

## FEASIBILITY OF UTILISING ADDRESS CARD SYSTEM FOR OBTAINING ACCURATE ADDRESS OF PATIENTS UNDER PROGRAMME CONDITIONS

Geetharamani Shanmugam, V. Chandrasekaran, T. Santha, P.R Somasundaram,  
N.M. Sudarsanam\* and Sudha Ganapathy

(Received on 17.5.93; Accepted on 29.6.93)

**Summary :** An address-card, one on which patient's home address is asked to be recorded by a person knowing for sure the patient's address, was investigated for acceptability and efficiency, in two Government hospitals located in semi-urban areas and six Primary Health Centres located in rural areas in North Arcot district. In all, 394 address-cards were given to the patients from the eight centres, of which 374 were returned with the address filled in, showing an acceptability rate of 95%. In all, 373 Type A letters were then posted to these address-card addresses in respect of which acknowledgement cards were received back from 306 (82%) patients. For 140 patients, the recorded addresses were found to be the same as on the address-card and the treatment card : In the remaining 233, there was some difference between the two addresses. Type B letters were then posted to the 233 patients at their treatment card address. No definite information was available regarding the receipt of one or both types of letters in respect of 80 patients; so, an attempt was made to visit these patients in their homes to find out the fate of these letters. Of these, no information could be collected in 9 patients.

Out of 224 patients for whom information regarding the receipt of letter was available, 143 (64%) patients received both letters and 16 (7%) received neither Type A nor Type B letter. Twenty-one (9%) had probably or definitely not received the Type A letter, but had received the Type B letter. Forty-four (20%) had definitely or probably not received the Type B letter, but had received the Type A letter.

sufficient attention is not usually paid to recording complete and accurate addresses of out-patients requiring prolonged treatment and warranting prompt follow-up action when they default for collection of drugs. When a patient fails to attend the clinic on the due date for treatment, a reminder post card is to be posted for defaulter retrieval, as prescribed in the manual of District Tuberculosis Programme. This action can be successful only if the patients' addresses are recorded accurately. To a sample of 'lost' patients i.e. those who had defaulted continuously for one month, home visits were made in North Arcot and Raichur districts, and it was found that the addresses recorded on the treatment cards were inadequate or incorrect in 15% and 33%, respectively<sup>1</sup>. In another study, it was found that the accuracy of recorded addresses was poor in a city clinic, with 20% to 30% of the posted letters not reaching the patients<sup>2</sup>. In a comparison of the address card system and the addresses obtained by interrogation by health visitors in urban patients, the letter was received in 91% and 84% of the cases, respectively<sup>3</sup>. A study was undertaken by Tuberculosis Research Centre, Madras, in North Arcot district (prior to bifurcation of this district) to find out the feasibility and effectiveness of this system in rural and semiurban areas, under programme conditions.

### Material and Methods

The address-card system consisted of giving a clinic-addressed stamped post card to the patient with a written and oral request to get his address entered on it by the local postman or any other

### Introduction

In India and many other developing countries,

\* Deputy Director, Medical and Rural Health Services, State Family Welfare Bureau, Tamil Nadu, Madras (Retired)

Tuberculosis Research Centre (Indian Council of Medical Research), Madras

Correspondence: Dr. R. Prabhakar, Director, Tuberculosis Research Centre, Spurtank Road, Chetput, Madras 600 031.

literate person knowing patient's correct postal address. The study was conducted in two taluk hospitals and six Primary Health Centres located in semi-urban and rural areas. When patients attended these centres, they were given the address card by the local staff with instructions to get the complete and accurate address written on it and then post it to the Centre's field unit at Vellore. Once an address-card was received at the field unit, a Type A letter with a clinic-addressed stamped reply post card was posted to the address written on the address-card. The address written on the address-card was compared with that already available on the treatment card and in case of any discrepancy, a Type B letter with a reply post card was posted to the address entered on the treatment card. When no definite information regarding the receipt of the letters was available for some addresses, home visits were made to these addresses to find out the fate of the letters. These visits were done after a period of one month.

#### *Content of letters*

The matter in the address-cards, Type A and Type B letters, was in the local language (Tamil). Both Type A and Type B letters expressed concern about the patient's health and regularity of treatment and aimed at finding out whether

patients could receive letters, and requested them to post back the attached clinic-addressed post card immediately, on receipt of those letters, entering the date of receipt on the reply card. Though the content of both Type A and Type B letters was the same, they were marked Type A and Type B in order to differentiate the two.

## **Results**

### *Acceptability and accuracy of address*

A total of 394 patients attending two taluk hospitals and six Primary Health Centres including one Panchayat Union Dispensary, was given the address-cards (to be posted back to the field unit at Vellore). Of these, 374 (95%) cards were received back at the field unit with complete address (Table 1) showing that the system was acceptable in both semi-urban and rural areas. A letter with a reply post card was posted to 373 patients (one letter was not posted since the address was that of the work spot) requesting the patient to post back the reply card after entering the date of receipt of the letter. Of the 373 letters posted, 306 (82%) acknowledgement cards were received at the field unit; 9 (2%) were returned undelivered and, so, were definitely not received. Definite information was not available for the remaining

**Table 1** Response to postcards posted at the address-card address

	GH <sup>@</sup>		PHC <sup>@</sup>		Total	
	No.	%	No.	%	No.	%
a. No. of address-cards given to patient	198	–	196	–	394	–
b. Cards received back from patients (% based on a)	185	93	189	96	374	95
c. Type A letters posted	184*	–	189	–	373	–
d. Type A letters definitely received by the patient (% based on c)	150	82	156	83	306	82
e. Type A letters probably not received by the patient (% based on c)	29	16	29	15	58	16
f. Type A letters definitely not received (% based on c)	5	3	4	2	9	2

<sup>@</sup> GH – Taluk Hospital; PHC – Primary Health Centre

\* For one patient, the address was that of his work spot and hence type A letter was not posted.

58 (16%) letters (considered as probably not received).

#### *Comparison of addresses on address-card and treatment card*

The address entered on address-card was checked against that entered on the treatment card. It was observed that 140 (38%) addresses (Table 2) were the same in both. In the remaining 233 (62%), some form of discrepancy was observed between the two addresses. Of the 26, with inadequate address-card addresses, 16 (16%) patients received Type A letters (16 (62%) patients received Type B letters). Of the 56 with inadequate treatment card address, 134 (86%) received Type A letters (116 (74%) received type B letters). In 51, with inadequate address in both, 43 (84%) received Type A letters (29 (57%) received Type B letters).

#### *Relative efficacy of address-card and treatment card addresses*

Of the 233 patients for whom both types of letters were posted, 193 (83%) patients received

Type A letters and 161 (69%) received Type B letters, including 140 who received both (Table 3). Six (3%) had definitely not received Type A letters and 10 (4%) Type B letters. In 34 (14%), Type A letters were probably not received as against 62 (27%) of Type B letters.

#### *Home Visit*

Since no definite information (probably not received) was available regarding the receipt of one or both types of letters for 80 patients, an attempt was made to visit their homes to find out the fate of those letters. Forty-five patients had definitely received Type A letter, and probably not received Type B letter. Of them, no information could be elicited for 7 patients even after making a home visit, and from the remaining 38 patients, two Type B letters were collected. There were 16 patients who had probably not received either letter; for 2 more patients no information could be elicited even after making a home visit. Considering the remaining 19 patients, 1 Type A and 1 Type B letters were collected from one patient. For 18

**Table 2** Adequacy and accuracy of address-card and treatment card addresses

No.	Type of discrepancy	GH <sup>@</sup>			PHC <sup>@</sup>			Total
		a	b	c	a	b	c	
1.	Inadequacy in address-card address in door no., street name, and/or village name.	10	2	0	6	7	1	26
2.	Inadequacy in treatment card address in door no., street name, and/or village name.	60	6	3	74	12	1	156
3.	Difference between address card and treatment card addresses in door no., and/or street name.	20	6	1	23	1	0	51
4.	Same address in address card and treatment card	60	15	1	53	9	2	140
Total		150	29	5	156	29	4	373

@ GH – Taluk Hospital, PHC – Primary Health Centre

a = Patients who had definitely received Type A letters

b = Patients who probably had not received Type A letters

c = Patients who definitely had not received Type A letters

**Table 3 Receipt of Type A and Type B letters**

Type B letter (Treatment card address)	Type A letter (Address-card address)			Total	
	Definitely received	Probably not received	Definitely not received	No.	%
Definitely received	140	18	3	161	69
Probably not received	45	16	1	62	27
Definitely not received	8	0	2	10	4
<b>Total No.</b>	<b>193</b>	<b>34</b>	<b>6</b>	<b>233</b>	
<b>%</b>	<b>83</b>	<b>14</b>	<b>3</b>		<b>100</b>

**Table 4 Number of days taken to receive Type A and Type B letters**

		Interval days for Type A letters			Not recorded	Total
		0-3	4-7	≥8		
Interval days for Type B letters	0-3	107	6	2	6	121
	4-7	9	0	0	0	9
	≥8	2	0	0	0	2
	Not recorded	6	1	0	1	8
	<b>Total</b>	<b>124</b>	<b>7</b>	<b>2</b>	<b>7</b>	<b>140</b>

patients (Type A letter probably not received, but Type B received), Type A letter could not be collected. For 1 patient (Type A letter definitely not received, but Type B probably not received), Type B letter could not be collected. Thus, out of the 24 patients for whom information regarding the receipt of either Type A or Type B letter was available, 21 had probably or definitely not received Type A letter but had received Type B letter and 44 had probably or definitely not received Type B letter but had received Type A letter. The difference in the receipt of the letters between the address card address and treatment card address is statistically significant ( $P < 0.01$ -McNemar's test).

#### *Interval between posting and receipt of letters*

Of the 140 patients who had received both kinds of letter (Table 4), 124 (89%) Type A

letters had been received within 3 days as against 121 (86%) Type B letters. The letters were received within a period of 7 days by 7 and patients, respectively. Thus, the majority of the patients who received the letters did so within 7 days of posting, and the interval was the same for the two types of letters.

#### **Discussion**

The study has demonstrated that it is feasible to introduce the address-card system under programme conditions in Taluk Hospitals (semi-urban) and Primary Health Centres (rural). The system was acceptable as shown by the fact that the filled up address-cards were returned by 374 of 394 (95%) patients. The address recorded on the address-card was accurate in 306 (32%) of 373 patients, since the acknowledgement/reply card enclosed in the letter posted to the

addresses was received back at the unit. These findings are similar to those reported by Radhakrishna et al.<sup>3</sup>, where the acceptability of the address card was 96% and accuracy was 85% in urban patients.

When the address-card address was compared with the address recorded on the treatment card at the respective centres, it was found that the addresses differed in 233 patients. Despite this, 140 of these 233 had definitely received both the letters posted; another 21 had received the letters sent to the treatment card addresses and an additional 53 had received the letters sent to the address-card address. The postal system in the area under study seems to be good since 124 (89%) address-card address letters and 121 (86%) treatment card address letters had been received within 3 days of posting. Since rural areas form a fairly closed community, letters were probably delivered to the patients even when there were slight difference in the addresses.

It was estimated that only 27% of the patients, started on standard chemotherapy during the period from 1.7.84 to 30.6.85 received 12 collections or more of the prescribed treatment<sup>4</sup>. Defaulter retrieval, a major factor in improved case holding, depends on posting a letter or visiting the patient, both of which require an adequate and accurate address. This study and earlier studies by Krishnaswami et al<sup>2</sup> and Radhakrishna et al<sup>3</sup> have established that the accuracy of address can be significantly improved by using the address-card system, which is an inexpensive, convenient and acceptable method. This study has also clearly established that the address-card system can be effectively introduced under programme conditions even in rural and

semi-urban areas.

### Acknowledgements

We are grateful to Dr. A. Subramanian, District Tuberculosis Officer and the staff of peripheral health institutions in North Arcot district, for their co-operation in conducting the study. We thank Mr. M.S. Krishnamoorthy, Senior Research Officer (Retd.), and Dr. Rajeswari Ramachandran, Assistant Director, for their valuable guidance. We thank Mrs. Vanaja, Medical Social Worker and Mr. C.R. Sudheendra for their contribution in organising the home visits. We also thank Mrs. K Saroja for her secretarial assistance.

### References

1. Sudha Ganapathy et al. : A study of patients 'lost' from short course chemotherapy under the District Tuberculosis Programme in south India (under publication).
2. Krishnaswamy, K.V., Satagopam, M.C., Somasundaram, P.R., Tripathy, S.P., Radhakrishnan, S. and Wallace Fox. : An investigation of the accuracy of the home address given by patients in an urban community in south India; *Tubercle*; 1979, **60**, 1.
3. Radhakrishna, S., Satagopan, M.C., Krishnaswami, K.V., Tripathy, S.P. and Wallace Fox. : Efficiency of address cards, experienced health visitors and motivated registry clerks in obtaining the home address of urban patients in south India; *Tubercle*; 1979, **60**, 151.
4. Performance of District Tuberculosis Programme during the year 1987 and a comparison with the three previous years; *NTI Newsletter*, 1980, **24/1 & 2**, 32.