only small biopsy specimens can be obtained, and only in special circumstances. Tissue obtained at surgery to correct residual squint after the thyroid eye disease is quiescent is unlikely to further our understanding of the acute phase of the disease. The same problems apply to tissue obtained at necropsy from patients with a history of thyroid eye disease.

Considerable efforts have been made to identify specific interactions between the immunoglobulins of patients with thyroid eye disease and orbital muscle membranes usually of porcine origin. Even in studies on human eye muscle membranes the results have not been consistent, probably because of methodological problems.[9] Immunoblotting, a cruder technique for identifying antigens, has recently shown that a 64 kd protein might be an autoantigen related to thyroid eye disease,[10] and this protein has been cloned and sequenced.[11]

Perros and Kendall-Taylor have recently shown that immunoglobulins that bind to porcine eye muscle membranes increase the growth of a monoclonal porcine myoblast culture.[12] This is the first report of a direct effect of immunoglobulins from patients with thyroid eye disease on an orbital tissue, and the work needs repeating with myoblasts from human extraocular muscles.

At this stage the question of whether thyroid eye disease results from autoimmune disturbance remains open. The best hopes of furthering our understanding must lie with work on the functional role of the recently sequenced 64 kd protein in orbital muscle and on the growth promoting properties of the ophthalmopathic immunoglobulins described by Perros and Kendall-Taylor.

DONALD MUNRO
Emeritus professor of medicine
Department of Human Metabolism and Clinical Biochemistry,
University of Sheffield,
Sheffield F10 2RX

1 Marcocci C, Bartalina L, Bogaggi F, Paricucci M, Pinchera A. Studies on the occurrence of ophthalmopathy in Graves' disease. *Acta Endocrinol* 1989;**120**:473-8.
2 Solomon DH, Chopra IJ, Chopra U, Smith FV. Identification of subgroups of euthyroid Graves' ophthalmopathy. *N Engl J Med* 1977;**296**:181-6.
3 Feldon SE. Graves' ophthalmology. Is it really thyroid disease? *Arch Intern Med* 1990;**150**: 948-50.
4 Shine B, Fells P, Edwards OH, Weetman AP. Association of Graves' ophthalmopathy and smoking. *Lancet* 1990;**335**:1261-3.
5 Rotella CM, Zonefrati R, Toccafondi R, Valente WA, Kohn LD. Ability of monoclonal antibodies to the thyrotrophin receptor to increase collagen synthesis in human fibroblasts; an assay which appears to measure exophthalmogenic immunoglobulins in Graves' sera. *J Clin Endocrinol Metab* 1986;**62**:357-67.
6 Bech K. Thyroid antibodies in endocrine ophthalmopathy. A review. *Acta Endocrinol* 1989;**121** (suppl 2):117-22.
7 Kriss JP. Radioisotopic thyroidolymphography in patients with Graves' disease. *J Clin Endocrinol Metab* 1970;**31**:315-24.
8 Weetman AP. Thyroid associated eye disease: pathophysiology. *Lancet* 1991;**338**:25-8.
9 Weetman AP. Thyroid associated ophthalmopathy. *Autoimmunity* 1992;**12**:215-22.
10 Salvi M, Hiromatsu Y, Bernard N, How J, Wall JR. Human orbital tissue and thyroid membrane express a 64 KDa protein which is recognised by autoantibodies in serum of patients with thyroid associated ophthalmopathy. *FEBS Lett* 1988;**232**:135-9.
11 Dong O, Ludgate M, Vasart G. Cloning and sequencing of a novel 64 kd autoantigen recognised by patients with autoimmune thyroid disease. *J Clin Endocrinol Metab* 1991;**72**:1375-81.
12 Perros P, Kendall-Taylor P. Biological activity of autoantibodies from patients with thyroid associated ophthalmopathy: in vitro effects on porcine extraocular myoblasts. *Q J Med* 1992;**84**:691-706.

Institutional care and elderly people

What do the changing patterns mean?

One of the aims of Britain's health and social services for the past 40 years has been to help old people to live in their own homes. Although innovative schemes have made it possible to maintain at home people with disabilities that were once thought to require hospital or residential care,[1] it is unrealistic to suggest that institutional care could be entirely dispensed with. For patients with low levels of dependency, providing domiciliary care is cheaper than providing institutional care, but at high levels of dependency it becomes more expensive. At some level of expenditure it presumably becomes inequitable for a disabled person to expect public support for the more expensive domiciliary care if this means depriving someone else of care of any sort.

Further problems identified by Kellett in this week's journal (p 846)[2] centre on the inequity and illogicality of NHS care being free while care under the rubric of the community, even if provided in an institution, carries a means tested price tag. There seems nothing in the present arrangements to prevent two similarly disabled old people being in adjacent rooms in a nursing home, one of whom has her lifetime earnings bled down by "community care" while the family of the other looks forward to an undiminished inheritance courtesy of the NHS.

Be that as it may, the potential advantages of long term care in a high quality private sector are considerable, particularly as this sector offers old people and their families wider choice than the public sector. Autonomous nursing units may be able to offer their residents more adaptable care when they are free from the rigid timetables inseparable from hospital organisation.

Under experimental conditions, old people in NHS nursing homes may do at least as well as those in traditional geriatric wards,[3,4] but the same cannot be assumed of units removed from the traditions and surveillance of a health or social services hierarchy. American experience provides grounds for anxiety over the welfare of old people in an inadequately monitored private sector.

Two further concerns have been generated by the massive growth in the number of private residential and nursing homes following changes in social security regulations in the past decade. First is the possibility of an unnecessary increase in the number of old people consigned to institutional care.[5] Secondly, the private sector may have been "creaming off" clients with low dependency, who yield high profit margins, leaving the public sector to cope with more demanding patients without appropriate improvements in staffing and facilities.

In this week's journal Stern and colleagues report on two censuses carried out in 1979 and 1990 of elderly people in residential care in Leicestershire (p 827).[6] During the 11 years the numbers of residents in NHS geriatric and psychiatric beds fell by 41%; this fall was partly compensated for by a 37% rise in the number of patients in acute beds. On the assumption that this transfer represents better access of elderly people to the best of modern medicine and surgery, it must be a good thing. In contrast, the number of people in private sector homes almost quadrupled. The total number of people aged 65 and over in institutions increased by 30% between the two censuses, but because of population growth this represents an increase in proportion of only 0·5%, from 4·2% to 4·7%. Furthermore, this increase is entirely explained by the aging of the population between the two censuses.

These findings do not confirm fears of an overall increase in the number of old people looked after in institutions, and

the proportion of 4·7% remains commendably low by international standards (and lower than the national average of 5·1% in 1971).[7] This interpretation assumes that the objective need for institutional care has not been reduced by improved health and fitness of old people.[8] It also assumes that there has been no hidden export of Leicestershire's residents to cheap (and possibly nasty) nursing homes elsewhere in Britain, a practice that some other health districts have been accused of.

What of the process of "creaming off"? Again the data seem reassuring in that in 1979, 27% of residents in public sector beds were defined as high dependency patients compared with 22% in the private sector; in 1990 the proportions were 26% and 29% respectively. The comfortable interpretation of these data needs caution. Dependency increases where care is poor, and homes taking in low dependency clients can soon make them more dependent by providing too few activities and too many sedatives. Furthermore, the data were based on assessments made by care staff; in the public sector staff have an incentive to minimise the dependency of their clients as it is seen as an index of the quality of care being provided. In the private sector a greater incentive might exist to show a need for higher fees to match high levels of dependency.

The Leicestershire data establish a valuable baseline but cannot allay the remaining anxiety over the quality of care once the private sector provides most institutional care (the government's decree). Standards can be set,[9] but arrangements for ensuring that they are maintained in the private sector are still inadequate.

J GRIMLEY EVANS
Professor of clinical geratology

University of Oxford,
Clinical Geratology Division,
Radcliffe Infirmary,
Oxford OX2 6HE

1 Challis D, Darton R, Johnson L, Stone M, Traska K. An evaluation of an alternative to long-stay hospital care for frail elderly patients. II. Costs and effectiveness. *Age Ageing* 1991;**20**:245-56.
2 Kellett J. Long term care in the NHS: a vanishing prospect. *BMJ* 1993;**306**:846-8.
3 Bond J, Gregson BA, Atkinson A. Measurement of outcomes within a multicentred randomized controlled trial in the evaluation of the experimental NHS nursing homes. *Age Ageing* 1989;**18**:292-302.
4 Bowling A, Formby J, Grant K, Ebrahim S. A randomized controlled trial of nursing home and long-stay geriatric ward care for elderly people. *Age Ageing* 1991;**20**:316-24.
5 Henwood M. *Through a glass darkly: community care and elderly people.* London: King's Fund Institute, 1992. (Research report 14.)
6 Stern MC, Jagger C, Clarke M, Anderson J, McGrother C, Battock T, *et al.* Residential care for the elderly—a decade of change. *BMJ* 1993;**306**:827-9.
7 Grimley Evans J. Current issues in the United Kingdom. In: Exton-Smith AN, Grimley Evans J, eds. *Care of the elderly: meeting the challenge of dependency.* London: Academic Press, 1977:128-46.
8 Grimley Evans J, Goldacre MJ, Hodkinson M, Lamb S, Savory M. *Carnegie inquiry into the third age. Health and function in the third age.* London: Carnegie Foundation (UK), 1992. (Research report No 9.)
9 Royal College of Physicians and British Geriatrics Society. *High quality long-term care for elderly people: guidelines and audit measures.* London: Royal College of Physicians, 1992.

Juniors' new deal meets its first deadline

On time—on paper

By 1 April most junior doctors in Britain will be contracted to work less than 83 hours a week and the first deadline of the new deal will have been met, on paper at least.[1] But many junior doctors are unhappy about what they have seen of the new deal so far. Many fear that this first reduction in hours will mean an increase in the intensity of their work and a fall in their remuneration for it.

Managers were always going to hit the first target once they realised that a one in three rota without prospective cover fitted the limit of 83 hours a week exactly. Regional task forces estimate, however, that the gap between the hours stipulated in most juniors' contracts and the hours that they will actually work is about five to 10 hours a week. And the gap will become wider if no extra staff are employed to cover junior doctors' annual leave.

Hours may be the most emotive issue in the new deal but are only one aspect of juniors' working conditions that need improvement. The new deal called for radical changes in the working patterns of all grades of hospital staff, for the removal of the inappropriate non-medical duties, and for better accommodation and on call facilities. It supported the aims of *Achieving a Balance* by insisting that the answer was not employing more junior staff but more consultants and staff grade posts to release junior doctors from some of their service commitments.[2] It echoed reports of the Confidential Enquiry into Perioperative Deaths calling for the appropriate supervision of junior doctors, especially outside normal working hours.[3] The new deal emphasised that partial shifts were the best way of reducing juniors' hours in acute specialties and urged consultants to move to team working to facilitate this. Units were to provide local solutions to local problems.

In the rush to meet the first deadline on hours much of the spirit of the new deal has been lost. Undoubtedly progress has been made, but it has been patchy. Radical changes in working patterns have yet to happen: apart from doctors in accident and emergency departments fewer than 1% of doctors are working full shifts and just over 2% are working partial shifts.[4] Most of the extra £12m that the government is giving towards implementing the new deal will go on funding new consultant posts, leaving individual units to fund the new support staff, such as phlebotomists, electrocardiography technicians, and clerical staff.

Some successful initiatives have happened—for example, Guy's Hospital has employed a nurse practitioner at night to supervise giving intravenous drugs and filter calls to junior staff. In Scotland, where such initiatives have been centrally funded by the Scottish Office, many hospitals have introduced phlebotomists for the first time. But when hospitals are struggling to stay within budgets such initiatives are not given a high priority.

Some juniors complain that partial shifts have been introduced to cut costs rather than improve the service to patients and reduce doctors' workload. A shift system that improves junior doctors' working conditions is unlikely to save money. The examples of partial shifts provided by the Department of Health look reasonable on paper but do not take annual or study leave into account. Given the confusion over the definition of a partial shift, it is not surprising that so many consultants and juniors oppose them. Many juniors resent more than one in three weekends being disrupted by work and dislike working a series of nights. They are sceptical that a few extra consultants or staff grade appointments will really reduce their hours and complain that the new deal was set up by doctors' representatives not working in hard pressed specialties.

Although the Central Consultants and Specialists Committee has backed the changes in working patterns, task forces have given mixed reviews on consultants' commitment