

New NHS pay “could offer a way forward” for pharmacists, says guild

MAJOR reform of National Health Service pay, which the Department of Health says means a 10 per cent basic pay increase over three years, could be positive step for hospital pharmacists.

Ron Pate, chairman of the Pharmaceutical Whitley Council staff side, gave a cautious welcome to the proposals. He told *The Journal*: “Overall, the ‘Agenda for Change’ proposals are a step forward. With further work they could be a positive development for pharmacists in the managed service.”

The Guild of Healthcare Pharmacists has identified areas for further analysis and negotiation. These include the application of retention and recruitment premiums, the move from a 39-hour to a 37.5-hour working week, payment for on-call work and the guild’s desire to see a consultant or specialist pharmacist grade introduced.

Under the “Agenda for Change” programme, all National Health Service jobs will be weighted using a single NHS job evaluation scheme. Standard job profiles for most common NHS jobs are to be produced. Where jobs fit into one of these profiles then they will be placed on a single eight-band pay scale at an appropriate point. Only those jobs not fitting a profile will be individually assessed by trained local evaluators. The guild says that it is waiting to see the draft job profiles for pharmacists, which should be released in January.

Evaluation will measure 16 factors including skills and knowledge required to do the job, the responsibilities involved, and the physical, mental or emotional effort required and any extra demands imposed by the working environment. This will replace existing allowances leading to higher levels of basic pay. Supplements for overtime or on-call working and cost-of-living



Hospital pharmacists’ hours will be cut

allowances (such as London weighting) will be calculated as a percentage of basic pay. Trusts will also be able to offer recruitment and retention premiums of up to 30 per cent of basic pay in specialist or geographical areas with recruitment problems.

There are to be common terms and conditions of work. These include a 37.5 hour week, standard annual leave allowances (incorporating the current extra statutory days) and definitions of when out-of-hours work starts and finishes. There will be transitional arrangements and protection for staff who might lose out under the new conditions. As part of the “Agenda for Change” programme there is to be a 10 per cent basic pay rise for all staff, to be implemented as a guaranteed 3.225 per cent increase each year for three years.

The new proposals will be subject to formal consultation with all NHS staff. The guild is looking at how it can obtain its members’ views as part of this consultation.

The new pay deal has been hammered out over four years of negotiations and will see the end of the complicated structure of 11 Whitley Councils and almost 650 staff grades with thousands of different allowances, and a plethora of arrangements for working hours, annual leave and overtime.

Early implementer sites

If the new pay scheme is agreed by representative bodies it will be implemented at 12 sites from April 2003 and nationally from October 2004. The early implementer NHS and primary care trusts are:

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| 1 James Paget Healthcare | 1 South West London and St George’s Mental Health |
| 1 Guy’s and St Thomas’ Hospital | 1 West Kent NHS and Social Care |
| 1 City Hospitals Sunderland | 1 Herefordshire PCT |
| 1 Papworth Hospital | 1 Central Cheshire PCT |
| 1 Aintree Hospitals | 1 North East Ambulance |
| 1 Avon and Wiltshire Mental Health Partnership | 1 East Anglian Ambulance |

Government promises review of education in NHS primary care

GOVERNMENT ministers are to review education, training and research in the National Health Service in England and Wales to ensure that it is not being neglected in the new management structure.

The review, which is to be carried out jointly by the Department of Health, the Department for Education and Skills and the National Assembly for Wales, aims to ensure that primary care trusts strike the right balance between caring for patients, and learning and research. It will consider the responsibilities that PCTs have to support research and learning and identify any responsibilities that are proving difficult to achieve. The review will look at all the health professions involved, with a report being expected by the December 2003.

Professor Judy Cantrill, professor of medicines (usage, evaluation and policy) at Manchester University’s school of pharmacy and pharmaceutical sciences, commented: “This review should allow the further development of teaching PCTs. However, all PCTs will have a responsibility to support learning for all health care professionals. The PCTs will need to work closely with local higher education providers, including schools of pharmacy, to look at ways of delivering sustainable education which is directly linked to delivery of care to meet the needs of the local population. Within community pharmacy, this is likely to involve education to support different models of medicines management and may well be linked to some other elements of local pharmaceutical services.”

Northern hospitals better, says CHI

HOSPITALS in the north of England and the Midlands are better managed in terms of clinical governance than those in the south and London, according to the Commission for Health Improvement.

Peter Homa, chief executive of CHI, said: “From our inspections a clear picture is emerging. National Health Service bodies in the north and Midlands have better working systems in place to deliver high quality care than those in the south.”

The review found that four of the seven components of clinical governance commonly cause concern during CHI inspections. These are risk management, staffing and staff management, patient involvement and use of information. Few hospitals have yet been given its top score for clinical governance. Too few inspections have been done in Wales to draw any conclusions.

New treatment approach to severe asthma could reduce exacerbations

REDUCING airway inflammation caused by eosinophils can reduce asthma exacerbations without the need for further anti-inflammatory treatment, the authors of a British study have concluded.

Dr Ian Pavord and colleagues from Glenfield Hospital, Leicester, randomly allocated 74 patients with moderate to severe asthma to a conventional management strategy, based on British Thoracic Society guidelines, or an alternative approach based on normalising sputum eosinophil count. Patients in the latter group were treated with inhaled or oral corticosteroids depending on their sputum eosinophil concentration.

The researchers say that over a 12-month period fewer severe asthma attacks occurred among patients in the eosinophil count group than among those managed conventionally (35 versus 109, $P=0.01$). Those in the eosinophil count group required fewer rescue courses of oral corticosteroids (24 versus 73, $P=0.008$), and were less likely to be admitted to hospital as a result of exacerbations — only one patient from this group was admitted,

compared with six from the BTS group ($P=0.047$).

The researchers estimate the mean cost per year per patient to be about £1,966 for those treated according to BTS guidelines but about £1,766 for the eosinophil group.

They say their approach has implications for asthma management in that it strongly supports the view that inflammation of the airways should be monitored regularly for best treatment. However, they conclude: "Although our management strategy is feasible, cost effective and efficacious in secondary care, we would be cautious in extrapolation of our findings to patients with milder disease managed in primary care. We would also have reservations about the feasibility of inducing sputum in a primary care setting." The study was published in *The Lancet* (2002; 360:1715).

n Sputum eosinophils Sputum eosinophil levels are associated with poorly controlled asthma rather than the severity of the disease, according to French researchers. They

compared sputum eosinophil counts and some other cell and biochemical markers of airway inflammation among 19 patients with poorly controlled asthma and 16 with controlled asthma. Eosinophil levels were higher among those with poorly controlled asthma ($P=0.01$), but counts were similar among groups of patients with differing severity of asthma (*European Respiratory Journal* 2002;20:1370).

Routine assists compliance in childhood asthma

REGULAR use of asthma medicines among children is more likely when the administration of inhalers is incorporated into the family's daily routine, British scientists say.

They carried out a case control study involving 111 matched pairs of children aged 2–12 years with poorly controlled asthma. Cases were children whose parents collected prescriptions of prophylactic medication irregularly and controls were those collecting prescriptions as instructed. Parents of cases were four times more likely to

say their child's asthma was poorly controlled (odds ratio 4.42, 95 per cent confidence interval 1.43–13.64), compared with controls. But they were also twice as likely to report that using inhalers was not part of the normal evening routine (1.85, 1.07–3.19). Both groups showed good knowledge of asthma and asthma medication.

However, parents of cases were twice as likely to say their child's prophylactic medicine was not effective (2.29, 1.22–4.28) and were more reluctant to administer it (3.00,

1.09–8.25), than parents of controls. Use of nebulised beta-agonists was three times more prevalent among cases and oral corticosteroids twice as prevalent.

The researchers say that parents need support so they can establish routines for treatment administration. In addition, parents need more guidance on acceptable levels of medication and how to interpret asthma symptoms. The research was published in the *European Respiratory Journal* (2002; 20:1464).

NHS Direct launches policy on standards for advice in pharmacy and medicines

NHS DIRECT, the 24-hour telephone advice and information service, has launched a policy that sets national standards for advice and support on all aspects of pharmacy and medicines.

According to NHS Direct, the need for national guidance and standards on handling medicines-related calls is illustrated by research showing that 4.9 per cent of NHS Direct callers ask for advice about medicines and 2.3 per cent call about poisoning. In addition, 40 per cent of callers receive advice about medicines.

The policy supports close working relationships between NHS Direct call centres and local pharmacy organisations, in particular local pharmaceutical committees and medicines information centres.

Key features of the policy include: definitions of medicines and poisons-related

calls; standards for the handling of medicines and poisons-related calls; standards for training; standards for pharmacy support to NHS Direct call centres; recommended medicines information resources; details of service level agreements to be held between call centres and local pharmaceutical committees; and details of service level agreements to be held between call centres and medicines information centres

Hazel Jamieson, national pharmacy adviser to NHS Direct, said: "This new policy will help to establish a consistent level of pharmacy advice throughout NHS Direct."

Beth Taylor, member of the NHS Modernisation Board, said: "I am delighted that the policy has been launched and it is the outcome of some excellent collaboration."

The policy is available at www.pharmacyinthefuture.org.uk.

Smallpox vaccine for core NHS staff

SOME 350 health care workers across the United Kingdom are to be immunised with smallpox vaccine as a precaution against any potential outbreak.

In a written Parliamentary statement last week, Health Minister John Hutton said he expected the chosen staff, who will make up 12 regional smallpox response groups, to be vaccinated by the end of next month. These staff will include public health physicians, microbiologists, acute care and communicable disease control nurses, and occupational health staff. There are no plans to vaccinate pharmacists, but a Department spokesman said this could change if regional team directors recommend such a move.

The Government opened consultation on its interim guidance on the management of smallpox outbreaks last week. The guidance can be viewed via www.pjonline.com.

Risk of heart disease following dietary mercury exposure remains unclear

THERE is no association between dietary mercury exposure and coronary heart disease (CHD) according to the results of an American study. However, a second international study has concluded that mercury is associated with an increased risk of myocardial infarction (MI).

Results from the American case-control study showed that mercury levels within a cohort of 442 men with CHD aged 40 to 75 years and their matched controls, correlated with fish consumption ($P < 0.001$). Mercury levels were highest among dentists, who are exposed occupationally to elemental mercury, rather than the methylmercury found in fish (*New England Journal of Medicine* 2002;347:1755).

The researchers found that mercury levels within the body were not associated with an increased risk of CHD, but there was a non-statistically significant association when dentists were excluded from the analysis ($P = 0.43$). They conclude that although they found no evidence to support a link between mercury and increased risk of CHD, a weak association between mercury exposure particularly from fish consumption, and heart disease cannot be excluded (*ibid*, p1747).

The second study involved 684 men from nine countries, who had a first diagno-



Fish consumption may be associated with greater CHD risk

sis of MI. A group of 724 men representative of the same populations were chosen as controls. The average mercury level among controls, measured using toe nail clippings, was $0.25 \mu\text{g/g}$.

Mercury levels among those diagnosed with a first MI however, were 15 per cent higher (95 per cent confidence interval 5–25 per cent).

Furthermore, those with the highest mercury loading were more than twice as likely to have had a heart attack than those who had the lowest body loading of mercury (odds ratio 2.16, $P = 0.006$). The researchers also found that levels of omega-3 fatty acids were inversely related to the risk of MI. They suggest that the risk of cardiovascular disease may depend on the balance between n-3 fatty acids and methylmercury content of fish consumed, and that high mercury content may diminish the cardioprotective effect of fish intake.

In an accompanying perspective article (*ibid*, p1735), Dr Michael Bolger and Dr Bernard Schwetz of the American Food and Drug Administration, highlight that methylmercury concentrations are greatest in long-lived species that are high up the food chain, such as king mackerel, shark and swordfish. They say that the idea that mercury contributes to cardiovascular disease is a testable hypothesis that warrants further investigation.

“Robust prospective studies are needed in populations in which fish constitutes a major staple in the diet. Data from such studies are essential if major changes in dietary recommendations for the United States and other populations are to be made,” they conclude.

NICE launches schizophrenia guidelines

ORAL atypical antipsychotic drugs have been recommended by the National Institute for Clinical Excellence as first-line treatment for people with newly diagnosed schizophrenia. In its first clinical guideline to the National Health Service, launched this week at NICE's fourth annual conference in Birmingham, it says that amisulpride, olanzapine, quetiapine, risperidone and zotepine at the lower end of the standard dose range are the preferred treatment for these patients.

The guideline also states that during episodes of acute illness, rapid tranquillisation is not necessary for the majority of patients and should not be resorted to routinely. Peter Pratt, chief pharmacist at the

Community Health Sheffield NHS Trust and an adviser to the guideline development group, said it would help specialist pharmacists improve standards of practice locally “especially around rapid tranquillisation and treatment resistance, where one would expect the specialist pharmacist to be part of the decision making”.

Mr Pratt told *The Journal* that the guideline gave a high priority to patient choice. He said: “Many patients prefer to discuss their medication with their community pharmacist, so there is an opportunity around patient choice. Hopefully, the pharmacist can help the patient exercise that choice.” The guideline can be viewed on the NICE website.

BRIEFLY

Vegetarian diet cuts cholesterol

Eating a combination of vegetables can decrease LDL cholesterol by 29 per cent, American researchers claim. They measured cholesterol levels in 13 people who followed the diet for a month. It involved eating a variety of vegetables, soy protein, plant sterols from vegetable oils, nuts, and fibres such as those found in barley and oats. They say longer-term studies are now needed, but suggest the combination diet could eventually rival the use of statins. The study appears in the December issue of *Metabolism*.

Relative benefits of two interferon products remain uncertain

RESEARCH comparing two interferon beta-1a products, each administered in a regimen recommended by its manufacturer, has found that 44m g of subcutaneous interferon beta-1a three times weekly (Rebif) is more effective than 30m g administered intramuscularly once weekly (Avonex) in preventing relapse in multiple sclerosis. The randomised, multicentre trial, published in *Neurology* last week (2002;59:1496–506), involved 677 interferon naive patients with relapsing-remitting multiple sclerosis

(RRMS) receiving either product for 24 weeks. Over the first 24 weeks, 75 per cent of patients receiving Rebif remained relapse free, compared with 63 per cent of patients receiving Avonex (odds ratio 1.9; 95 per cent confidence interval 1.3 to 2.6; $P = 0.0005$). Also, fewer active brain lesions per MRI scan were found in patients treated with Rebif than in those treated with Avonex ($P = 0.0001$).

These results could have had important implications for the recommendation and

selection of disease modifying therapies in the management of RRMS. However, the trial has been criticised by Dr Karl Kieburtz, department of neurology, University of Rochester Medical Centre, New York, who points out major methodological shortcomings (*ibid* p1482–3).

Furthermore, another trial comparing two doses of interferon, both administered intramuscularly (*ibid* p1507–17), found that 60m g once weekly is no more effective than 30m g.

No protection for prescribing training, says chief pharmaceutical officer

THE Department of Health will not fund protected learning time for pharmacists who want to become supplementary prescribers, according to Jim Smith, chief pharmaceutical officer for England.

He said at last week's Pharmaceutical Services Negotiating Committee community pharmacy conference in Birmingham that training was an issue, but added: "Ring-marked funding from the Government will not support protected time. Any funding for that will need to come from the National Health Service locally, and I think NHS organisations and private sector employers will have to meet some of those costs."

Mr Smith drew a parallel with nurse prescribing, where the Government had also not been able to cover all the costs. He added that he expected the training for supplementary prescribing eventually to become incorporated into undergraduate programmes.

Mr Smith's comments came in answer to a question from Ian Facer, of Central Lancashire Local Pharmaceutical Committee, who said that his area had seen a poor

uptake for nurse prescribing as a result of the time needed to get proper training.

The PSNC has expressed concern at the lack of Government support for protected time. Alastair Buxton, head of NHS services at the PSNC, told *The Journal* that it could discourage some pharmacists from taking on the role: "Twenty-five days [of training] is a long time — it is a big commitment from a time and a financial point of view."

He said employers and contractors would need to weigh up whether potential new income streams generated by supplementary prescribing would make up for the initial investment needed for training. Mr Buxton added that the training itself should be flexible and should depend on the needs of individual pharmacists: "The PSNC view on this is that a one-size-fits-all type of contract is not always right for everyone. We feel it would be useful to look at pharmacists' competencies at the beginning of the process, and then target learning in areas where they are weak."

Jim Smith: Funding must be local

Error reporting to be piloted in community pharmacy setting

ANONYMOUS error reporting using a standard electronic form is to be piloted in community pharmacies in the new year by the National Patient Safety Agency.

Wendy Harris, senior pharmacist at the NPSA, told a patient safety seminar at the Pharmaceutical Services Negotiating Committee community pharmacy conference in Birmingham last week that the form would be "ready to roll next year". She said: "Our form is almost in its final state. It will be tested predominantly in primary care, and in community pharmacy, from January to March."

There will be at least 28 pilot sites, some of which will be primary care trusts. However, it is not yet clear how many pharmacies will be involved. The national roll out of the form is expected to be next summer. Ms Harris said that such a nationwide reporting scheme would help the NPSA identify common errors and trends that it could then highlight to the profession. It would also identify look a like drug packaging and similar sounding drug names that led to dispensing errors. This information, Ms Harris said, could then help manufacturers redesign products to lessen any confusion.

Differential drugs pricing plan put forward for developing countries

REPRESENTATIVES of the British Government and the pharmaceutical industry have proposed differential pricing as a solution to the inability of developing countries to buy essential medicines.

The group says that medicines should be provided at cost price to the least developed countries throughout the world and to all of sub-Saharan Africa. The cost-price calculation would exclude the costs of research and development, sales and marketing, and corporate administration. Supplies would be limited to medicines to treat HIV/AIDS, tuberculosis and malaria.

In return, beneficiary countries would be expected to commit themselves to preventing the re-export to developed countries of any cheap medicines they receive. Developed countries will be expected to commit themselves not to use any lower priced medicines as a basis for reference pricing to force down the overall cost of medicines.

The report of the UK working group on increasing access to essential medicines in the developing world can be accessed via the *PJ Online* links page (www.pjonline.com/links).

Report more fraud, pharmacists told

THE National Health Service counter fraud unit is meeting its targets for combating fraud in community pharmacy, but it says pharmacists can do more to help.

Speaking at the Pharmaceutical Services Negotiating Committee community pharmacy conference in Birmingham last week, Jim Gee, director of the NHS Counter Fraud Service, said that prevention of contractor fraud had already exceeded targets. Some £7.48m worth of contractor fraud has been recovered, against a target of £6m by 2001-02 and £9.3m worth of fraud has been prevented, against a target of £9m.

Mr Gee praised pharmacists for their co-operation in detecting and preventing patient fraud, but added: "I am convinced we can do more. I want to give all pharmacists support so they can do what they should do. I am not convinced that all pharmacists are reporting [fraud]."

In order to encourage more reporting, Mr Gee said that the reward scheme for reporting fraudulent prescriptions had been simplified, the reporting deadline lengthened to 28 days, and a new telephone support line for pharmacists had been launched (0870 240 0114). In addition, the reward has been raised from £10 to £70.

Mr Gee said he would set new targets once existing problems had been measured. The Counter Fraud Service is assessing whether savings made so far are permanent. This work should be completed by October next year and only then will savings be directed back into the health service.

Barnet pharmacists advise on effects of diet and medicines on osteoporosis

PHARMACISTS working for Barnet Primary Care Trust gave information to the public on osteoporosis and the effects of diet and medicines during a recent Diwali event at Alexandra Palace, north London.

Samixa Shah, practice support pharmacist, Barnet, told *The Journal* that the PCT had been invited to have a stall at the event only a few days before it started. The stall, which was part of the health care zone, was manned by the PCT's two practice support pharmacists and a specialist osteoporosis nurse.

The event, run by the Hindu Youth Organisation and attended by around 10,000 people, had been a good opportunity to talk to elderly Indian women, Ms Shah said. Information sheets about the amounts of calcium and vitamin D in different foods, geared towards a vegetarian diet, were dis-

tributed and visitors to the stand were given advice on osteoporosis, the menopause and the role of pharmacists in medicines management. A prize quiz about osteoporosis was run and colouring books and crayons were given to children so that their parents could spend time talking to a pharmacist or the nurse.

Ms Shah said: "Our recommendations to others embarking on similar projects would be to find out in advance exactly what space is available for the display, what else will be present in the same area and whether the organisers have any particular issues they want addressed. It is a good idea for pharmacists to have links with local community groups so that they are aware of forthcoming events and are able to promote pharmacy or other health care areas at these."

Information disclosure clause in Medicines Act could be repealed

SECTION 118 of the Medicines Act 1968, which makes it a criminal offence to disclose information relating to the licensing of medicines, could be repealed under the Freedom of Information Act 2000.

Section 118 says that if anyone discloses information about manufacturing processes or trade secrets obtained or given to them in pursuance of the Medicines Act then they could face up to two years in prison. The Lord Chancellor's Department (LCD) announced last week that Section 118 is included on its list of legislation which prohibits the disclosure of information and that is being studied for repeal.

"Ministers at both the Department of Health and the Department for the Environment, Food and Rural Affairs favour the repeal of Section 118, which would remove a

blanket ban on releasing information concerning clinical trials and replace that with the exemptions and public interest tests in the Freedom of Information Act," the LCD said.

Of 381 items identified by the LCD, 97 are to be repealed or amended and four, including Section 118, are to be the subject of further consultation. "Repeal or amendment [of Section 118] will impact on a significant number of bodies and individuals. The Government will therefore consult with those likely to be affected before announcing a decision," the LCD says in its second annual report on how the Freedom of Information Act is being implemented.

Copies of the Freedom of Information Act and associated reports can be found through the *Pf Online* links page (www.pfonline.com/links).

Lincoln Co-op opens chiropody units

THE pharmacy division of Lincoln Co-operative Society is extending its services to include chiropody with new units opening in two of its 26 branches.

The first unit was opened in October at its City Square, Lincoln, branch. A state registered podiatrist offers services including nail management, arthritis and diabetes related foot care, nail surgery and podiatric biometrics (a mechanical assessment of lower limb and foot function). A second unit will open at Market Square, Gainsborough, this month.

Lincoln Co-op is considering running foot clinics for diabetics within its pharmacies and is investigating funding for these.

Chairman for new regulatory agency

PROFESSOR Alasdair Breckenridge has been appointed chairman-designate of the Medicines and Healthcare Products Regulatory Agency (MHRA). The agency will be formed in April 2003 through a merger of the Medicines Control Agency and the Medical Devices Agency.

Professor Breckenridge is chairman of the Committee on Safety of Medicines, a post he will relinquish in April next year. He will be working between two and three days a week for the MHRA until then, concentrating on the appointment of its chief executive and its new board, which will include external members as non-executives.

Smoking cessation pioneer reaches 90

SIR Richard Doll, emeritus professor of medicine and vice president of the smoking cessation charity QUIT, celebrated his 90th birthday at a lunch held at London's Victoria and Albert Museum, on 29 November.

The event celebrated the work he has carried out over more than 50 years in establishing a link between smoking and cancer. In 1950, he provided the first statistical proof of the link between cancer and smoking.

BRIEFLY

Lundbeck opens Seal Sands

Lundbeck Pharmaceuticals has opened a new production facility at Seal Sands, Teesside. The plant will manufacture escitalopram (Ciprallex) and includes a large-scale unit for the chromatographic separation of the S-isomer from racemic mixtures of citalopram.

New HIV cases on the rise

There has been a 25 per cent increase in the number of new HIV cases diagnosed this year compared with last year, according to data from the Public Health Laboratory Service. By the end of September 2002, 2,945 new diagnoses had been reported compared with 2,354 in the same period last year.

Vaccine reduces risk of cervical cancer

IMMUNISING women against human papillomavirus (HPV) type 16 infection could substantially reduce the incidence of cervical cancer, researchers say.

Dr Laura Koutsky, University of Washington, Seattle, and colleagues explain that the primary reason to immunise against HPV-16 infection is to prevent cervical cancer. They say that cervical cancer would be difficult to study for ethical and scientific reasons but that persistent HPV-16 infection is a reasonable surrogate end point since approximately 50 per cent of cervical cancers are associated with HPV-16 infection.

The researchers randomly assigned 2,392 women aged 16 to 23 years to receive three doses of either an HPV-16 virus-like particle vaccine or placebo at day zero, two months and six months. They found that the incidence of persistent HPV-16 infection, at

a median of 17.4 months after completion of the vaccination regimen, was 0 per 100 woman-years at risk in the vaccine group

and 3.8 per 100 woman-years at risk in the placebo group (95 per cent confidence interval, $P < 0.001$). All of the 41 cases of HPV-16 infection occurred in the placebo group, nine of which were related to cervical intraepithelial neoplasm.

Although the vaccine was generally well tolerated, a slightly higher percentage of women in the vaccine group did not complete the vaccination regimen compared with the placebo group, the researchers say (*New England Journal of Medicine* 2002;347:1645).

The vaccine is being developed by Merck Sharp & Dohme and is currently being investigated in phase III trials for the prevention of four types of HPV infection.

New drug raises bone density more than alendronate

A BONE formation agent, teriparatide (Forteo), has been found to increase bone mineral density in the lumbar spine by five times more than the bisphosphonate alendronate (Fosamax), new data show.

Teriparatide, which is being developed by Eli Lilly, is a recombinant human parathyroid hormone of rDNA origin. It stimulates formation of new bone by increasing the number and action of osteoblasts, rather than slowing or stopping bone loss by inhibiting osteoclast-mediated bone resorption.

In the Forteo alendronate comparison trial (FACT), 206 postmenopausal women with osteoporosis-related fractures were randomly assigned to receive either a subcutaneous injection of teriparatide 20µg plus

placebo orally or alendronate 10mg plus a placebo injection, daily.

After six months of treatment, a 14.6 per cent increase in bone mineral density was seen with teriparatide compared with a 2.9 per cent increase with alendronate. Teriparatide also increased a marker of bone formation by 217 per cent and a marker of bone resorption by 59 per cent, whereas alendronate decreased a marker of bone formation by 67 per cent and a marker of bone resorption by 72 per cent. The researchers comment that the increase in bone mineral density with teriparatide may be the result of the substantial increase in bone formation.

Data were presented at the World Health Organization's third international symposium on clinical and economic aspects

of osteoporosis and osteoarthritis held in Barcelona last month.

A spokesman for Merck Sharp & Dohme, manufacturer of alendronate, told *The Journal* that alendronate has been consistently shown to reduce the risk of vertebral and hip fractures by about 50 per cent and is available as a once weekly tablet rather than a daily injection.

Teriparatide approval Teriparatide injection received approval by the United States Food and Drug Administration last week for both the treatment of osteoporosis in postmenopausal women and for increasing bone mass in men with primary or hypogonadal osteoporosis who are at high risk of fractures. The drug is expected to receive a licence in the United Kingdom for both indications during 2003.

IL-4 promising treatment for psoriasis

INTERLEUKIN-4 (IL-4) shows promise as a potential treatment for psoriasis, researchers say.

Dr Kamran Ghoreschi, Ludwig-Maximilians University Munich, Germany, and colleagues explain that IL-4 can affect the development of T cells and that suppression of T-cell cytokine production, inhibition of T-cell activation or deletion of activated T cells can alleviate psoriasis.

In a prospective dose escalation study, the researchers assessed treatment with human IL-4 in 20 patients with severe psoriasis. They found that within six weeks of starting treatment all patients had decreased clinical scores (total assessment of skin thickness, redness, extent of scaling and relative surface involvement in seven body areas). Improvements in psoriasis by more than 68 per cent were seen in 15 patients.

After cessation of IL-4, 18 of the patients remained stable or continued to improve with other treatments which had previously been ineffective.

The researchers comment that "overall efficacy was comparable to that achieved with photochemotherapy which, together with methotrexate, is the most effective therapy for psoriasis". The study is available online and will be published in *Nature Medicine* next month.

BRIEFLY

Novel vaccine strategy for cancer

An orally administered DNA vaccine that might overcome problems encountered with immunotherapy directed at tumour cells has been developed. The vaccine effectively protected mice from lethal challenges with melanoma, colon carcinoma and non-small cell lung carcinoma cells as well as reducing the growth of established lung metastases (*Nature Medicine* 2002;8:1369).

Thrombin inhibitor more effective than dalteparin for VTE

A DIRECT thrombin inhibitor, given subcutaneously preoperatively (melagatran) and orally postoperatively (ximelagatran), has been found to be more effective than dalteparin (Fragmin) for thromboprophylaxis after total hip or knee replacement. The inhibitor is being developed by AstraZeneca.

In a study of 1,900 patients, venous thromboembolism (VTE) was lower with a regimen of melagatran 3mg twice daily followed by ximelagatran 24mg twice daily, than with dalteparin 5,000iu once daily. Both regimens were given for seven to 10 days. An overall dose-dependent decrease in the risk of VTE was seen in those treated with the inhibitor (*Lancet* 2002;360:1441).

A spokesman for Pharmacia, manufacturer of dalteparin, commented that dalteparin has the advantage of being given as a once daily injection.

Blood test to predict heart disease

A DIAGNOSTIC technique that provides an accurate, non-invasive and rapid diagnosis of coronary heart disease has been discovered by researchers in the United Kingdom.

Dr Joanne Brindle, Imperial College of Science, Technology and Medicine, London, and colleagues explain that the technique can be used clinically, either for population screening or to allow for effective targeting of treatments such as statins. It involves nuclear magnetic resonance (NMR)-based metabonomics (a systems approach to examining changes in hundreds of thousands of low-molecular weight metabolites in an intact tissue or body fluid) and can be carried out on standard preparations of serum, plasma or urine.

The researchers analysed use of the test on blood samples and demonstrated that it is

possible to separate patients with stenosis in all three major coronary arteries (severe coronary heart disease) from subjects with normal coronary arteries.

They comment that “whereas currently a firm diagnosis can only be made through application of angiography, which is both expensive and invasive, the introduction of metabonomic screening would allow diagnosis to be made simply and cheaply on the basis of a single blood test” (*Nature Medicine* 2002;8:1439).

A large-scale clinical trial of the test is under way. Dr David Grainger, Addenbrooke’s hospital, Cambridge, involved in the study, told *The Journal* that the intention is to introduce the trial as a service in early 2005. Initially the test will be available to hospitals for use as an outpatient clinic test. However, versions of the diagnostic test which could be

carried out in a primary care setting, such as GP surgeries, are being looked at.

Alternative treatment for abnormal heart rhythm?

TECADENOSON, a selective adenosine analogue, returns abnormal heart rhythms to normal, results of a phase III trial show.

Speaking at the American Heart Association scientific sessions in Chicago last month, Dr Kenneth Ellenbogen, Medical College of Virginia, Richmond, explained that patients with paroxysmal supraventricular tachycardia (PSVT) are usually treated with adenosine. “However, adenosine stimulates all adenosine receptor subtypes in the heart,” he said.

Tecadenoson is a novel compound that has been designed to stimulate the A₁-adenosine receptor selectively. “Stimulation of this receptor slows conduction through the AV node. Stimulation of other receptor types in the heart can cause undesirable side effects such as low blood pressure, heart rate irregularities and asthma,” Dr Ellenbogen added.

The trial involved 181 patients with a history of PSVT who were randomised to receive placebo or one of five dosing regimens of tecadenoson as a rapid intravenous bolus after PSVT was induced. If the first dose of tecadenoson or placebo did not re-establish normal heart rhythm within one minute then a second dose was administered. Patients who did not respond to the second dose were converted back to a normal rhythm in an electrophysiology laboratory.

“All five doses of tecadenoson studied converted patients back into a normal heart rhythm,” Dr Ellenbogen said. A 7 per cent conversion rate was observed for placebo compared with between 50 per cent and 90 per cent for tecadenoson. The highest conversion rate was observed using a 300µg tecadenoson dose followed by a second dose of 600µg if required.

Dr Ellenbogen added that safety data were also positive — the most frequent adverse symptom was paraesthesia experienced by 6 per cent of patients given tecadenoson compared with 3 per cent given placebo.

Tecadenoson also showed an expected dose-dependent, transient and clinically insignificant incidence of AV block at the highest three doses. “It is important to note that blood pressure and heart rate were not adversely affected by tecadenoson. We believe the selective design of tecadenoson by only stimulating the adenosine A₁ receptor allows for this,” he said.

Asked whether the trial’s design was flawed because it did not compare tecadenoson with adenosine, Dr Ellenbogen replied that the purpose of the phase III study had been to show the efficacy of the new drug.

Antibody fragment reduces mortality

A NEW drug, originally designed to reduce cell death that occurs during reperfusion therapy following myocardial infarction (MI), has been shown to reduce mortality in patients undergoing angioplasty despite not having an effect on cell death.

Pexelizumab, an antibody fragment that inhibits a protein involved in the complement cascade, was tested for its effect on infarct size. “The rationale for the trial was to use this targeted drug to inhibit a particular part of the complement cascade to decrease the amount of inflammatory damage when blood flow is restored,” Dr Christopher Granger, Duke University Medical Centre, North Carolina, said.

Overall, 1,903 patients with ST-elevation acute MI took part in the study and were randomised to receive either pexelizumab or placebo and to two different reperfusion strategies — thrombolysis or angioplasty.

Pexelizumab failed to have an effect on infarct size with either of the reperfusion strategies used. However, in patients randomised to angioplasty and treated with pexelizumab (as a bolus plus infusion) there was a reduction in all-cause mortality at 90 days compared with placebo (1.8 per cent versus 5.9 per cent, $P=0.014$).

“This is the first trial in more than a decade to show a reduction in mortality when [a new therapy] is added to standard heart attack treatment. This suggests that pexelizumab may be having a clinical benefit using an entirely different mechanism,” Dr Granger added.

Data from the trial, known as the complement and reduction of infarct size after angioplasty or lysis (CARDINAL) programme, were presented at the American Heart Association scientific sessions held in Chicago last month.

BRIEFLY

Mouse genome sequenced

In *Nature* this week researchers report a draft sequence of the mouse genome. They also report findings from an initial comparative analysis to examine the similarities and differences between the mouse and human genomes (2002; 420:520).

Heart failure patch

A patch containing stem cells from bone marrow could be used to prevent heart failure. Researchers transplanted the patch directly on to the infarct-damaged area of hearts of six pigs. After three weeks, ventricular wall thickness had increased in the left ventricles. Data were presented at the American Heart Association scientific sessions held in Chicago last month.