PRESYMPTOMATIC SCREENING

The first hundred women

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THE general demand for cervical cytology gave us an opportunity, with the help of our district nurses and receptionists, to carry out a more ambitious screening programme in women. This paper is an analysis of the first hundred women screened between November 1966 and June 1967.

Method

The four partners carry out an average of four 'checks' an hour, with the help of district nurses in rotation, one morning a week. The clinic ends in time to get the specimens to the laboratory collecting point at 11 a.m. The district nurse takes a relevant history including date of last menstrual period, menstrual habit, parity, husband's occupation, contraceptive method, and takes height, weight, urine (for 'uristix' testing for albumen and sugar) and a midstream urine. The doctor takes blood pressure, blood (for Hb, white blood count, film and erythrocyte sedimentation rate), examines breasts (explaining self examination), takes a cervical smear followed by bimanual pelvic examination. The receptionist makes sure all laboratory forms and specimen bottles are clearly marked and parcelled for dispatch.

The patient is asked to call back in a fortnight to discuss results.

Selection of patients.- A cyclostyled letter was sent to 45 married women in the age-sex register for 1921 and 1922. Twenty-one of these have so far responded and been checked. The other 79 patients were persuaded to attend either by the doctor or through propaganda in the national press and in women's journals. We have not yet solved the problem of carrying out a cervical smear in spinsters.

Results

All clinical and laboratory facts are kept in a ledger and later transferred to punched cards for analysis, correlation and control of follow up.

Table I is an example of punched card analysis and shows the

distribution of those examined by age group, correlating the social status, parity, contraceptive method, haemoglobin per cent and examining doctor. It should be noted that many of the 57 patients who denied contraceptive methods practised coitus interruptus or 'rhythm' methods and a proportion of them were post menopausal or widows.

Table II shows the conditions found and the number requiring treatment or follow up. In short, of the first 100 screened, 59 women had a total of 131 conditions which deviated from the normal; 67 of these conditions required treatment and a further 54 needed surveillance by the family doctor. Ten women required

TABLE I

DISTRIBUTION OF PATIENTS BY AGE GROUPS, CORRELATED WITH OTHER FEATURES

Age	*No.*	*Social status*					*Parity*							*Contraception*		
		I	*II*	*III*	*IV*	*V*	*0*	*1*	*2*	*3*	*4*	*5*	*5+*	*Sheath*	*Pill*	*Nil*
20–29	9		1	7	1			1	5	2	1			2	6	1
30–39	18	5	5	5	3		3	2	5	8				10	5	3
40–49	49	1	16	23	5	4	8	6	18	6	7	3	1	14	2	33
50–59	16	5	4	5	1	1	2	1	6	2	3	2		3		13
60–69	8	3	4	1			2	2	2	1	1			1		7
Totals	100	14	30	41	10	5	15	12	36	19	12	5	1	30	13	57
		100					100							100		

Age	*No.*	*Haemoglobin per cent*							*Doctor*			
		100	*90*	*80*	*70*	*60*	*50*	*NK*	*A*	*B*	*C*	*D*
20–29	9	2	1	3	1			2	2	2	2	3
30–39	18	2	9	4	2			1	5	4	5	4
40–49	49	6	24	12	2	2	2	1	5	19	17	8
50–59	16	2	8	5				1	3	6	4	3
60–69	8	3	4	1					1	5	0	2
Totals	100	15	46	25	5	2	2	5	16	36	28	20
								100				100

operative treatment by the gynaecologist.

1. *Weight* was compared with the average for age and height according to the table produced by the Society of Actuaries' Build and Blood Pressure Study of October 1959. It is worth noting that ten per cent variation from the average represents roughly one stone in weight. Thirty-four patients were at least ten per cent over average weight, of which 16 were considered obese in that they were 20 per cent or more than the average.

Twenty-four women were ten per cent below average weight and many of these were found, in retrospect, to be tense, anxious indi-

TABLE II

CONDITIONS FOUND AND THE NUMBER REQUIRING TREATMENT OR FOLLOW UP

Condition	*Required treatment*		*Required follow up by general practitioner*	*Total*
	General practitioner	*Consultant*		
1. Obesity	16			16
2. Trichomonas infection ..	12			12
3. Cervical erosion	8	2	20	30
4. Hypertension	10		13	23
5. Anaemia	9			9
6. Leucorrhoea	8			8
7. Urinary infection	4		6	10
8. Cervical carcinoma *in situ*		3		3
9. Cystocele		2	4	6
10. Uterine pathology		2	2	4
11. Cystic ovary		1		1
12. Underweight			6	6
13. Albuminuria			3	3
14. Glycosuria				
15. Breast pathology				
Total	67	10	54	131

viduals. Six patients were 20 per cent or more underweight, and analysis showed the following conditions in these women. One large ovarian cyst (later excised), one chronic urinary infection, one anaemia, one cervical erosion, one stage 5 cervical carcinoma *in situ*.

2. *Trichomonas vaginalis* was reported in 12 cases by the cytologist. All were treated with 'flagyl' Tab. one thrice daily for one week and will need follow up. One wonders how often this organism would be found on routine examination in a saline drop and just how pathogenic it really is.

3. *Cervical erosion* was diagnosed in 30 patients, of whom eight were judged to require cautery by the general practitioner and two by the gynaecologist. This diagnosis was made with different frequency by the four doctors (table III). Erosion seems to occur

TABLE III

Doctor	*Total examined*	*Cervical erosion diagnosed*
A	16	4
B	36	6
C	28	10
D	20	10

most commonly in para-2 women in the age group 40–49 and to bear no relation to contraceptive method or social status.

4. *Hypertension* (over 140 mm systolic or 90 diastolic) was generally of mild degree but judged to require treatment in ten of the 23 cases. Hypertension in the younger patients tended to be associated with obesity.

5. *Iron deficiency anaemia* seemed to be equally distributed through the child bearing age groups (table I) and nine patients required treatment.

6. *Leucorrhoea*—Eight patients required treatment and follow up.

7. *Urinary infection*—Mid-stream urines of six women showed pus cells + + but no significant growth on culture. These will need follow up. Significant bacterial counts (more than 100,000 ml) were found in four patients who required appropriate antibiotic treatment and follow up.

8. *Cervical carcinoma in situ* was detected in three patients, all of whom appeared to the examining doctor to have a 'cervical

erosion' and the cytology was reported as grade 5 ('conclusive positive evidence, biopsy suggested'). All had confirmatory cone biopsy of cervix and required hysterectomy.

Joan T., aged 40, para 3, no contraceptives used, social status III.
Margaret H., aged 46, para 2, no contraceptives used, social status III.
Olive T., aged 52, para 3, no contraceptives used, social status IV.

The gynaecologist performed the following 13 operations on ten patients and, so far, is the only consultant involved in our screening programme:

Three cone biopsies followed by hysterectomy for carcinoma of cervix *in situ*.

Two hysterectomies for uterine fibroids.

Two cervical cauterizations for severe erosion.

Two perineal floor repairs for cystocele.

One excision of large ovarian cyst.

These operations were carried out with our assistance at our local hospital.

9. Minimal albuminuria was found in three patients who will be followed up. Glycosuria was not found and no pathology of the breast detected.

Discussion

We are finding a great deal of disease by presymptomatic screening of 'well' women. In five years' time, at our present modest rate, we will have screened 1,000 women. Half that number will require treatment or surveillance by ourselves, and an additional 100 will require consultant treatment.

There seems little doubt that public demand will increase our rate, but the problem lies, not so much in detecting pathology, as in treating it; not so much, for instance, in finding anaemia as in investigating its cause. This requires foresight in planning the routine investigation, treatment and follow up of each condition likely to be detected. In some cases (e.g. cervical carcinoma *in situ*, lump in breast, prolapse) reference to a consultant is the rule, but in many others (such as anaemia, urinary infection, glycosuria, albuminuria, underweight, hypertension) further investigation by the family doctor is needed to establish the cause, and others such as obesity, cervical erosion, leucorrhoea, require treatment and persistent follow up to effect cures.

The logical outcome of presymptomatic screening, is the development of positive health. To achieve this, it will be necessary to supervise and control the follow up of many patients having conditions requiring treatment, and of those borderline cases in which such conditions might arise if not arrested by advice and surveillance.

In our practice, punched cards will, we think, cope with the problem of follow up, but the Royal College of General Practitioners should be aware of an increasing demand for positive health and consider whether a national system of recording might be evolved, giving the family doctor access to a central computer service. I have no doubt the health authorities would be interested in encouraging such a system.

Summary

Of 100 'well' women screened in six months, 59 had 131 conditions which deviated from the normal. Sixty-seven of these conditions required treatment and the remainder will need further surveillance by the family doctor. Ten women required 13 gynaecological operations.

Presymptomatic screening presents few problems provided adequate nursing and clerical assistance is available, but the large number of conditions found to need investigation, treatment and follow up makes it necessary to plan a routine system.

We suggest that the Royal College of General Practitioners consider assisting practices by helping to provide a central computer service but, if this cannot be done at present, thought must be applied to standardization of records by family doctors (e.g. by punched cards) so that full advantage can be gained from this tool of general medicine in the promotion of positive health.

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General practitioners and nursing staff: A complete attachment scheme in retrospect and prospect. JOHN F. WARIN, M.D., D.P.H. *Brit. med. J.* 1968. **2**, 41.

In November 1956 the first experimental attachment of a health visitor to a partnership of three general practitioners in Oxford was effected. By March 1965 every practice in the city had an attached health visitor, district nurse and midwife either whole or part-time according to need. The advantages and difficulties of the scheme are outlined. It is pointed out that attachment is "not an end in itself, but rather an essential step towards creating the best conditions for the optimum functioning of the community health services".