TB, Glasgow and the Mass Radiography Campaign in the Nineteen Fifties:
A Democratic Health Service in Action.

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On February 21 1956, James Stuart, the Scottish Secretary of State, announced plans for what he termed ‘the most ambitious campaign against pulmonary tuberculosis yet attempted’ in Scotland.1 It was to last two years, starting in early 1957. The emphasis of the campaign was ‘on the detection of the infectious person, his treatment, to follow those who had been in contact’ with the infectious person and ‘to find and bring under control the maximum number of undetected cases of tuberculosis, and thus to prevent the spread of infection and substantially reduce the incidence of new diseases in future.’2 Its principal weapon was the x-ray survey, based on miniature mass radiography.

Stuart was undoubtedly a concerned political administrator. In announcing the campaign he stated that, unlike England, notification of new cases of respiratory TB had increased since the war, especially in Glasgow (the latter from 139 to 200 per 100,000 population). Although the death rate had declined (in Glasgow from 86 to 34 per 100,000 population), it was still more than double the figure further south. Through a series of measures, including the special recruitment of NHS nurses (with additional pay) and the use of Swiss sanatoria, the waiting list for hospital beds had declined. In fact, the NHS now had a surplus of beds for TB patients. But the issue facing Stuart was more complex than the statistics indicated and he concluded his announcement by stating that

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what was wrong was not the NHS’s fault in treating diagnosed cases, ‘but the failure to
find all the undetected cases and thus stop the infection spreading at source’. The
Minister’s principal concern lay less in what the NHS had achieved, but more the impact
of TB on local communities and with it the perception of the Government’s ability to
eradicate a disease long associated with mass industrialisation. In Scotland conditions
had been noticeably worse than south of the border, with 40 per cent of Glaswegians
living in one or two room tenement flats, almost invariably with an outside water closet.

Three years later in 1959 the British Medical Journal reviewed the campaign after
it had ended. It noted that within its own terms, the five-week Glasgow campaign had
been successful with 76 per cent of the City’s adults tested, over 700,000 in total. 2,200
active cases of TB had been discovered and provided with treatment, more than 1,000 in
hospital. However, it also noticed that the number discovered was little more than that
detected by the ‘normal’ working of the NHS in 1956 and it was difficult to assess the
campaign’s value, especially in comparison with other clinical initiatives.

This paper will look more closely at the origins of the campaign, its
implementation and the official and other reviews that followed. The campaign is
interesting not only because of the recent interest in TB subsequent to an upsurge of UK
notifications and the press treatment when individual cases are discovered (for instance,
amongst schoolchildren), but because it demonstrates the conditions under which a
modern Government can mobilise its medical and administrative resources to tackle a
major public health issue, apparently with full community support. In so doing the paper
seeks to ask how far the mass radiography campaign in Scotland during the late 1950s
can be regarded solely as a medical campaign, the final campaign to ‘defeat’ a disease of
industrial living - as the Scottish Department of Health stated, or whether there were
other agendas at work.

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At the beginning of the Second World War the incidence of TB in the UK increased, reversing the trend of the previous twenty years. Part of this was attributed to war-time conditions and in 1942 the Government decided to introduce a number of special initiatives to counter-act the trend, including additional hospital accommodation, higher levels of public assistance and a pilot programme of mass radiography. In England the initiatives resulted in reduced incidence, but in Scotland the numbers affected continued to increase, especially on Clydeside. As McFarlane has indicated, the crucial discriminating factor appeared the state of Glasgow’s housing and the considerably higher incidence of overcrowding. In response the Government agreed that the City should receive a higher allocation of the post-war housing scheme than other cities in Scotland and it also authorised further specialist hospital accommodation with enhanced allowances for nursing staff. (The fear of TB infection had led to a decline in their numbers.) However, despite these efforts the waiting list for treatment continued to grow, reaching a total of 1,548 in March 1949. As the Glasgow Herald reported, the control of TB in Scotland remained 'an aspiration' rather than a 'reality'. Such comments were repeated in Parliament, where Scottish ministers came under increased attack from an all-party group of MPs for the failure to arrest the disease. One MP commented that Glasgow was ‘in an unique position, not only as regards confirmed notifications of the disease and the number on the waiting list seeking treatment, but

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4 PRO/NAS, CAB 75/12 HPC(41)212 ‘Incidence and prevention of tuberculosis’, 6 Nov. 1941 and 75/14 HPC(42)18 ‘Prevention and control of tuberculosis’, 31 Jan. 1942; NAS HH 102/116, W.R. Fraser, Secretary, Department of Health, 17 Jul. 1942
5 F.B. Smith, The Retreat of Tuberculosis, 1850-1950, (Croom Helm, 1988); for a contemporary Scottish account see, HMSO, Tuberculosis in Scotland (Edinburgh, 1951).
7 NAS HH 102/251, Minutes of N.W. Graham, Assistant Secretary, Health, 3 Sep. 1946 and 3 Oct. 1946.
[also] with regard to the death rate. The latter, he noted, was 1.14 per thousand in Glasgow, compared to 0.66 for Scotland as a whole, 0.784 for Liverpool, 0.664 for Manchester and 0.621 for Birmingham. The MP added that in Scotland one person in every 135 suffered from ‘this malady’, but in Glasgow the figure was one in every 92. He concluded by stating, ‘It is accepted that tuberculosis is preventable. The question then arises: why not prevent it?’ The Scottish minister attending the debate responded by agreeing that the matter was ‘very serious’, but apart from confirming that 1,200 additional houses had been provided to assist Glasgow in re-housing those suffering from the disease, all he could add was that an advisor had been appointed to assist the Department’s anti-TB vaccination programme. The aim of the programme was to introduce standard BCG procedures, based on clinical evidence, in hospitals and clinics. However, the Department accepted that it was some years before the technicalities of the vaccination could be fully appreciated and initially the scheme was confined to three groups on a ‘trial’ basis, those in recent contact with tuberculosis patients, nursing staff and medical students.

In July 1950 a number of press articles appeared in the UK indicating that the decline of TB in Europe had resulted in empty accommodation in Swiss sanatoria and urged the Health ministers to consider offering treatment on 'humanitarian and medical grounds'. Hector McNeil, the Scottish Secretary, took up the idea and pressed both the curative and publicity benefits on Nye Bevan, the Minister of Health for England and

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9 *Hansard*, Vol. 466, 7 Jul. 1949, c.2493; see also *Report of the Scottish Grand Committee, ‘Health Services Supply’,* 1 Jul. 1948. The latter debate was opposition-led.

10 *NAS, SOE 2/33, minute 20 Jun 1949*. The advisor worked as a medical officer for the London County Council and later held a medical chair at the University of Wales.


12 Articles appeared in the *Spectator* and the *Economist*, see also; *Scotsman, ‘Swiss Sanatoria Beds’*, 1 Aug. 1950.
Wales.\textsuperscript{13} He wrote that the public appeared exasperated by the Government’s inaction.

Bevan remained uncertain of the scheme's value, partly because of cost, but also because they had some doubts about the standard of care the Swiss could offer (at the price he would allow). However, after his officials visited Switzerland, McNeil publicly announced his interest and immediately attracted favourable press reviews.\textsuperscript{14} The scheme, he was quick to point out, selecting on the basis of need and not the ability to pay, was evidence of a 'democratic' health service. With some reluctance the Ministry of Health agreed to the scheme and the first Scottish patients, suitably photographed by an eager Scottish press, flew out in June 1951. Although the Government had introduced a series of charges for certain NHS services (in the wake of the 1949 budgetary crisis), it remained a service for the benefit of the people.

In December 1950 McNeil went further in his efforts to tackle TB and insisted to his officials and reluctant regional health boards that additional accommodation was to be found in 'general' hospitals, using existing staff. (An additional 566 beds were allocated, bringing the total in Scotland for TB patients to 5,233.) The combination of the increased accommodation and the Swiss scheme meant that by early 1955 the waiting list for treatment had significantly declined.\textsuperscript{15} In fact, the Department of Health reported that the waiting list had declined to less than 200. As a result, in November 1955 the Swiss scheme was withdrawn, 1,000 Scottish patients having been treated, the total cost of the scheme was estimated at £520,000.\textsuperscript{16} However, the Department knew that significant numbers remained undetected, partly because it took some time for its characteristics to be fully identified, but also because those suffering the disease and their

\textsuperscript{13} N.AS HH 162/316, Departmental minutes, 19 Jul 1950 and 28 Feb 1951.
\textsuperscript{15} N.AS HH 102/317, Minute, R.P. Fraser, Assistant Secretary, department of Health, 11 Mar. 1955.
\textsuperscript{16} PRO, T 165/301, 'Blue Notes, The NHS (Scotland)', Jul. 1962.
families failed to seek medical advice when first afflicted with illness. Since 1944, the Department, in conjunction with local authority medical officers of health, had undertaken a series of ‘community’ surveys of TB using MMRs units to screen the public.\(^{17}\) Participation in such surveys was voluntary, through, in practice, their location at offices and factories tended to ‘encourage’ attendance. However, due to post-war shortages, by 1949 only five MMRs were in operation in Scotland, two in Glasgow and one each in Motherwell, Edinburgh and Dundee. In 1948, out of 70,000 patients screened, 445 cases of active TB were recorded and treated. More cases were recorded through ordinary GP contact with patients and generally the scheme, although regarded as useful, was not seen as the major plank of the Government’s response to tackling the disease. Indeed some staff in the Department believed that it was not a particularly valuable way of using the otherwise scarce x-ray equipment. Nevertheless ministers agreed that further MMRs should be purchased.

The Conservative Government, elected in 1951, agreed to continue the community surveys. Indeed, the campaign was given some impetus by the Minister of State, Lord Home, who in his own words had painfully recovered from TB in 1940. Stuart agreed and publicly announced that TB could ‘be prevented and cured’. As a result of the ministerial interest, in early 1953 Scottish officials decided to introduce a new strategy, after hearing of the latest campaign in the Welsh mining valleys.\(^{18}\) The administrative head of the Department’s health services commented that ‘the time had passed for hiding our heads in the sand’. Greenock was chosen as the ‘target’ town, where similar housing conditions existed to Glasgow’s, but with a smaller population. The thrust of the survey was based on enhanced publicity before the arrival of the MMR

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\(^{17}\) *Annual Report of the Department of Health for Scotland, 1947*, Cmd. 7453, p.28, gives usage by location of the MMRs, 1946-47. (265,785 in Edinburgh, of which 81 were active TB cases, Lanark, 11,212 of which 105 cases and Glasgow, 30,737, of which 207 cases.) Subsequent reports similarly account usage by location of units.

\(^{18}\) NAS HH102/773, minute, 10 Mar. 1953
units through a mixture of posters, lectures in schools and church halls, and adverts during the intermission at local cinemas. The message to the population was that TB was the No 1 health problem and was primarily the result of bad housing, poor nutrition and life style. It was not a hereditary disease. The campaign with the slogan, ‘Tuberculosis can be cured - let’s stamp it out’, was to last for a month.19 In Parliament, where the Government had come under renewed pressure to be seen taking effective action, the Scottish parliamentary under-secretary told MPs that the campaign would begin with ‘a pilot publicity scheme with the object of persuading the entire adult population to undergo mass radiography’.20

The Scottish ministers were well pleased with the result of the Greenock survey. 13,500 adults came forward and 80 previously unknown cases of TB were detected, principally in the early stages that were most amenable to treatment. The level of MMR unit utilisation had also increased from less than 200 a day at offices and factories under previous surveys to more than 500. Officials noted that:

‘Another aspect of the Greenock experiment was the apparent success of propaganda directed to the promotion of healthy living by stressing the importance of regular meals, sufficient sleep and fresh air. Over 3,500 people attended 20 meetings under a variety of auspices, at which talks, demonstrations and films on the subject were given. Publicity on these lines is going on to some degree at all times, but the visit of a mass radiography battery to any particular centre provides a valuable opportunity to step such publicity up to a high pitch for a limited period – probably the most effective way of employing publicity. …an unrecognised case is doing more harm by way of spreading infection in the community than a known case. Even if the known case has to be looked at home for some weeks before sanatorium care can be arranged, some simple precautions can be taken including the protection of family contacts by BCG vaccination.’21

The ministers agreed that the experiment should be continued with further areas targeted on the same basis as Greenock. During 1954 surveys were conducted in Pilton (Edinburgh), West Fife, Coatbridge, Rutherglen and Paisley with Lord Home successfully...

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appealing to leading firms to allow their bill-board sites to advertise the campaign.

However, by this time the MRC had undertaken a national review of mass radiography and concluded in similar terms to the Department of Health, that ‘positive cases were frequently the last to come forward’. Less attention, it urged, should be paid to areas, age groups and occupations where the incidence of TB was low and more on ‘grouping of the MMR units for comprehensive surveys of “black spots”’. The British Tuberculosis Association agreed and recommended that greater Government action should taken to ‘finish the job’ in Liverpool, south Wales and Glasgow. Scottish ministers similarly agreed and during 1954 announced that a major campaign would occur the following year in a number of Glasgow’s eastern wards. In fact, the ministers understood one of the essential ingredients of a successful campaign and told MPs that, ‘in Greenock and Edinburgh as a result of the press publicity that the local daily newspapers gave to the campaign day by day we had a very great success’. To be effective campaigns needed unqualified local institutional support.

As a result of the latest campaigns opinion within the Department hardened with the Chief Medical Officer of Health declaring that the numbers x-rayed had produced an increased yield (of TB cases) and non-TB abnormalities. It was enough, he said, to justify the continuation of the special drive in 1955, but on the condition that the Department should use the maximum number of MMR units available in the minimum period of time (the short space of time acting as a form of compulsion.) The Department had already sought Treasury approval of the funding for the campaign in 1955/6, which was agreed, but Treasury officials suggested as an addendum that ‘a

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22 MRC 53/687.
23 Tubercle, (1954), leader, p.237
national campaign might not be less valuable than a series of small local campaigns.\textsuperscript{26}

The Department replied indicating that it had considered such a move, but that ‘it would take a long time to get round all the main centres of Scotland’ with the 10 MMR units that were now available north of the border.

Ministerial opinion was also hardening. It was evident to Stuart that unless additional MMR units could be provided it would become virtually impossible to deal with the Scottish cities at any effective level. The survey in eastern Glasgow in Spring 1955 had proved a disappointment (like Paisley in late 1954), largely because the shortage of units available restricted the area that could be covered (the Department had found other local authorities were reluctant to loan necessary equipment). This contrasted with Motherwell with a smaller population, where large queues had to be controlled by the police on the last day of the survey. Motherwell had also introduced the innovation of using volunteers to undertake house-to-house visitation, as well as securing the agreement of the AA to cover the town with signposts of the way to the units.\textsuperscript{27}

Ministers and officials believed that cities and large conurbations required a new approach.

In May 1955 Stuart wrote to the Minister of Health and indicated that he was proposing a new 3-year campaign, which would begin with Glasgow. He stated that:

‘Glasgow has been chosen because it has by far Scotland's largest tuberculosis problem in terms of sheer numbers of people affected and is therefore the largest single reservoir of infection. And a big campaign in Glasgow will launch the national programme in a way no campaign elsewhere in Scotland could.

We believe that five weeks is probably about the maximum period for which a sustained public response can be expected; and the best estimate we can make on past experience suggests that up to 400,000 people may present themselves for X-ray in Glasgow in this period if sufficient units are provided. Even allowing the high rate of 2,000 people per unit week, this means that for the Glasgow campaign 40 units will be needed, against 10 available in Scotland.

The purpose of this letter, then, is to ask you to consider whether you could make arrangements for 30 of the mass radiography units at present operating in England

\textsuperscript{26} N.A.S HH 102/796, letter, 12 Jan. 1955.
to be lent, with staff, to our Western Regional Hospital Board for a period of approximately five weeks beginning about 10th May, 1956. It seems to me that it is only by measures of this radical sort that we can hope to bring tuberculosis in Scotland under better control, and that the time has now arrived when these measures can be practicable and effective.\textsuperscript{28}

The Minister wrote to confirm his support and with the assistance of the military\textsuperscript{30} MMR units were pledged for the Glasgow campaign. However, it was clearly a ministerial decision in London, as a number of Ministry of Health officials doubted the value of such a campaign in large centres. They were not certain that it could produce the volume of cases necessary to justify the expense.\textsuperscript{29} The Scottish ministers were sufficiently concerned on the reservation to insist that their officials review the campaign and gain evidence that it would be a justifiable use of resources. A review of similar campaigns in the USA was undertaken and it was reported that 25 large cities had conducted such campaigns since 1947.\textsuperscript{30} The evidence suggested that with a highly publicised and focused campaign about 75 per cent of the adult population could be covered, but only with the use of a large number of MMR ‘unit days’. The US evidence also suggested a decline in the death rate in these areas compared to other cities. The review concluded by indicating that the level of participation was much dictated by the high degree of participation, as evidenced by the volume of voluntary workers that the US campaigns used. It was noted that it was doubtful if Glasgow would show the same community spirit.

In the event, because of pressure of work on English local authorities, the Department was forced to delay the campaign until March 1957. This allowed more time for its officials to work with Glasgow and the Regional Health Board to draw on the lessons from the USA campaigns and the smaller Scottish surveys.

\textsuperscript{28} NAS HH 102/120, letter, 4 May 1955.
\textsuperscript{29} NAS HH 102/774, minute, 7 Jun. 1955.
\textsuperscript{30} NAS HH 102/796, minute, 24 Nov. 1955
The survey, when it began, was certainly the largest sustained public health campaign seen in the UK. It opened in true Hollywood fashion, with considerable advance publicity, from ‘placed’ parliamentary questions to ministerial press briefings, all faithfully reported by an all-too eager Scottish and Glasgow press.31 As before, leading manufacturers were persuaded to donate space on bill-boards to advertise support. (Ministers were particularly keen to secure sponsorship from the brewers.) Special films were prepared for screening in cinemas (all cinema owners agreed participation), with a considerable number of endorsements from leading Glasgow celebrities. The BBC, both sound and TV, eagerly reported the prospective campaign. Every household received a letter inviting adult members to attend the local MMR unit and gave them a special identification number. Letters were re-issued to households that had not attended within a specified period. A large army of volunteers (12,000) were recruited to undertake house-to-house visitation (and repeat visits on the basis of the numbered lists) and again the AA were used to ensure MMR unit sites were well sign-posted. Two campaign songs were written, both reported as ‘intriguing and popular’. Aeroplanes dragged banners over the City and various other ‘stunts’ occurred on a regular basis. The press agreed to publicise daily total and ward percentages of adults who attended for screening. Finally, each participant in the survey was awarded both a badge indicating that they had been examined and a special raffle ticket for a prize draw. The prizes, almost all donated by ‘well-wishers’, ranged from an Austin 35 car to holidays and household equipment. Smaller prizes were awarded by ‘x-ray’ men on the street, usually when a participant displayed a particular numbered badge. The same format was used in

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Aberdeen later that year and again in Edinburgh in 1958 (a circus was provided in Princes Street Gardens for those awaiting x-ray in the donated ‘Big Top’).32

The public response to the survey astounded both ministers and officials, many of whom had been concerned that the prospect of hospital incarceration (TB was a notifiable disease) would act as a deterrent. The percentage of adults agreeing to be x-rayed was almost double expectations, 76 per cent in Glasgow, 79 per cent in Aberdeen and 84 per cent in Edinburgh (despite the ‘Arctic weather’). Campaigns in smaller Scottish towns produced similar results with an average participation rate of 67 per cent. In all, over 50 per cent of the adult population in Scotland were x-rayed, some 2,274,065 people. Yet the Department recorded in its 1958 Annual Report that TB ‘does not seem to call for the same extended treatment as in previous years’.33 The dramatic fall in morality continued, as did notification rates and it was noted that there was a higher rate of recovery with modern treatment methods (and drugs). The number of school-leavers who tested positive had also dropped from 66 per cent in 1952 to 27 per cent in 1958. The introduction of BCG vaccination earlier in the decade was greatly praised - from 1952 the programme began to cover schoolchildren. Future policy and resources to detect TB would be directed towards those referred by GPs suffering from chest and other associated diseases and generally the existing TB facilities would be geared towards the diagnosis and treatment of other illnesses. Future annual reports barely covered the topic.

What had occurred? Were the Glasgow and other City campaigns about securing the final control of TB or were there other factors at influencing decisions? Certainly the Scottish campaign was underpinned by the MRC’s call in 1953 for a redirection of

activity – towards the ‘blackspots’. But the English Ministry of Health held some doubts, as did the *British Medical Journal* (after the event). The Department of Health failed to give any detailed account of the campaign’s cost, certainly in public.\(^{34}\) Perhaps a clue can be found in the interview given to the author by a retired senior Scottish civil servant, who happened to hold some responsibility for the campaign. He spoke in emotive terms. At the time, he said, the campaign was likened to ‘a panzer attack’ on the City, a veritable ‘blitzkrieg’ on dirt and disease to lift it into the modern world, once and for all. Glasgow had been dogged too long as TB capital of the UK, unattractive to the new industry necessary to diversify its industrial structure and sustain its growth. However, there was more than the issue of City’s confidence to face the future - to enter the modern world. The high concentration of overcrowding in wards such as Cowcaddens, the Gorbals and Hutchestown gave the impression that a substantial body of Scottish citizens lived in a non-welfare state, apparently abandoned by successive post-war Governments.\(^ {35}\) These areas also sustained the bulk of Scotland’s long-term unemployed, largely the Department noted because of health-related illnesses. To Departmental officials, charged with improving Scottish health standards, the continued existence of TB on such a scale was an affront and not defendable in Parliament. The Department’s official policy was to support a NHS ‘free at point of contact’ and repulse attempts by successive Governments to introduce more widespread charges, including for in-patient care. Poverty in Scotland, it argued, was at a much higher level than in

\(^{34}\) Based on early departmental discussions with the Treasury, the cost for the 1957-58 campaign was likely to be about £150,000, equivalent to 75 new council houses. About 25,000 new council homes were constructed each year in Scotland.

England. To ministers - and to Conservative ministers in the 1950s pursuing a policy of moderation - the public clearly continued to believe in the values of Bevan’s NHS, even if some charges had been introduced. Glasgow’s slum dwellers, 40 per cent of its population, nearly 500,000 souls, deserved better and the campaign demonstrated to a wider public that the Conservatives were a ‘one nation’ party. The response to the survey indicated that it had tapped a particularly sensitive cord; the City’s community spirit was alive and kicking. A medical campaign certainly, several thousand received treatment earlier than they would have, but there were official and political imperatives, each to the advantage of the NHS.

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37 *The Medical Officer*, Mass radiography in Scotland, 7.3.58, p130.