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Current Issues in Cancer

Cancer of the head and neck

Jeffrey S Tobias

This is the fifth in a series of articles examining developments in cancer and updating what we know about the disease

Cancers of the upper aerodigestive tract, collectively known as head and neck cancers, arise from a multiplicity of sites. In the West, excess tobacco and alcohol consumption are the most important of the known predisposing factors; elsewhere in the world, notably in India and China, the aetiology, pattern of primary sites, and clinical behaviour are different. Clinically these tumours pose exceptional problems in management, and skilled multidisciplinary teams are necessary in order to achieve the highest level of service and research. Historically, surgery and radiotherapy have been the most important treatment modalities; chemotherapy is now increasingly employed but not yet fully established. Successful rehabilitation of patients with head and neck cancers requires access to high quality speech therapists and other support staff with training in functional pharyngeal disorders. Current research efforts are largely directed towards defining the proper role of chemotherapy and assessing the possible advantage of unconventional radiation approaches. In recent years the roles of primary, reconstructive, and salvage surgery have also become better defined. Many patients are suitable for randomisation into ongoing prospective clinical trials which have been specifically designed to address these issues.

Despite improvements in oral and dental hygiene together with a greater understanding of the pathogenesis of head and neck cancers, these tumours remain numerically important throughout the world and are among the most difficult to treat. In the Western World they account for around 5% of all cancers,^{1,2} but many are either locally advanced or associated with neck lymphadenopathy at presentation, making cure less likely. In other parts of the world, notably India and southern China, cancers of the head and neck are the commonest cancers of all. As this article covers the malignancies of the upper aerodigestive tract generically referred to as "head and neck cancers" I will not discuss the presentation or management of salivary gland or thyroid carcinomas, or of sarcomas, lymphomas, and other tumours presenting at head and neck sites.

Risk factors for head and neck cancer include tobacco (whether smoked, chewed, or inhaled as

snuff), alcohol, and dietary factors, with strong evidence that alcohol and tobacco consumption are synergistic (table 1). Increasing trends in overall alcohol consumption are probably the main cause of the increased incidence of oral cancer in parts of Europe and the United States.³ Dietary factors are assuming increasing importance as well, particular attention now being focused on vitamin A and C concentrations.⁴

TABLE 1—Relative risk of oral and pharyngeal cancer in men by cigarette smoking and alcohol consumption

Cigarette smoking status	Drinks per week				
	<1	1-4	5-14	15-29	≥30
Non-smoker	1.0	1.3	1.6	1.4	5.8
Ex-smoker	0.7	2.2	1.4	3.2	6.4
1-19 Daily for ≥20 years	1.7	1.5	2.7	5.4	7.9
20-39 Daily for ≥20 years	1.9	2.4	4.4	7.2	23.8
≥40 Daily for ≥20 years	7.4	0.7	4.4	20.2	37.7

Data from Cancer Research Campaign.²²

Most head and neck cancers are squamous cell carcinomas of varying degrees of differentiation, though nasopharyngeal carcinomas—so common in Hong Kong, Canton, and other parts of southern China, northern Africa, and elsewhere—are typically less well differentiated and clearly follow a natural course rather different from that of the other main types. Almost all of the major sites (fig 1) occur more commonly in men, though with increasing use of alcohol and tobacco by women this distinction is bound to decrease, as in carcinoma of the bronchus. At present the male to female ratio for laryngeal carcinoma remains close to 10:1, as compared with about 2:1 for most other sites and a continuing slight female preponderance for postcricoid carcinoma. A few occupational causes have been identified, notably the unusual nasal fossa adenocarcinoma associated with the hardwood furniture industry.

There is increasing evidence that viruses may contribute to causation.⁵ Infection with the Epstein-Barr virus is clearly associated with nasopharyngeal carcinoma, and DNA from the human papillomavirus has also been detected in head and neck cancers. In some patients, notably those with oral lesions, there is a

The Meyerstein Institute of Clinical Oncology, The Middlesex Hospital, London W1N 8AA
Jeffrey S Tobias, clinical director

Series editor: G M Mead
(G M Mead is consultant in medical oncology at the Cancer Research Campaign's Wessex Medical Oncology Unit).

FIG 1—Sagittal section of upper aerodigestive tract showing main sites of head and neck cancer. (Modified from Vokes et al¹)

high incidence of second malignancy, suggesting possible dormancy of such carcinogens even in apparently cured cases. These second malignancies occur at an annual rate of 3-7% and have led to various approaches to chemoprevention, notably with retinoids, which reverse premalignant leucoplakia in at least half of cases.⁶ In a recent controlled trial of isotretinoin there was a significant overall reduction in second cancers.

Clinical presentation and pathology

Apart from squamous cell and undifferentiated carcinomas, other fairly common tumour types include lymphoma and adenoid cystic carcinoma, both more common in oral and pharyngeal sites than in the larynx. Head and neck lymphoma seems to be occurring more frequently, possibly as a result of

AIDS, transplant operations, and other instances in which there is immunodeficiency. Salivary gland tumours are generally considered separately from other head and neck tumours and the histological variety is considerable, though the commonest tumour remains the typically benign pleomorphic adenoma.

Though no staging system is entirely satisfactory, the TNM system has gained wide acceptance (box). The system is complicated by the fact that tumour (T) stage has different specifications for each primary site, though the N (nodal disease) and M (metastatic disease) designations are standard. The probability of spread to lymph nodes in the neck is highly dependent on the primary tumour site. Nasopharyngeal carcinomas, supraglottic (as distinct from glottic) laryngeal tumours, floor of mouth tumours, and disease in oropharyngeal and hypopharyngeal sites have very high rates of spread.

Patients frequently present not with symptoms of the primary disease but with the neck node metastases. This is of great diagnostic importance, as diseases such as carcinoma of the bronchus, Hodgkin's disease, and non-Hodgkin's lymphoma may also present in this way. The precise site of the node metastases in the neck may give important clues to the likely primary tumour (fig 2). Involved upper cervical lymph nodes are more likely to be due to supraglottic laryngeal carcinoma or a tumour of the oropharynx, whereas enlarged nodes in the submandibular or lower cervical area are more likely to be due to a carcinoma of the tongue or floor of the mouth. An involved node deeply situated in the supraclavicular fossa may be due to a gastric carcinoma or a carcinoma of the bronchus or thyroid. A tendency to ulcerate makes the diagnosis more likely to be a squamous cell carcinoma than, for instance, a lymphoma. Bulky bilateral neck disease, particularly in a young person and without any obvious primary site within the head and neck, is more likely to be due to lymphoma than carcinoma. In histologically doubtful cases the advent of sensitive immunocytochemical staining has led to much greater confidence in tumour classification.

Lymph node metastases in the neck carry considerable prognostic weight. In particular, the presence of large or fixed (N3) node disease almost always renders the patient incurable by surgery, with only a faint hope of cure by non-surgical means. Fine needle aspiration cytology of suspicious nodes is important in order to confirm the tumour stage and tailor treatment accordingly. Open biopsy of suspicious lymph nodes is occasionally necessary.

Confirming the diagnosis

Staging should include thorough examination of all head and neck sites by a skilled otolaryngologist or oral surgeon, including examination under anaesthesia if indicated in any suspicious case. Common clinical presentations include hoarseness from a laryngeal nodule, ulcer, or vocal cord fixation (laryngeal cancer); dysphagia (oropharyngeal or upper oesophageal cancer); visible ulcer or oral discomfort (oral and oropharyngeal sites); nasal stuffiness or discharge, or both, or cranial nerve palsy (nasal, paranasal, or nasopharynx); and facial swelling or ulceration over the cheek (maxillary sinus). The patient may also present with neck lymphadenopathy (see above).

Apart from expert examination, important investigations include chest radiography (to exclude concomitant primary carcinoma of the bronchus and confirm mediastinal lymphadenopathy if present) together with computed tomography (CT), particularly in doubtful cases of lymphadenopathy or for better anatomical definition (fig 3). Plain (uncomputed) tomography remains useful, particularly in laryngeal

TNM and clinical staging of head and neck cancer (American Joint Committee on Cancer Staging)

TNM staging

TX—	Primary tumour cannot be assessed
T0—	No evidence of primary tumour
Tis—	Carcinoma in situ
T1—	Tumour ≤ 2 cm in greatest dimension
T2—	Tumour > 2 cm but ≤ 4 cm
T3—	Tumour > 4 cm
T4—	Tumour invades adjacent structures (for example, cortical bone, deep muscle of tongue, maxillary sinus, skin)
NX—	Regional lymph nodes cannot be assessed
N0—	No regional lymph node metastases
N1—	Metastasis to single ipsilateral lymph node ≤ 3 cm
N2—	Metastasis to single ipsilateral lymph node > 3 cm but ≤ 6 cm, to multiple ipsilateral lymph nodes (none > 6 cm), or to bilateral or contralateral lymph nodes (none > 6 cm)
N2a—	Metastasis to single ipsilateral lymph node > 3 cm but ≤ 6 cm
N2b—	Metastases to multiple ipsilateral lymph nodes (none > 6 cm)
N2c—	Metastases to bilateral or contralateral lymph nodes (none > 6 cm)
N3—	Metastasis to lymph node > 6 cm
MX—	Presence of distant metastasis cannot be assessed
M0—	No evidence of distant metastasis
M1—	Distant metastasis

Clinical staging

0	TisN0M0
I	T1N0M0
II	T2N0M0
III	T3N0M0 T1-T3N1M0
IV	T4N0-N1M0 Any TN2-N3M0 Any T and N, and M1

THE RELATIONSHIP OF NECK NODES TO PRIMARY SITES

Node(s)	Site
Submandibular triangle	Submandibular gland, oral cavity (especially floor of mouth), lower lip, paranasal sinuses, facial skin
Superior deep jugular (jugulodigastric)	Paranasal sinuses, nasopharynx, oropharynx, oral cavity, hypopharynx, parotid gland, supraglottic larynx, lower pinna
Sub- or post-occipital	Nasopharynx, posterior scalp, post-auricular skin, exterior ear
Midjugular	Hypopharynx, thyroid, larynx, oropharynx
Prelaryngeal	Thyroid, larynx, lymphoma
Lower jugular	Thyroid, larynx, cervical oesophagus, infraclavicular primaries (including thoracic)
Supraclavicular	Thyroid, cervical oesophagus, infraclavicular primaries (including abdominal)
Submental	Oral cavity, lymphoma, salivary glands

FIG 2—Relation of diseased lymph nodes in neck to primary sites of cancer. (From Tobias and Williams²³)

carcinoma, where it may be the best means of determining the length (vertical height) of the tumour. Magnetic resonance imaging may also be valuable, particularly in cases of paranasal sinus tumour, where the ability to distinguish a solid lesion from mucous retention within the sinus cannot be achieved by plain radiography or CT.

For confirmation of neck node metastases fine needle aspiration biopsy is normally sufficient, whereas a formal histological confirmation of primary sites should always be undertaken when possible. Patients who seek advice for neck lymphadenopathy for which no primary tumour site can be detected present a particular diagnostic problem, as management ideally depends closely on knowledge of the primary site. In "unknown primary tumour" cases such as these, careful inspection under anaesthesia together with panendoscopy and, if necessary, blind biopsy of the nasopharynx are all helpful.

Clinical management

Epithelial carcinomas of the head and neck are best managed jointly by a surgeon and radiotherapist with particular interest in the subject, as they present technical problems unequalled by those at any other site. Many would regard the medical oncologist, diagnostic radiologist, head and neck histopathologist, speech therapist, and reconstructive surgeon as other key members of the team.

Though there is a wide difference in management approaches in different clinics (in particular between the United Kingdom and the United States), in the past 20 years there has been an increasing tendency towards "conservative"—that is, less surgically mutilating—procedures. Most head and neck carcinomas respond well to radical radiotherapy (at least in the first instance), making surgery avoidable in a high proportion of cases. The increasing use of cytotoxic chemotherapy has accentuated this organ preserving approach. In carcinoma of the larynx over 90% of patients with T1 vocal cord (glottic) lesions are cured by radiotherapy alone without appreciable loss of voice and with few late relapses. The commonest cause of death in cured early glottic carcinoma is carcinoma of the bronchus, as so many of these patients continue to smoke.

There is increasing evidence that even patients with more advanced (T2-T4 or N positive) disease should be treated by radical radiotherapy and organ preservation, restricting "salvage" laryngectomy to cases in which the aggressive non-surgical approach has failed. For example, one study from the United States con-

firmed that laryngeal preservation was successful in almost two thirds of patients given induction chemotherapy followed by radical irradiation, with survival rates essentially the same as those for patients treated by both irradiation and laryngectomy.⁷

Partial laryngectomy with the important advantage of voice preservation is appropriate for only a minority of patients with laryngeal carcinoma but may be possible in selected radiochemotherapy failures. In all such cases—and indeed for head and neck cancers generally—close follow up is essential after primary treatment. In my own combined clinic we see patients monthly for the first year, every two months during the second year, and every three months during the third. This closely parallels the high risk period of two years, after which recurrence is generally unusual (with the exception of nasopharyngeal carcinoma).

For carcinomas of the oral cavity the relative roles of radiotherapy and surgery are less clear cut. On the one hand, surgical resection may result in loss of function and a difficult reconstruction—for example, in large ulcerating carcinomas of the floor of the mouth or

FIG 3—CT scans of patient with maxillary lymphoma showing contour elevation (left cheek), massive bone destruction of walls of maxilla, including floor of orbit, and elevation of right globe. (From Tobias and Williams²³)

tongue. On the other, however, radiotherapy is generally accompanied by debilitating long term loss of oral lubrication, and patients may continue to complain bitterly of persistent dry mouth years later. For small, easily resectable lesions—for example, at the tip or lateral aspect of the tongue—surgery alone may offer the best results.⁸ But for larger lesions, particularly at less surgically accessible sites, radiotherapy is usually preferable, particularly as resection may so frequently result in questionable excision margins and the need for postoperative radiotherapy as a supplement.

Both external beam irradiation and brachytherapy are used, brachytherapy most particularly in cancers of the tongue and floor of the mouth. These techniques can be combined, often producing excellent results.⁹

Reconstructive surgery based on the microvascular free flap technique has profoundly affected surgical and radiotherapeutic practice in oral (and oropharyngeal) cancer. The development and wide application of these techniques, together with our continuing failure to reduce the damaging long term consequences of wide field irradiation of the oral cavity, have led to a reappraisal of surgical resection techniques and a corresponding increase over the past five years in the use of primary surgical resection. There have not, however, been any satisfactory randomised studies of surgery versus radiotherapy. For more advanced tumours chemotherapy may possibly give additional benefit,¹⁰⁻¹² though there is still no agreement about the most appropriate choice of agents (see below).

Nasopharyngeal carcinoma

Nasopharyngeal carcinoma is clearly a quite different disorder from other types of squamous cell carcinoma. Tobacco and alcohol consumption seem to have a smaller role (if any) than viral and possibly dietary factors. Both the epidemiology and natural course of nasopharyngeal carcinoma are unique, and a slow, sometimes indolent rate of relapse may lead to prolonged survival even after disease recurrence and in the absence of surgical resection. This is in sharp contrast with other forms of head and neck cancer. Because of the relative inaccessibility of the primary tumour coupled with the high rate (60-90%) of microscopic or visible neck lymphadenopathy at presentation surgery plays little or no part in primary management. Nevertheless, resection of the nodes may sometimes be valuable, particularly in patients who present with massive lymphadenopathy (fig 4).

Radiotherapy is the primary method of management, though an unusually large volume of facial and neck tissue must be treated, with a correspondingly wide area of acute skin damage. Fortunately, the high vascularity of this area ensures rapid return to normal in most cases (fig 5).

Other, less common sites include the hypopharynx, nasal or paranasal sinuses, orbit (including contents), and cervical oesophagus. In general patients with these tumours do poorly, either because of early local malignant destruction (fig 3) or because of clinical or microscopic lymphatic invasion even at a relatively early stage in the disease, as often occurs in hypopharyngeal or upper oesophageal lesions. Combinations of radical radiochemotherapy, with or without surgery, may offer the best hope of cure.

Role of chemotherapy

Though chemotherapy is widely used (particularly in the United States), its role remains contentious. A systematic overview in 1990 offered a depressing summary of its achievement,¹³ though several randomised studies have supported the view that chemotherapy can benefit patients with advanced

disease.^{10 11 14 15} For example, in a well structured study of 300 patients, Gupta *et al* used single agent methotrexate given as two pulses during a course of radical radiotherapy.¹⁰ The main conclusions were that both disease free survival and overall survival were improved, with particularly impressive results in the largest subgroup (102 patients with oropharyngeal carcinoma). It is important to remember that failure of local control is a key end point in head and neck carcinoma, often requiring a substantial surgical procedure (laryngectomy, composite oropharyngeal resection, maxillectomy, etc) in any secondary attempt at cure.

A further United Kingdom based study provided supportive data, with particular emphasis on the role of fluorouracil,¹⁵ which had previously been regarded as comparatively inactive in head and neck squamous cell carcinomas. This drug has now assumed increasing importance in view of its low toxicity and ease of administration.

Cisplatin is probably the most active agent in head and neck carcinoma, though the side effects of renal dysfunction, ototoxicity, and gastrointestinal disturbance make it difficult to use in patients in whom poor performance status and compliance are common. The need for hydration and expensive antiemetic prophylaxis with 5-hydroxytryptamine₃ antagonists such as ondansetron add to the difficulties. Carboplatin, though active in head and neck squamous cell cancer and better tolerated than the parent compound, is more myelosuppressive.

At present cisplatin-fluorouracil is often regarded as the "gold standard" in head and neck cancer chemotherapy. This view, however, is based more on initial response rates—including a complete response rate of 29% (191 patients) in a series of over 660 collected cases¹⁶—than on long term survival data. Clearly patients who have a complete response to chemotherapy have a better prognosis than others, though this may simply result from the identification (by chemotherapy) of patients with a better chance of cure with conventional treatment.

In general, most studies have failed to confirm a long term survival advantage from induction (sometimes termed "primary" or "neoadjuvant") chemotherapy despite high initial response rates. The use of "synchronous" or "maintenance" chemotherapy looks more promising,¹⁷ though synchronous chemotherapy (that is, given alongside a radical course of radiotherapy) is undoubtedly more troublesome for the patient, from the point of view of acute toxicity. At present a large randomised study under the auspices of the United Kingdom Coordinating Committee for Cancer Research is addressing the issue of synchronous and maintenance chemotherapy and has recruited 350 patients in less than three years.

Prognosis

Survival is clearly dependent on the stage of the disease (fig 6), with independent predictive information from each component of T, N, and M. Nodal status, for example, is highly predictive (fig 7). Despite continuing controversy the site of the primary tumour appears to have significant prognostic importance (fig 8). Other important prognostic indicators include performance status and quality of response to chemotherapy.¹⁸

Some patients with head and neck cancer, including most of those with early stage cancers of the larynx, oral cavity, and oropharynx, enjoy an excellent overall survival with fairly simple treatment. For advanced cases the cure rate falls to about 35% overall, though many deaths are due to intercurrent disease, unrelated to the cancer itself. Though the best chance of cure

FIG 4—Patient with carcinoma of nasopharynx who presented with massively enlarged nodes in left side of neck. CT scan shows complete replacement of nasopharynx and bone destruction by primary tumour. (From Tobias and Williams²¹)

FIG 5—Appearances of patient treated with radiotherapy for carcinoma of nasopharynx showing (a) fierce desquamation as typical radiation reaction and (b) complete resolution of reaction four months later. (From Tobias and Williams²¹)

clearly results from the initial treatment, secondary "salvage" surgery gives an additional chance of cure, at least in selected patients, predominantly those with recurrence at the primary site rather than in neck nodes. Table II shows the five year survival rates for the main sites.

Future prospects in prevention and management

Several studies have suggested that premalignant lesions can be reversed by retinoids, and this may also apply to the common problem of second malignancies. In addition, wider publicity regarding the dangers of overusing tobacco and alcohol could also reduce incidence rates, though little has been done so far.¹⁹ At a community level, in countries such as India with very high rates of oral and other head and neck cancers, educational programmes to reduce tobacco and betel nut chewing and reverse cigarette smoking are also under way. Other media campaigns have also emphasised the potential significance of important symptoms such as hoarseness, oral ulceration, and dysphagia, all of which may be disregarded by the patient, emphasising the link between early diagnosis and probable cure.

Innovations in management for established disease seem likely to come from at least three sources. The first is the possibility of better control in advanced cases by using synchronous radiotherapy and chemotherapy, a concept which has rapidly gained ground

FIG 6—Disease free survival by initial disease stage in patients with head and neck cancer. (South East Cooperative Oncology Group data¹⁵)

FIG 7—Time to local relapse by nodal status in patients with head and neck cancer. (South East Cooperative Oncology Group data¹⁵)

FIG 8—Site specific survival in patients with advanced head and neck cancer. (South East Cooperative Oncology Group data (unpublished))

TABLE II—Five year percentage survival rates in patients with advanced head and neck cancer initially treated by combined chemotherapy and irradiation with subsequent surgery for operable resistant or recurrent disease

Cancer site	Males	Females
Larynx	65.3	53.0
Pharynx {		
Oropharynx	26.3	36.4
Nasopharynx	31.1	39.8
Hypopharynx	15.1	18.5
Oral cavity {		
Alveolus	40.7	58.2
Floor of mouth	39.0	52.3

Table includes early (T1-T2N0) cases as well as advanced cases. Data from Cancer Research Campaign.²⁴

but (despite one or two positive study results) has not yet been satisfactorily confirmed. The second is the availability of better surgical (particularly reconstructive) techniques, which have increased the range and size of operable tumours and when necessary can be combined with aggressive non-surgical therapy. Thirdly, there is now evidence suggesting benefit from hyperfractionation regimens of radiotherapy—that is, the use of accelerated treatment with two or three fractions per day—in which treatment is completed in two to three weeks compared with the conventional six to seven weeks.²⁰ At least one randomised study²¹ has now suggested a potential advantage in head and neck cancer.

For these and other reasons a cautious note of optimism is now possible, despite the wide variety of clinical problems still regularly encountered. Patients with advanced head and neck cancer should ideally be recruited in prospective randomised studies addressing one or other of the major management issues. For patients with early stage disease cure should invariably be the aim with only minor morbidity from treatment as a routine goal.

Protocol and details of the United Kingdom Coordinating Committee for Cancer Research trial of synchronous and maintenance chemotherapy are available from Ms Helen Meadows, CRC Trials Office, Rayne Institute, 123 Coldharbour Lane, London SE5 9NU. Telephone 071 737 3642. Fax 071 326 3497.

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Community Care: The First Year

Newcastle: making strides

Sharon Kingman

In the past year those involved in implementing community care in Newcastle have been on a massive learning curve, starting to understand purchasing services, moving towards all kinds of domiciliary services. Provision of services by the independent sector is still developing, leaving the social services department to consolidate its own home care services; voluntary agencies are being contracted to supply others. A new assessment system is evolving. Joint planning is moving forward slowly.

Pinned to the noticeboard in Carolyn Stephenson's office in the social services department at the Civic Centre in Newcastle upon Tyne is a photocopy of a speech made by Dr Brian Mawhinney, minister for health, shortly before the implementation of the NHS and Community Care Act last April. Highlighted in orange are the words: "We must not expect too much too soon. Benefits will flow from these reforms over a decade... Success will depend not so much on this year's implementation agenda, but more on the continued vision of what can be achieved to allow people to live with independence and dignity."

Carolyn Stephenson, principal assistant (community care), says she used to read this last year when she was under enormous pressure to get the new system up and running in time for 1 April. "It reminded me that what we were really trying to do was to achieve a very fundamental change for people in Newcastle rather than just meet a lot of management deadlines."

The new system changed how local authorities delivered social care for people who needed help because of age, disability, mental illness, or chronic illness. Formerly, for those people deemed eligible by a financial means test, the Department of Health had paid the fees for residential and nursing home care direct to those who provided these services. But from April 1993 the social services departments were to receive this money, to buy both residential care and services to be provided in people's own homes. The government stipulated that 85% of the community care grant had to be spent in the voluntary and private sector.

The aim was to give people the help they needed to stay in their own homes as long as possible, if that was what they wanted. People considering residential and

nursing home care, as well as those being discharged from hospital (whether acute or long stay mental hospital) had to be assessed to establish exactly what their needs were. Authorities that failed to get their new systems into place on time would not qualify for the new community care grant.

Meeting the deadline

In September 1992, when Carolyn Stephenson was appointed in Newcastle, just she and a secretary were working full time on the implementation of the community care reforms. She says: "The department realised that if we were to achieve all these targets, we needed to make a major investment in management. We decided to use a project management approach—something that social services had never done before." This involved assigning particular members of staff to carry out certain tasks by specified deadlines.

It worked. Stephenson says: "We met the government's requirements, but only just. We had contracts on residential homes, basic agreements with the health service, and an assessment policy and procedure—but we were only just there."

Across Newcastle, other authorities were holding their breath to see whether social services would make the deadline. Phil Sculthorpe, who early last year held the post of assistant director (community care) at North Tyne Health, an organisation that purchases care on behalf of Newcastle Health Authority, remembers that "in December 1992, we could see that Newcastle was likely to be a named authority that might not get its transitional grant." If social services had failed, the consequences for the NHS could have been very difficult.

"Eighteen months ago," Sculthorpe says, "there were widespread fears that the local authority might fail to deliver on residential care homes. The result would have been beds blocked by people who could not be discharged, difficulty admitting new patients, and people bouncing back in to NHS beds because social care arrangements had failed."

But these worst fears were never realised. "We seem to have achieved basic, safe, and speedy arrangements for discharge which over the past year have improved steadily," Sculthorpe says.

Stephenson agrees that since April 1993 everyone

This is the last of a series of four articles looking at what has happened in community care over the past year

London W4 3BU
Sharon Kingman, freelance
journalist

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