

Asian Pacific Journal of Tropical Biomedicine

journal homepage: www.apjtb.com



Document heading doi:10.12980/APJTB.4.2014C1199 © 2014 by the Asian Pacific Journal of Tropical Biomedicine. All rights reserved.

Challenges of a negative work load and implications on morale, productivity and quality of service delivered in NHS laboratories in England

Erhabor Osaro*, Njemanze Chima

Blood Sciences Department, Royal Bolton Hospital NHS Foundation Trust, Minerva Road Bolton, BL4 0JR, UK

PEER REVIEW

Peer reviewer

Dr. Teddy Adias Charles, Provost,
Bayelsa State College of Health
Technology, Ogbia, Nigeria.
Tel: +2348033130301
E-mail: teddyadias@yahoo.com

Comments

The manuscript describes the numerous daunting challenges that Laboratory service delivery in the NHS in England. So there is the urgent need to retract our steps on unpopular policies to ensure the patient care. Details on Page 427

ABSTRACT

The National Health Service (NHS) is a term used to describe the publicly funded healthcare delivery system providing quality healthcare services in the United Kingdom. There are several challenges militating against the effective laboratory service delivery in the NHS in England. Biomedical scientists work in healthcare to diagnose disease and evaluate the effectiveness of treatment through the analysis of body fluids and tissue samples from patients. They provide the “engine room” of modern medicine with 70% of diagnosis based on the laboratory results generated by them.

This review involved the search of literature for information on working condition of biomedical scientist in the NHS in England.

Laboratory service delivery in the NHS in England faces numerous daunting challenges; staffing levels in the last few years have become dangerously low, less remunerated, relatively less experienced and predominantly band 5's, multidisciplinary rather than specialty based, associated with working more unsocial hours without adequate recovery time, de-banding of staff, high staff turnaround, profit and cost driven rather than quality. These factors has resulted in burn out, low morale, high sickness absences, increased error rate, poor team spirit, diminished productivity and suboptimal laboratory service delivery.

There is the urgent need to retract our steps on unpopular policies to ensure that patient care is not compromised by ensuring adequate staffing level and mix, ensuring adequate remuneration of laboratory staff, implementing evidenced-based specialty oriented service, determining the root cause/s for the high staff turnover and implementing corrective action, identifying other potential sources of waste in the system rather than pruning the already dangerously low staffing levels and promoting a quality delivery side by side cost effectiveness.

KEYWORDS

Laboratory staffs, National Health Service, England, Negative work load, Morale, Productivity, Service delivery

1. Introduction

The National Health Service (NHS) is a term used to describe the publicly funded healthcare delivery system providing quality healthcare services in the United Kingdom. The NHS is funded through general taxation rather than through insurance payments as it obtains in

most other countries in Europe and the USA. The NHS was founded in 1948 with the aim of providing a free, quality and comprehensive healthcare services to the vast majority of residents of the United Kingdom^[1,2]. The individual systems include: NHS (England), Health and Social Care in Northern Ireland (HSENI), NHS Scotland and NHS Wales. The individual systems are separately funded. There is

*Corresponding author: Dr. Erhabor Osaro, Blood Sciences Department, Royal Bolton Hospital NHS Foundation Trust, Minerva Road Bolton, BL4 0JR, UK.

Tel: +447932363217

E-mail: n_osaro@yahoo.com

Foundation Project: Supported by grant (NEL001) from the management of Nelson Biomedical Limited UK.

Article history:

Received 30 Mar 2014

Received in revised form 8 Apr, 2nd revised form 13 Apr, 3rd revised form 20 Apr 2014

Accepted 30 Apr 2014

Available online 28 Jun 2014

however no discrimination as residents of one country of the United Kingdom can receive treatment in another. Foreign nationals also receive free treatment if they have been legal residents in the UK for 12 months, have recently arrived to take up permanent residence, are claiming asylum or have other legal resident status. Citizens of European Economic Area nations, as well as those from countries with which the UK has a reciprocal arrangements, are also entitled to free treatment by using the European Health Insurance Card^[3,4].

Success in modern healthcare delivery worldwide depend on the accuracy and efficiency of diagnostic service rendered by biomedical scientists. Patients' lives and treatment delivered depend on the useful skills and knowledge of biomedical scientist. Biomedical scientists are members of a professional institute; Institute of Biomedical Science (IBMS) and are regulated by the Health and Care Professions Council (HCPC). They carry out a range of laboratory and scientific laboratory tests that play a pivotal role in the diagnosis and treatment of diseases. Their useful service is key to the effective functioning of many clinical departments including the accident and emergency (A&E) departments. They play a key role in the diagnosis of diseases such as anaemia, diabetes, malignancies, emergency blood transfusions services, meningitis, hepatitis, chronic liver disease, chronic kidney disease, haematological malignancies, haemoglobinopathies, coagulation disorders, HIV and AIDS. They use computer-based laboratory information management system (LIMS) and other highly sophisticated automated equipments employing a wide range of complex modern scientific techniques to carry out a varied, highly practical and analytical test on blood, body fluids and other biological materials including tissue samples in a bid to ensuring an excellent laboratory service delivery. Areas of specialties in Biomedical Science include haematology, blood transfusion science, medical microbiology, virology, clinical biochemistry, immunology, histology, cytology, andrology and reproductive science.

NHS funding is now being constrained as part of the overall measures to reduce UK public expenditure. This has implications for future staffing levels and quality of service^[5]. The aim of this present review is to highlight the challenges associated with the effective laboratory service delivery in the NHS in England. It is hoped that evidenced-based information from this review can help in the formulation of policies that could optimize the laboratory service delivery in the NHS in England.

2. Challenge of sub-optimal staffing levels in the NHS laboratories

Quality healthcare as one that is effective, efficient, evidence-based, patient-oriented, and equitable^[6,7]. The rendering of effective, efficient, evidence-based, patient-

oriented, and equitable laboratory service depends on having an adequate number of biomedical staff. Personnel are an organization's most valuable assets. Their relative number, training, certification, competency, appraisal and continuing professional development is important to enable them to meet the quality objectives of the laboratory. Laboratory management is to ensure that an appropriate number of staff with the requisite education, qualification, training and competence required to meet the demand of the service users are available. It is widely acknowledged that the shortage of skilled staff is one of the main risk areas in achieving the targets in the NHS. The Wanless report stressed that the United Kingdom does not have enough health professionals^[8]. The UK Department of Health and the Institute of Biomedical Science advocates that patient safety must always underpin the modernisation programme of careers in healthcare science despite emphasis on competitiveness and cost efficiency advocated by the national reviews of pathology services. The IBMS emphasizes the need to maintain a robust relationship between laboratory workload and staff numbers^[9]. A survey by the IBMS in the year 2000 reported by the BBC says that more than half of NHS laboratories are using inappropriate staff in place of biomedical scientists as low wages and poor promotion prospects deter those with qualifications. According to the IBMS study of 180 laboratories, 90% admitted they were severely understaffed and 60% regularly used unqualified workers to help with day-to-day tasks. The IBMS observed that work that should have been done only by scientists was being left to less experienced low cadre laboratory staffs, secretaries and administration staff. According to Alan Potter of the IBMS, use of laboratory staff that is recognised as being underpaid, overworked, over stressed and with low morale is a recipe for errors being made^[10]. It is however sad to note that 13 years after this damning report, staffing in most NHS laboratories still does not match increasing workloads. Challenges associated with workload monitoring include; variations in workload profile, measurement and diversity of workloads and increasing prevalence of cross-disciplinary working. However, there is the need for the IBMS and the Clinical Laboratory Accreditation (CPA) to develop benchmarks to clarify on laboratory staffing levels required to ensure the delivery of a quality service and ensure that the health of the biomedical staff and patient safety are not compromised. The number of biomedical scientists is significantly low compared to workloads in most NHS trust in England. This is unhealthy, puts staff under great pressure and is often associated with high error rate and negative patient outcomes. The major reason for the dangerously low level of biomedical staff is not far-fetched. The Conservative Government approved NHS budget cuts over the past two years, in order to save £20bn. This has significantly and negatively affected the quality of the service delivered as well as staff morale. In some NHS hospitals laboratories

are being shut down and services are being transferred to other locations. This has dramatically increased the workload for staff in most hospital laboratories. The few biomedical staff are often saddled with the responsibility to take on these additional workloads. In most cases staff who worked for services that have been shut are compelled to re-apply for their jobs with additional roles and new job descriptions. Budget cuts in the NHS have created staff shortages. Consequently, this puts more pressure on existing employees, the majority of whom are burn out in an attempt to under undue pressure. Sometimes the level of automation in these laboratory is unable to support the increased workloads^[11]. It is sad to note that 13 years down the line, staffing levels are still suboptimal and sometimes dangerously low. Training of new staff is often hurried. There is often pressure to get new staff up to speed. Those who have occupational health problems are often being pressured to carry out tasks that may negatively impact their already compromised health, including working out of hours. The few staff often bear the brunt of working unconventional shift patterns that lack a work–life balance. This policy is not health and safety compliant and often negates the European working time directives. Laboratory managers have a moral responsibility to justify to hospital management that effective service delivery is dependent on maintaining an optimum staffing levels particularly when set targets and approved budgets are insufficient to maintain a safe and effective service.

There is evidence that laboratory staffing has a direct relationship on patient outcome, hospital mortality and error rates^[12]. This findings should provide evidenced–based information to enable laboratory managers make objective decisions on restructuring the workforce particularly in this era of budget cuts introduced by the conservative government ensuring that laboratory staff and patients are not potentially put at risk. The staff challenges in the NHS is not limited to biomedical staff alone. Studies among nursing staff have shown that staffing levels, among many other factors in the hospital setting, contribute to adverse patient outcomes^[12]. Concerns about patient safety and quality of care have resulted in numerous studies being conducted to examine the relationship between laboratory staffing levels and the incidence of adverse patient events, near misses, errors and unexpected negative outcomes^[13]. Evidence from studies carried out among nursing staff has shown that increased nursing staffing in hospitals was associated with lower hospital–related mortality and better outcomes in intensive care units and in surgical patients^[14]. A previous study to examine the association between in–hospital mortality and four nurse staffing variables; the ratio of total nursing staff to patients, the proportion of registered nurses (RNs) to total nursing staff, the mean years of RN experience, and the percentage of nurses with bachelor of science degree in nursing has shown that the ratio of total

nurse staffing to patients was significantly related to in–hospital mortality. In addition, the ratio of total nursing staff to patients was found to be the best predictor of in–hospital mortality among the four nurse staffing variables. The study did not find any significant relationship between in–hospital mortality and three nurse staffing variables (the proportion of RNs to total nursing staff, the mean years of RN experience, and the percentage of bachelor degree prepared nurses) probably due to the low variation of these variables across nursing units or because they may have correlated with other variables. A nurse shortage, in combination with increased workload, has the potential to threaten quality of care^[15]. Hospitals with inadequate nurse staffing have higher rates of adverse events such as hospital acquired infection, shock, and failure to rescue^[16]. Systematic reviews of the published literature show that better staffing is associated with less hospital mortality and failure to rescue, and shorter lengths of stay^[17].

3. Challenge of relatively inexperienced biomedical staff and lack of staff mix

Optimum staffing is defined as having the right staff with the right skills in the right place at the right time. The United Kingdom is having to deal with issues related to demographic change, skills shortages, the drive to “modernize” public services and the never–ending search for the healthcare holy grail of getting more for less, without undermining quality of care^[18]. Despite the general requirement and advocacy by the IBMS that effective skill mix of biomedical staff with different grades and experience is pivotal to the effective management of workload and maintenance of a high quality service, laboratories in most NHS hospitals in England has become predominantly staffed by less experienced band 5’s. The number of more qualified specialist biomedical scientist on band 6 has become significantly decimated. When a specialist biomedical scientist on band 6 retires or change job, they are promptly replaced by newly qualified and often less experienced band 5’s. The major driver for this action is essentially cost savings in an attempt to deliver on saving targets required of laboratory managers by hospital managers and the Conservative led government. There have been successive reviews of Pathology Services in England, most notably is the Carter Review of Pathology Services in 2008^[19]. The Carter Review identified ways to achieve significant benefits from further reform of pathology services, but lack of good data hindered the formulation of its final conclusions. The recommendations of Carter seems to be in alignment with the review of the NHS by Lord Darzi^[20], ‘High quality care for all’, which emphasised the importance of the principle to ‘localize where possible and centralise where necessary’. The Carter review team has had to undertake a second

phase, working with 12 trusts to collect cost and activity data, and explore the reasons for variations in cost. It then carried out a modelling exercise, the findings of which helped the committee make its final recommendations focused on three main themes (improving quality and patient safety, improving efficiency and identifying the mechanisms for delivering change). The review estimated that significant savings could be made by the NHS through consolidating pathology services^[21]. The pathology laboratory in the NHS in England is undergoing a fundamental change. The NHS is being asked to make £20bn of efficiency savings annually by 2015, and according to the 2008 Carter review, pathology could contribute a ridiculous £500m a year^[19,21]. In the name of optimizing the use of available biomedical staff, most hospitals are having to cross-train staff to do multidisciplinary work outside their area of specialism. It is anticipated that BMS staff whose area of specialty is clinical chemistry will be trained to work across blood sciences in blood transfusion and haematology routinely and outside core hours. In a bid to meeting targets on cross training, most trust are intending to hurriedly train clinical biochemistry staff to be able to work in haematology and in the highly sensitive, specialized, highly regulated, competency, qualification and training-required area of transfusion science. This appears a disaster waiting to occur. The Serious Hazards of Transfusion (SHOT) Adverse Incident Reporting Scheme (SHOT Annual Reports, 1996–2008) has consistently reported that 30%–40% of ‘wrong blood’ errors are due to errors originating in the hospital blood transfusion laboratory with a disproportionate number occurring outside ‘core hours’^[22]. Evidence collated from two national surveys from UK Transfusion Laboratories has formed the basis for the recent recommendations made by the UK Transfusion Laboratory Collaborative aimed at reducing blood transfusion laboratory errors by 50% by 30 September 2012^[23,24]. The collaborative recommends among others that all unsupervised lone-working individuals will be registered with the Health Professions Council (HPC), and all lone-working staff whether working supervised or unsupervised will have attained one or more of the following as appropriate qualifications [registration via the Council for Professions Supplementary to Medicine (CPSM)/IBMS logbook in haematology and hospital-based transfusion practice; registration via the CPSM/IBMS logbook in blood transfusion; IBMS Specialist Diploma in Haematology with Hospital Transfusion Practice; IBMS Specialist Diploma in Transfusion Science or British Blood Transfusion Society (BETS) Specialist Certificate in Transfusion Science Practice]. The collaborative also recommends that the staffing levels and skill mix must be adequate to ensure the safe and effective delivery of routine and emergency services and that there will be a programme of on-going training and an annual competency assessment in which all individuals working at any time within the blood transfusion laboratory will actively participate. Although cross-training of BMS has been argued

to increase flexibility by working across traditionally separate laboratories. However, the workload is such that optimum numbers and mix of staff are required to provide a safe and effective service. Also there is the need to effectively train such staff and ensure that they competent and have the requisite knowledge required to perform the task expected. In the absence of optimum staffing and lack of adequate mix to include more qualified specialist biomedical scientist on band 6 and managers on band 7, the so called flexibility resulting from cross-training is potentially cancelled out by the negative impact that reducing the skill mix or numbers of staff will have of the offering of safe service^[25]. Most of the employed band 5’s are recently qualified with little or no laboratory-based experience. They require extensive trainings mostly rendered by the few band 6 staff with the support of the managers. It often takes time to bring them up to speed for inclusion in the continuous rota working rota. Error rate among these less experienced staffs are often high and put a lot of strain on the few specialist band 6 staff available. There is often suboptimal and inadequate supervisory staff in most laboratories. In order to maintain the quality of service, there must be a staff structure that recognises levels of responsibility based on professional competence, seniority and experience, with clear lines of professional accountability. It is recognised that there are certain tasks and tests within the generally accepted biomedical scientist repertoire that could be undertaken by laboratory support staff under biomedical scientist supervision. However, there must be adequate mix of biomedical scientists covering all cadres to provide result interpretation, give scientific advice, offer direction and leadership within the laboratory. Additional to the scientific aspects of service delivery, there is the general requirements for organisation and delivery of staff training, quality management and audit. Within the staff structure there should also be a sufficient number of biomedical scientists responsible for supervision, service quality and staff training. Biomedical scientists of any grade should not be asked to deputise for a senior colleague unless they have the necessary experience and expertise. The practice in most laboratories in the NHS in the UK where the population of biomedical staff has become essentially band 5’s is unhealthy, increases the chances of mistakes and can potentially have a negative effect on patient care and outcomes. What we see in most NHS laboratories today is a systematic re-profiling of the skill mix in the laboratory. Most laboratories are now employing more band 5’s and other support staff (laboratory assistant and associate practitioners) in preference to qualified specialist biomedical scientist. Less experienced low cadre laboratory support staffs are being required to carry out task for which they are not licensed, certified, trained, qualified and competent to perform. This practice has a negative implication on the image of the biomedical science

profession. Some laboratory managers are happy to employ qualified biomedical scientist as medical laboratory assistant or associate practitioners rather than as scientist to save cost. We should be creating more opportunities for members of our professional groups particularly the newly qualified rather than closing up opportunities for them. With the inadequate mix of biomedical staff seen in most NHS laboratories there is a growing challenge of effective supervision of low cadre support staff. Irrespective of the systems operated, laboratory support staff (associate practitioners and assistants) are not autonomous practitioners and as such must only work to agreed departmental protocols with supervision by qualified and authorised biomedical staff. It is unethical for non-registered staff to deputise for, or perform task that require the expertise and skill of a registered biomedical scientist. The IBMS recommend that support staff must not practice outside the limits of their competency, nor beyond the level of their supervision, and must always be made aware of the potential risks in compromising patient care^[9]. However contrary to acceptable norms, non-registered individuals work unsupervised in some NHS laboratories and in laboratories providing service to the NHS. In most NHS trust, there is suboptimal numbers of trained and competent biomedical scientists on band 6 and staff at supervisory levels. There is the capacity to meet staffing level and mix by recruiting the required biomedical staff at home in the UK. What is lacking is the will to get it done particularly in this era of cuts to public expenditure. The net result is that quality is being down played in a bid to meet up with unrealistic targets set by government. However previous report suggest that in a bid to meet the staffing level and mix required for effective quality service delivery, active international recruitment can potentially contribute to health sector staffing growth, assuming the recruiting country has the resources to recruit and can tap into international markets, but it may not be effective in addressing all types of skills shortages^[26].

4. Challenge of high staff turn over

Critical shortages of health human resources (HHR), associated with high turnover rates, have been a concern in many countries around the globe. Of particular interest is the effect of such a trend on the hospital laboratory, a sector; considered a cornerstone in the effective healthcare system^[27]. In most NHS laboratories in England, there is an increasing prevalence of negative workload phenomenon. Workload has increased over the years but yet staffing levels have remained either the same or has declined. The resultant effect is that biomedical staff are overworked, stressed, experience burnout, less productive and of low morale. Many who are unable to cope with the stress and burnout either

leave to join another trust with better staffing or leave the profession entirely to seek job in other professions. This has resulted in a high turnover of staff in most NHS laboratories. This is further compounded by the findings that sooner after these highly qualified and experienced staff have left, they are promptly replaced by recently qualified less experienced band 5 cadre biomedical staff as a cost saving measure. This has resulted in most laboratories becoming not only understaffed and also essentially less experienced. When a staff leave, it takes a minimum of about 3–6 months or more to get the vacancy filled. Once filled, it takes a further 6 months or more to train these staff and to bring them up to a position when they are at speed and are productive in terms of service delivery in the laboratory. During such period the few biomedical staffs on ground have no option than to continue to deliver on the high workload despite the shortfall in staffing levels. Working in the NHS laboratory has never been as stressful as it is today. Having sufficient personnel available to administer quality care has been found to be the strongest predictor of team member satisfaction that facilitate improvements in staff morale and reduce the likelihood of staff burnout^[28]. There is a growing interest in the psychosocial work environment of healthcare staffs since they are at high risk for burnout, role conflict and job dissatisfaction. Burnout is a type of prolonged response to chronic job-related stressors, has a special significance in healthcare particularly in situation where staff experience both psychological-emotional and physical stress. Burnout and the other negative aspects of the job of biomedical staff have major behavioral and health implications^[29]. The most well documented cause of turnover among health professionals is related to job dissatisfaction^[30,31]. Literature presents a plethora of such factors that influence the retention of healthcare workers. They could be summarized under the following three main categories: organizational characteristics, work characteristics, and individual characteristics. Organizational factors documented include salaries and benefits^[32,33], along with organizational commitment and managerial support^[34,35]. Work characteristics revolved around the nature of the job, which includes the workload, work environment, and work group cohesion^[36] as well as opportunities for professional development. Individual socio-demographic characteristics associated with turnover included age, education, professional position, and tenure^[37].

5. Challenge of poor remuneration

The NHS pay and career structure needs to be responsive to the needs of individual workers, the professional group they belong, training curriculum, nature of work done and should supports the attainment of organizational and individual goals. The previous pay system prior to, Agenda for Change

remained unchanged for many years after the NHS was set up in 1948. Negotiations on a new pay and career structure for all NHS staff (Agenda for Change) are now complete and at the implementation stage. The structure is based on a single job evaluation system for all groups and occupations. It retains a national pay framework and is supposedly expected to have a greater flexibility for individual jobs to be priced and will probably include a mechanism for pay supplements in the more difficult regional labor markets. The last 2 years has been characterized by pay freeze imposed on NHS. It is sad to note that while hard working frontline NHS staff are working so hard to bring most trust into a good financial position, they were rewarded with pay freezes while top managers received pay rises sometimes up to 18 per cent. The dramatic rises in top managers pay is coming at a time when most public sector pay was frozen since the last year and recently capped at just one per cent this year. This disparity in pay can have a negative effect on staff morale and productivity. Basic pay for health chiefs, including ward managers, human resources directors and finance officers, has soared since last September. Senior hospital managers have been enjoying a two per cent pay rise while hard work frontline biomedical staff and other health workers endured a two-year pay freeze. The pay freeze has come at a time when cost of living is rising astronomically^[38]. The government imposed two years of pay freezes could in real terms be up to a 10% cut in pay for NHS staff due to the rate of inflation. The government has also imposed changes to NHS pension scheme. This means hardworking frontline staff will be paying more to work longer and get less in retirement.

Changes to on call allowances and implementation of agenda for change has significantly affected the pay of biomedical scientist in the NHS. These changes mean that some biomedical scientists have seen about a 25 to 30% drop in their income from these changes alone. The biomedical science profession is a high level manpower profession. Recent policies is making it look otherwise. Income paid to the average biomedical scientist today is not commensurate to the effort they are putting in to ensure that patients get the best biomedical service they deserve. Biomedical scientist who do a night shift for example take home less than those in other less qualified professions. Under the guise of departmental reorganizations, some biomedical scientist in some NHS trust have been 'down-banded' or down-graded. This has resulted in staff losing sometimes up to £1,000s in income along with the loss of their professional status. Altogether many biomedical staff in the NHS workers have lost around a third or more of their income already. Despite all these, more cuts to terms and conditions, are currently being sought. Some employers are changing terms for new starters, asking people to sign new contracts on worse terms than Agenda for Change, or looking to sack and re-engage whole workforces on worse terms and conditions. There is a high level of uncertainty in most NHS laboratories. In many

NHS laboratories, there has been cuts to staff and services. Many have noticed cuts to staffing levels, vacancy freezes, ban on replacement of vacancy on a like for like basis and loss of support and management roles. This is having a huge impact on morale and team work in most NHS laboratories. Many biomedical and other NHS staff are being pushed to breaking points through long hours, overtime, poor remuneration, less support and increased stress^[39].

6. Psychosocial challenges of working in the NHS laboratory

There is a general atmosphere of discontent across NHS hospitals in England. There is worry that, the increased pressure in the working environment can potentially increase the cases of human error and result in poor patient care. Policies are changing so fast in most NHS laboratories because of the overall measures put in place by the Conservative government to reduce UK public expenditure. The NHS is required to make savings of up to £20 billion by 2015. These unpopular policies has resulted in limited resources (human and material), extensive work hours, cuts in pay, de-banding of staff, lack of opportunities for professional advancement, job cuts and insecurity, high staff turnover, unrealistic targets and turnaround times. Before these changes were introduced, employees were settled, they knew their job roles and could complete their work efficiently with adequate staffing levels. Recent plans and policy implementation are causing further worry. Many are concerned about changes to the pay structure and the possibility of being moved to a lower pay band and many fears being downgraded. All these only add to the bad feelings in most NHS hospitals and resentment that there are too many highly paid managers while those frontline staff whose hands are on deck effectively getting the work done are being underpaid, demoted or even laid off. This is a serious morale issue that needs to be addressed. NHS staff are almost four times as likely to be absent from work with stress as people in other occupations^[40]. Workforce data on 30000 staff working across 17 NHS trusts showed that stress and associated psychiatric problems accounted for as much as 15% of all days lost due to sickness absence in 2008. This compares with 4% of days lost in the same year due to stress among 40000 staff, working across a range of other occupations –in both the public and private sector (including education, manufacturing, retail and local government)^[40]. Recently, there has been an increase in stress-related symptoms among biomedical and other NHS staff and more cases of absenteeism resulting from stress-related sickness are being reported^[41]. It is no longer news that a significant number of staff in the NHS are on job stress-related medication. The pressure and worry about the amount of work placed upon individuals is having a negative impact

on their health, morale and productivity. Morale is at an all-time low and hope of an improvement is slim particularly at a time when the Conservative led government in the United Kingdom is unrepentant and are not relenting in their cutbacks. Absenteeism among laboratory staff and other health workers is a growing management concern. It can contribute to understaffed laboratories, staffing instability, and other factors that could have a negative impact on patient care^[42]. Absenteeism and sickness absences are strong factor that may be responsible for lowering quality. However, the combination of high absenteeism and high and increasing work load could also be compounding factors. Staffing and absenteeism may be part of a vicious cycle in which low staffing contributes to unit absenteeism, which contributes to low staffing, and so on. The figures from the Edinburgh Evening news^[43], has revealed that NHS workers are taking a record amount of time off due to psychological disorders such as stress or depression. While overall sickness rates have fallen at NHS Lothian in the past five years, the amount of time off taken because of mental conditions has almost doubled. The latest statistics, released under the freedom of information legislation, show that almost a quarter of days off taken by workers including doctors and nurses are now due to mental issues such as stress, anxiety or depression. While the overall sickness absence rate dropped to 4.26 per cent in 2012–13 from 4.84 per cent in 2008–9, absence due to stress, anxiety, depression and other psychological conditions rose from 0.47 per cent to 0.9 per cent^[44]. Like the Labour Lothians MSP Sarah Boyack rightly quoted, these findings has “lifted the lid” on the day-to-day experiences of frontline staff in the NHS. Sickness absence continues to be an economic burden to the NHS and there is increasing concern that workers in health and social care have some of the highest rates of self-reported illness due to stress, anxiety and depression^[45]. This is no longer a problem the NHS can ignore because it has an enormous costs implications. Around 30 per cent of sickness absence in the NHS is due to stress and it is associated with a significant bill to the service per year^[46]. Stress can also contribute to accidents and errors by employees, low morale and low productivity. It has a significant impact on the well-being of staff, their productivity and effectiveness. There is need for hospital managers, Quality Care Commission and the Department of Health to carry out an objective root cause analysis on these problems and arrive at the root causes to enable the objective implementation of corrective actions aimed at obviating the root causes^[47,48]. There are several causes of job-related stress; increased staff turnover, poor organizational public image, unrealistic targets and turnaround times, negative workload, lack of enabling working environment, suboptimal staffing levels, lack of support from supervisors and managers, bullying and discrimination, poor work-life balance, gossip, de-banding of staff, job cuts, job insecurity, loss of skilled workforce and lack of developmental opportunities. Symptoms of

job-related stress include; failure to contribute quality improvement ideas, evidence of continuous fatigue and tiredness, high sickness absences, loss of self-confidence, change in behavior, poor team spirit, loss of concentration, reduced work output, social isolation, loss of interest in assigned task, low staff commitment, under-performance, low staff morale, low productivity, increased accidents and mistakes, poor relationships with clients and colleagues, uncharacteristic mood swings, failure to communicate and lack of zeal^[49].

7. Conclusion

Biomedical staff in the NHS in England face several daunting challenges; suboptimal staffing levels, poor remuneration, relatively less experienced and predominantly band 5 workforce, more unsocial hours without adequate recovery time, high staff turnaround, poor motivation, job cuts, de-banding of staff, pay freezes, lack of opportunities for professional growth and development. These challenges can potentially result in increased error rate, job-related stress, reduced productivity, high sickness absences, low morale, suboptimal laboratory service delivery, job insecurity and poor work-life balance. There is the urgent need to nip these challenges in the bud. Government and hospital managers will of a necessity have to retract their steps with regards to cuts to the NHS budget as well as other unpopular policies that can negatively affect patient care. There is need to ensure adequate staffing levels and mix, adequate remuneration of laboratory staff, implementation of evidence-based specialty oriented practice, determination of root cause/s of high staff turnover and low morale and objective implementation of the corrective actions arrived at as well as identifying other potential sources of waste in the system rather than pruning the already dangerously low frontline staffing levels.

Conflict of interest statement

We declare that we have no conflict of interest.

Acknowledgements

Authors are grateful to the management of Nelson Biomedical Limited, UK for support with this review.

Comments

Background

The NHS is a term used to describe the publicly funded healthcare delivery system providing quality healthcare

services in the United Kingdom. There are several challenges militating against the effective laboratory service delivery in the NHS in England.

Research frontiers

The aim of this present review is to highlight the challenges associated with the effective laboratory service delivery in the NHS in England. It is hoped that evidence-based information from this review can help in the formulation of policies that could optimize the laboratory service delivery in the NHS in England.

Related reports

There is paucity of report on the challenges associated with quality laboratory services delivery in England.

Innovations and breakthroughs

This review highlights the daunting challenges associated with laboratory service delivery in the NHS in England; staffing levels in the last few years have become dangerously low, less remunerated, relatively less experienced and predominantly band 5's, multidisciplinary rather than specialty based, associated with working more unsocial hours without adequate recovery time, de-banding of staff, high staff turnaround, profit and cost driven rather than quality.

Applications

This review indicates that there is the urgent need to renege our steps on unpopular policies to ensure that patient care is not compromised by ensuring adequate staffing level and mix, ensuring adequate remuneration of laboratory staff, implementing evidence-based specialty oriented service, determining the root cause/s for the high staff turnover and implementing corrective action, identifying other potential sources of waste in the system rather than pruning the already dangerously low staffing levels and promoting a quality delivery side by side cost effectiveness.

Peer review

The manuscript describes the numerous daunting challenges that laboratory service delivery in the NHS in England. So there is the urgent need to retract our steps on unpopular policies to ensure the patient care.

References

- [1] Stewart J. The political economy of the British National Health Service, 1945–1975: opportunities and constraints. *Med Hist* 2008; **52**(4): 453–470.
- [2] Dawson P. The British National Health Service: crisis and transformation. *J Am Coll Radiol* 2006; **3**(10): 735–741.
- [3] Citizens Advice Bureau. NHS charges for people from abroad. London, UK: National Association of Citizens Advice Bureaux. [Online] Available from: http://www.adviceguide.org.uk/england/healthcare_e/healthcare_help_with_health_costs_e/nhs_charges_for_people_from_abroad.htm. [Accessed on 16 November 2010].
- [4] Bilateral healthcare agreement countries. London, UK: Department of Health. [Online] Available from: http://webarchive.nationalarchives.gov.uk/+/www.dh.gov.uk/en/Healthcare/Entitlementsandcharges/OverseasVisitors/Browsable/DH_074391. [Accessed on 22 July 2011].
- [5] Buchan J, Seccombe I. The end of growth? Analysing NHS nurse staffing. *J Adv Nurs* 2013; **69**(9): 2123–2130.
- [6] Committee on the Work Environment for Nurses and Patient Safety, Board on Health Care Services. *Keeping patients safe: transforming the work environment of nurses*. Washington, DC: National Academy Press; 2004.
- [7] Tollen L, Enthoven A, Crosson FJ, Taylor N, Audet AM, Schoen C, et al. Delivery system reform tracking: a framework for understanding change. *Issue Brief (Commonw Fund)* 2011; **10**: 1–18.
- [8] Wanless D. Securing our future health: taking a long term view. Final report. London: The Public Enquiry Unit, HM Treasury; 2002. [Online] Available from: http://webarchive.nationalarchives.gov.uk/+/http://www.hm-treasury.gov.uk/consult_wanless_final.htm. [Accessed on 21 September 2010].
- [9] Professional Examinations and Awards Committee. Managing staffing and workload in UK clinical diagnostic laboratories. Version 3. London, UK: Institute of Biomedical Science; 2010.
- [10] Call for probe into NHS 'lab danger'. BBC News. 2000 Jan 24, 12:41 GMT.
- [11] Civil Service World. Frontline: NHS hospital laboratory worker. London, UK: Civil Service World; 2013. [Online] Available from: <http://www.civilserviceworld.com/frontline-nhs-hospital-laboratory-worker/>. [Accessed on 13 January 2013].
- [12] McGahan M, Kucharski G, Coyer F; Winner ACCCN Best Nursing Review Paper 2011 sponsored by Elsevier. Nurse staffing levels and the incidence of mortality and morbidity in the adult intensive care unit: a literature review. *Aust Crit Care* 2012; **25**(2): 64–77.
- [13] Kane RL, Shamliyan T, Mueller C, Duval S, Wilt TJ. Nurse staffing and quality of patient care. *Evid Rep Technol Assess (Full Rep)* 2007; (151): 1–115.
- [14] Sasichay-Akkadechanunt T, Scalzi CC, Jawad AF. The relationship between nurse staffing and patient outcomes. *J Nurs Adm* 2003; **33**(9): 478–485.
- [15] Cho SH, Ketefian S, Barkauskas VH, Smith DG. The effects of nurse staffing on adverse events, morbidity, mortality, and medical costs. *Nurs Res* 2003; **52**(2): 71–79.
- [16] Cimiotti JP, Haas J, Saiman L, Larson EL. Impact of staffing on bloodstream infections in the neonatal intensive care unit. *Arch Pediatr Adolesc Med* 2006; **160**(8): 832–836.
- [17] Chen LM, Jha AK, Guterman S, Ridgway AB, Orav EJ, Epstein

- AM. Hospital cost of care, quality of care, and readmission rates: penny wise and pound foolish? *Arch Intern Med* 2010; **170**(4): 340–346.
- [18] Buchan J. The capacity to change? Workforce growth in the health sector; a U.K. perspective. *Healthc Pap* 2002; **3**(2): 33–39; discussion 76–79.
- [19] Department of Health. *Report of the review of NHS pathology services in England*. London, UK: COI for the Department of Health; 2006.
- [20] Darzi A. *High quality care for all: NHS next stage review (final report)*. London, UK: Department of Health; 2008.
- [21] Department of Health. *Independent review of NHS pathology services in England*. London, UK: Department of Health; 2010. [Online] Available from: http://webarchive.nationalarchives.gov.uk/+/www.dh.gov.uk/en/Healthcare/Pathology/DH_075531. [Accessed on 12 May 2011].
- [22] Serious Hazards of Transfusion Office. *SHOT reports and summaries*. Manchester, UK: SHOT. [Online] Available from: <http://www.shotuk.org/shot-reports/>. [Accessed on 25 April 2012].
- [23] Institute of Biomedical Science. *Summary of Two national surveys of UK transfusion laboratories*. London, UK: Institute of Biomedical Science. [Online] Available from: http://www.ibms.org/index.Cfm?method=science.transfusion_science. [Accessed on 24 July 2010].
- [24] Chaffe B, Jones J, Milkins C, Taylor C, Asher D, Glencross H, et al. UK Transfusion Laboratory Collaborative: Recommended minimum standards for hospital transfusion laboratories. *Transfus Med* 2009; **19**(4): 156–158.
- [25] Andrew Blann. *Putting a price on pathology*. London, UK: HSJ. [Online] Available from: <http://www.hsj.co.uk/resource-centre/best-practice/qipp-resources/putting-a-price-on-pathology/5048530.article#.UykoJnB44cI>. [Accessed on 4 March 2013].
- [26] Buchan J. Achieving workforce growth in UK nursing: policy options and implications. *Collegian* 2009; **16**(1): 3–9.
- [27] Alameddine M, Saleh S, El-Jardali F, Dimassi H, Mourad Y. The retention of health human resources in primary healthcare centers in Lebanon: a national survey. *BMC Health Serv Res* 2012; **12**: 419.
- [28] Graber JE, Huang ES, Drum ML, Chin MH, Walters AE, Heuer L, et al. Predicting changes in staff morale and burnout at community health centres participating in the health disparities collaborative. *Health Serv Res* 2008; **43**(4): 1403–1423.
- [29] Piko BF. Burnout, role conflict, job satisfaction and psychosocial health among Hungarian health care staff: a questionnaire survey. *Int J Nurs Stud* 2006; **43**(3): 311–318.
- [30] Nowak P, Holmes G, Murrow J. A model for reducing health care employee turnover. *J Hosp Mark Public Relations* 2010; **20**(1): 14–25.
- [31] Ingersoll GL, Olsan T, Drew-Cates J, DeVinney BC, Davies J. Nurses' job satisfaction, organizational commitment, and career intent. *J Nurs Adm* 2002; **32**(5): 250–256.
- [32] Shields MA, Ward M. *Improving nurse retention in the National Health Service in England: the impact of job satisfaction on intentions to quit*. *J Health Econ* 2001; **20**(5): 677–701.
- [33] Cowin L. The effects of nurses' job satisfaction on retention: an Australian perspective. *J Nurs Adm* 2002; **32**(5): 283–291.
- [34] Tourangeau AE, Cranley LA. Nurse intention to remain employed: understanding and strengthening determinants. *J Adv Nurs* 2006; **55**(4): 497–509.
- [35] Larrabee JH, Janney MA, Ostrow CL, Withrow ML, Hobbs GR Jr, Burant C. Predicting registered nurse job satisfaction and intent to leave. *J Nurs Adm* 2003; **33**(5): 271–283.
- [36] Ingersoll GL, Olsan T, Drew-Cates J, DeVinney BC, Davies J. Nurses' job satisfaction, organizational commitment, and career intent. *J Nurs Adm* 2002; **32**(5): 250–263.
- [37] O'Toole K, Schoo A, Stagnitti K, Cuss K. Rethinking policies for the retention of allied health professionals in rural areas: a social relations approach. *Health Policy* 2008; **87**(3): 326–332.
- [38] Owens N. That's rich: Senior managers in NHS get pay hike while nurses suffer pay freeze. London, UK: Daily Mirror. [Online] Available from: <http://www.mirror.co.uk/news/uk-news/senior-managers-in-nhs-get-pay-hike-1502494#ixzz2ebDK91kI>. [Accessed on 25 January 2013].
- [39] Denton DA, Newton JT, Bower EJ. Occupational burnout and work engagement: a national survey of dentists in the United Kingdom. *Br Dent J* 2008; **205**(7): E13; discussion E382–E383.
- [40] Clews G. *NHS stress driving up nurse sick leave levels*. London: EMAP Publishing Limited. [Online] Available from: <http://www.nursingtimes.net/nursing-practice/clinical-zones/occupational-health/nhs-stress-driving-up-nurse-sick-leave-levels/5000401>. article. [Accessed on 13 June 2012].
- [41] Cursoux P, Lehucher-Michel MP, Marchetti H, Chaumet G, Delliaux S. [Burnout syndrome: a "true" cardiovascular risk factor]. *Presse Med* 2012; **41**(11): 1056–1063. French.
- [42] Unruh L, Joseph L, Strickland M. Nurse absenteeism and workload: negative effect on restraint use, incident reports and mortality. *J Adv Nurs* 2007; **60**(6): 673–681.
- [43] Edinburgh Evening News. Stressed-out NHS staff in record absence time. Edinburgh Evening News. 2013 Aug 12.
- [44] Alexis O. The management of sickness absence in the NHS. *Br J Nurs* 2011; **20**(22): 1437–1440, 1442.
- [45] Johnson CJ, Croghan E, Crawford J. The problem and management of sickness absence in the NHS: considerations for nurse managers. *J Nurs Manag* 2003; **11**(5): 336–342.
- [46] Chartered Institute of Personnel and Development. *CIPD Absence management: annual survey report 2007*. London, UK: Chartered Institute of Personnel and Development; 2007.
- [47] Smedley J, Harris EC, Cox V, Ntani G, Coggon D. Evaluation of a case management service to reduce sickness absence. *Occup Med (Lond)* 2013; **63**(2): 89–95.
- [48] Johnson K, Keep J, Philips J. Sickness absence. Help staff with illness. *Health Serv J* 2005; **115**(5946): 35.
- [49] Erhabor O, Adias TC. *Laboratory Total Quality Management for practitioners and students of Medical Laboratory Science*. Bloomington USA: AuthorHouse Publishers; 2012, p. 317–321.