/new-care-models/community-sites/>