Absence at Work

http://www.dailymail.co.uk/health/article-2271958/Just-sick-person-office-means-HALF-communal-surfaces-contaminated-lunchtime.html#axzz2JfzySUG2

- Indoor Air Quality Costs UK Businesses £billions p.a. In Sick Days
- Office Air is up to 20 Times More Polluted Than Outside Air
- 30% of Buildings suffer from Sick Building Syndrome
- 64 Million Sick Days p.a. Due To Allergies Costing £6 Billion
- 5.7 Million Employees Could Be Allergic To Their Office
- Employees Suffering Allergies Are 40% Less Productive
- 70% Of Sick Days Due To Minor Conditions e.g. Colds
- Average Cost p.a. for Absent Employees is £760

All of these could be vastly reduced inexpensively by improving indoor air quality in the workplace.

Absence at Work

Absence at work represents enormous direct and indirect costs to both employers and the economy as a whole. According to the CBI "Absence and Workplace Health Survey 2011" there were 190 million days lost in the UK in 2010 with the median direct cost for each absent employee being £760.

PWC's report in Aril 2011 stated that the average UK employee takes 8 days a year unscheduled leave, which according to the CBI equates to a direct cost of £17 billion p.a. to businesses. The Department for Work and Pensions in November 2011 stated that UK Businesses were paying £9 billion p.a. in sick pay alone.

The Chartered Institute of Personnel Directors say that minor illnesses such as colds are the biggest influence behind short term illness, accounting for nearly 70% of days lost.

These direct costs do not include the indirect costs of

- Hiring and paying temporary workers
- Missing deadlines
- Lower customer satisfaction (customers not able to deal with their usual point of contact)
- Lost productivity
- Lower moral amongst colleagues taking on extra responsibility
- Diminished reputation and even lost business

Work Related Illness

The Health and Safety Executive (HSE) in 2008 reported that 2.1 million employees in the UK suffered from illness believed to have been caused by or made worse by work.

20% of the days lost are due to direct injury at work and 15% to long term ailments. Once stress and muscular conditions are accounted for the remaining causes of days lost are mainly allergy related or minor conditions such as colds, both of which can both be directly connected to indoor air quality in the workplace.

Indoor Air Quality

The desire to reduce outside air leakage and reduce energy costs over the past few decades has resulted in buildings becoming increasing “sealed” or “tight”. The increased use of air conditioning and air recirculation systems has meant that the amount of outside fresh air brought into a building has decreased significantly. The combined effect of these has

- Heightened a well known pollution problem, Sick Building Syndrome
- Increased the number of people suffering from allergies at work and intensified the symptoms of existing allergy sufferers.

Sick Building Syndrome (SBS)

Sick Building Syndrome is common among workers throughout the United Kingdom and refers to a situation when workers exhibit one of a number of different symptoms that can be attributed to the environment which they work in. Over the last 10 years SBS has become part of our language but has been recognised since the 1970's. The World Health Organisation (WHO) defines it as "a medical condition where the symptoms are only present in the workplace and decline when outside the building". They also suggested that 30% of new and remodelled buildings are affected by SBS.

According to the NHS anyone can be affected by SBS, but office workers in modern buildings without opening windows that use mechanical ventilation or air conditioning are most at risk.

The NHS says the symptoms of SBS may include:

- headaches and dizziness
- nausea (feeling sick)
- aches and pains
- fatigue (extreme tiredness)
- poor concentration
- shortness of breath or chest tightness
- eye and throat irritation
- irritated, blocked or running nose
- skin irritation (skin rashes, dry itchy skin)

The symptoms of SBS can appear on their own or in combination and they may vary from day to day. Different individuals in the same building may have different symptoms.

Sick buildings became a reality when the amount of outside fresh air brought into a structure by the ventilation system and outside air leakage was reduced to save energy.

In some ways we have moved forward with double glazed windows/ doors, and central heating/ air conditioning, but those same advances have helped

to trap airborne pollutants giving them no way out. The causes of SBS can be attributed to

1. Biological contaminants
2. Chemical contaminants
3. Inadequate Ventilation

Biological Contaminants

Bacteria, moulds, pollen and viruses are types of biological contaminants and can all cause SBS. Most people are aware of the potential health problems associated with bacteria and viruses. A diligent cleaning regime and modern antibacterial cleaning products can go a long way to negating their risk in the work environment. Moulds are not only much harder to detect, prevent and remove but also pose serious health risks in the workplace.

Health problems associated with airborne mould spores include allergic reactions, asthma episodes and irritations of the eyes, nose, and throat as well respiratory problems. For example, people spending long periods in an environment with mould are at an elevated risk for both respiratory infections and bronchitis. When mould spores are inhaled some mold spores may begin to grow on living tissue, attaching to cells along the respiratory tract and causing further problems.

Mould can form in hidden damp patches e.g. behind wallpaper, on top of suspended ceilings and in air conditioning duct work. Mould thrives in humid conditions and airborne spores are easily carried by air movement in a room and through air conditioning systems thus being re-circulated rather than ventilated.

As well as minor leaks and pipe sweating, open plan offices with a large number of people exhaling moist air provide conditions ideal for mould to form. Office plants are another source of mould.

Chemical Contaminants

Volatile Organic Compounds (VOC's) are organic (carbon-based) compounds that evaporate at ambient temperatures within a building. VOCs can 'off gas' from building materials and many soft furnishings, furniture and fixtures. These compounds often have effects on health from irritating the eyes, nose,

and throat, to causing breathing difficulties, to increasing the risk of developing cancer. An example of a VOC commonly present in indoor air is formaldehyde, which is also one of the most toxic being both a strong respiratory irritant, and carcinogen. Many Volatile Organic Compounds which are considered chemical contaminants can cause acute effects on the occupants of a building.

Modern buildings or buildings renovated with modern materials suffer the most from “off gassing” of VOC’s due to the extensive use of wood composites rather than solid wood or stone/brick for interior walls etc. Particle board is also often used in place of solid wood in modern furniture such as computer desks and shelving. Although a cheap alternative to other materials, particle board is a major source of VOC’s due to the high content of powerful adhesives used in its manufacture. Formaldehyde and other VOCs “off gas” from particle board used in building construction and furniture for years, with the highest concentrations being generated in the first 6 months.

Carpeting is another major source of VOC’s in many buildings since a large number of chemicals are used in their manufacture in the form of glues, backing materials, flame retardants, and dyes. The specific VOCs that “off gas” from new carpet include acetone, toluene, formaldehyde, and benzene derivatives. These chemicals are all known to cause irritation, affect breathing, and produce various neurological symptoms. Many of them are also potent carcinogens.

Finishes such as paints and varnishes can also increase the VOC content of a building or room. That fresh paint smell is the result of paints high content of VOC’s in the form of solvents and binders

Inadequate Ventilation

In buildings with no air conditioning, fresh air enters by natural ventilation or infiltration through open windows and doors and gaps in window and door frames. Outside wind pressure makes the air circulate inside, and air also rises as it is warmed. In contrast, the windows of most buildings with air conditioning often cannot be opened. These buildings rely on mechanical ventilation for air distribution.

Air conditioning systems re-circulate the air and introduce far less outside fresh air. Re-circulating air does not remove mould spores or VOC’s causing a

build up that heightens the potential risks of biological and chemical contamination.

Allergies

According to a 2012 survey released by Allergyuk.org (the operational name of the British Allergy Foundation) over 5.7 million workers in the UK could be allergic to their office. 64 million sick days a year are due to allergies, costing the UK economy £6 billion in lost working hours. It is also accepted that employees suffering from an allergy at work are 40% less productive.

The UK is in the world's top 3 allergy suffering nations and according to the Department of Health the number of allergy sufferers in the UK is rising by 5% a year. The Department of Health also estimate that 50% of Europeans will have some form of allergy by 2015

Allergyuk.org found that 95% of allergy sufferers experienced at least one of the following symptoms at work with 27% citing their symptoms are worse in the workplace and 51% saying their symptoms are sometimes worse at work

- Itchy or watery eyes
- Blocked or stuffy nose
- Running nose
- Breathing difficulties
- Dry throat
- Lethargy and/or tiredness
- Headache
- Dry, itchy, burning, or irritated skin

Quite alarmingly over half of suffers have had an allergic reaction at work, over a third suffering from asthma and over half reacting to dust mites.

All of these problems can be addressed by actively minimising allergens in the workplace.

The size of the problem cannot be underestimated as 42% of allergy sufferers have taken time off work due to their allergies with 14% taking 4 to 10 days off in a year.

The Main Causes of Allergies at Work

1. Dust Mites are about a quarter of a millimetre long and are found in carpets, soft furnishings and outer clothing. It is not the mite itself but their droppings that cause the allergic reaction. Each mite can produce 20 of these waste droppings a day which not only fragment and continue to cause allergic symptoms even after the mite has died, but once airborne can remain so for long periods. Simply removing a book or file from an open shelf can disturb any dust that has collected and can release the allergen into the environment.
2. Plants in an office can harbour moulds which release spores and it is these spores that cause the allergic reaction in people. It's believed that nearly a third of people have an allergy to moulds.
3. New synthetic building materials and most carpets and furniture give off Volatile Organic Compounds (VOC's) such as formaldehyde. The effects of formaldehyde are well known and can affect the eyes, nose and throat. Formaldehyde is common in pressed wood products such as MDF and will "of gas" for years, but it is a particular problem in the first 6 months. The smell you often associate with new furniture is formaldehyde and for those with chemical sensitivities it is a strong irritant.
4. Modern open plan offices accommodate employees in close proximity to each other which can be an issue. Employees with pet allergies sat within a metre of someone else can react to allergens brought in on people's clothes, especially cat allergen.
5. Photocopiers and printers give off fumes and people with allergic airways (asthma, rhinitis) can react to these fumes if sat in close proximity.
6. By far the largest problem is poor ventilation. The US Environment Protection Agency has found that one of the 5 main reasons for the increase in allergies, in general not just at work, is reduced air exchange in buildings and that indoor air is up to 20 times more polluted than

outdoor air. This is because modern air management systems reduce the amount of fresh air coming into a building and the recirculation of indoor air allows for a build up of VOC's, pollen and other allergens rather than them being ventilated outside.

Minor Conditions and Their Cross Contamination

It's not a myth that when one person gets ill the whole office gets it. Cross contamination at work is a costly problem. Proctor & Gamble estimate the cost of the common cold to the UK economy at £42 billion p.a. 90% of UK workers admit going to work with a cold and employees are known to be a third less product when suffering a cold. The average Britain has a cold for 8 days out of the year and works 6.5 of them.

Personal contact can spread many common infections such as a cold or "the flu", but they are just as likely to be spread by airborne transmission. These viruses and bacteria can be spread through coughing, sneezing, talking and laughing. A single sneeze produces more than 40,000 droplets of moisture and millions of germs and, if the person sneezing does not cover their mouth, can be propelled over a distance of 32ft.

These pathogens (disease causing organisms) ride on either dust particles or small respiratory droplets. They can stay suspended in air and are capable of traveling distances on air currents.

Airborne diseases are common in crowded areas which is why cross contamination in open plan offices is so prevalent. Often, airborne pathogens or allergens cause inflammation in the nose, throat, sinuses and the lungs. This is caused by the inhalation of these pathogens that affect a person's respiratory system or even the rest of the body. Sinus congestion, coughing and sore throats are examples of inflammation of the upper respiratory air way due to these airborne pathogens.

It is unlikely, but not impossible, for someone to become infected by brief exposure to contaminated air but the chances of infection increase the longer one is near an infected person.

Conclusions

It is clear that unscheduled absence from work costs many billions of pounds to UK businesses each year and that even small reductions in absenteeism represents both enormous financial savings and gains in productivity.

Some of the reasons for absence from work cannot be avoided and many companies already have Health and Wellbeing initiatives in place to reduce incidents of absenteeism. However, most employers are either unaware of or not prepared to deal with the health issues created by poor indoor air quality.

Given the enormous costs of absenteeism related to indoor air quality this is particularly surprising, as it is neither very costly nor very time consuming to implement strategies that reduce allergens and chemical or biological contaminants in the workplace environment.