

Lessons from the London Initiative Zone Educational Incentives funding: associations between practice characteristics, funding, and courses undertaken

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SUMMARY

Background. Following the Tomlinson report of 1992, London Initiative Zone Educational Incentives (LIZEI) funding was introduced for a three-year period to improve recruitment, retention, and educational opportunities for general practitioners working within inner London.

Aim. To test the hypothesis that general practices that show evidence of good organisation achieved better access to LIZEI funding than less organised practices.

Method. Observational practice-based study involving all 164 general practices in East London and the City Health Authority during the first two years of the scheme, April 1995 to March 1997.

Results. Univariate analysis showed that higher levels of LIZEI funding were associated with practices where there was evidence of good organisation, including higher targets for cervical cytology screening and immunisation rates for under two-year-olds, better asthma prescribing, and training status. Using ten practice and population explanatory variables, multiple regression models were developed for fundholding and non-fundholding practices. Among non-fundholding practices, the asthma prescribing ratio was the variable with the greatest predictive value, explaining 14.7% of the variation in LIZEI funding between practices. Strong positive associations existed between taking further degrees and diplomas, practice size, training, and non-fundholding status.

Conclusion. Larger practices, training practices, and those that demonstrated aspects of good practice organisation gained more LIZEI funding: an example of the 'inverse funding law'. Practices within a multifund, based in the Newham locality, gained LIZEI funding regardless of practice organisation. Networks of practices, and, potentially, primary care

groups, have a role in equalising the opportunities for education and development between practices in east London.

Keywords: London Initiative Zone Educational Incentives; London; funding; practice organisation.

Introduction

THE three-year London Initiative Zone Educational Incentives (LIZEI) scheme was introduced in response to the Tomlinson Report as part of a drive to improve recruitment, retention, and educational opportunities for general practitioners (GPs) within inner London.^{1,2} Additional funding for GPs who were engaged in educational activities was available from April 1995 to the end of March 1998, monitored by local education boards. The impact of LIZEI funding is being evaluated, both nationally and locally, using a range of methods. This project uses the east London General Practice Database³ to examine the relationship between practice structure and organisation, and the amounts of LIZEI funding and types of course taken up during the first two years of the scheme.

Previous studies have demonstrated that practice size and markers of good organisation, such as being a training practice and the presence of a practice manager and practice nurse, are predictors of the achievement of preventive health targets and of appropriate asthma prescribing.³⁻⁵ Our study hypothesis was that practices with these characteristics would also gain high levels of LIZEI funding.

Method

The details of all LIZEI funding bids approved for principals in east London were obtained from East London and the City Health Authority. The details of each educational bid included date of activity, amount of money allocated, description of course content (Table 1), and the mode of course delivery (Figure 1). Allocation between categories followed discussion between project group members.

Details of all LIZEI funded bids were aggregated by practice and linked to the east London General Practice Database for 1996. Hence, the study does not include GPs who joined practices after 1996, nor any non-principals who accessed funding. For both the descriptive and the multivariate analysis, we used a selection of practice variables held on the 1996 GP database (Table 2). Practice locality was considered a key variable because of the presence of a large multifund in Newham, which included 35 of the 64 local practices. In the other localities (Hackney and Tower Hamlets), there were only one or two fundholding practices.

A total of 1886 funded educational bids were included in the study. A further 128 applications were made during the study period, but no payment had been made for a variety of reasons including withdrawn applications, rejections by the funding board, or failure to claim funding during the evaluation period.

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Table 1. Course content: number of courses taken and funding (in pounds sterling) for 1995 and 1996.

Course content	Year one			Year two		
	n	Funding (£ sterling)	Percentage of annual funding	n	Funding (£ sterling)	Percentage of annual funding
Non-clinical courses						
Training for teaching	29	29 862	10.9%	122	44 035	10.7%
Doing teaching	14	6968	2.6%	30	22 666	5.5%
Training for research	4	2239	0.8%	3	1105	0.3%
Doing research	3	10 220	3.7%	8	3460	0.8%
Information technology	24	22 864	8.7%	18	4407	1.1%
Practice organisation	73	56 633	20.7%	703	154 697	37.5%
Clinical courses						
Ethnicity and health	3	11 402	4.2%	9	14 574	3.5%
Guidelines dissemination	5	800	0.3%	168	6805	1.7%
Chronic disease management	37	12 334	4.5%	232	32 188	7.8%
Child health	37	22 567	8.3%	25	9460	2.3%
Mental health	9	30 287	11.1%	50	21 938	5.3%
Minor surgery	6	3607	1.3%	6	3600	0.9%
Dermatology	2	5360	1.2%	11	10 729	2.6%
Prescribing	0	0		10	6810	1.7%
Other clinical	29	40 789	14.9%	79	45 012	10.9%
Women's health	6	2290	0.8%	64	8460	2.1%
Other activity	4	15 085	5.5%	63	22 578	5.4%
Total	285	273 312	100%	1601	412 524	100%

Univariate analyses were undertaken using descriptive statistics, analysis of variance, and simple linear regression models in STATA and SPSS. Multivariate models were fitted using backward stepwise regression models in SPSS.

Results

Course content and delivery

The number of courses in different categories taken in the first and second year are illustrated in Table 1. There is a large increase in the number of courses in practice organisation (from 73 to 703), guidelines dissemination (from 5 to 168), and chronic disease management (from 37 to 232) between the years, which suggests that providers of these courses required a longer lead time to organise training and were not able to access the available funding until the second year. In both years, surprisingly small numbers of courses involved research training or information technology. The majority of educational activity was devoted to practice organisation.

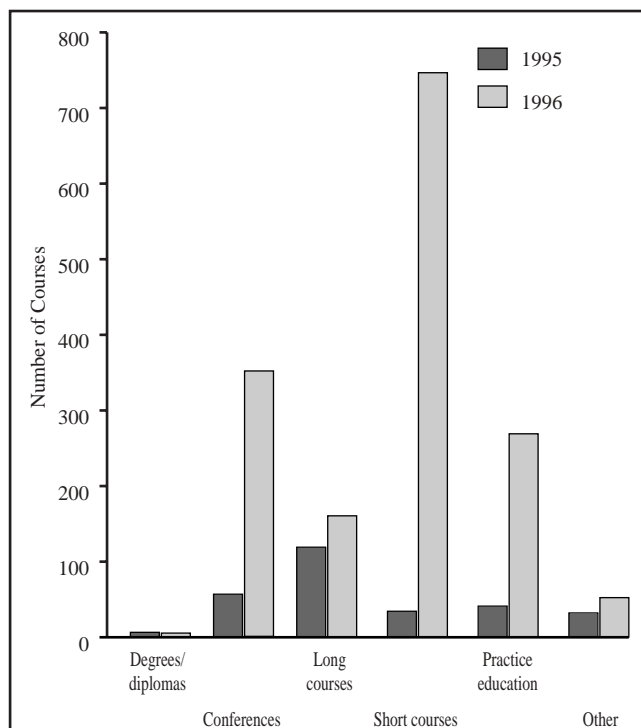
Changes in the mode of course delivery over the two years are illustrated in Figure 1. This demonstrates the rapid expansion in short courses, in-practice education, and conferences. In contrast, the take up of degrees and diplomas dropped over the two years.

Linking LIZEI funding to practice characteristics

In the first year, 59% of practices had obtained LIZEI funding. This rose to 88% by the end of the second year.

Table 2 shows the univariate associations between practice characteristics and LIZEI funding. There is a significantly higher LIZEI spend per full-time equivalent GP in training practices and in practices that achieve higher targets for immunisation and cervical cytology and prescribe more appropriately for asthma (a higher ratio of prophylactic to bronchodilator items).

A multivariate analysis was performed in which the outcome variable was the LIZEI spend per full-time equivalent GP, and the explanatory variables included the 10 practice and population characteristics listed in Table 2. Preliminary regression analysis included the 150 east London practices that had no missing values for the 10 explanatory variables, and included two way inter-

**Figure 1.** Mode of LIZEI course delivery in 1995 and 1996.

actions (Table 3a). This indicated the presence of significant interactions between practice locality and fundholding, and practice manager and fundholding, suggesting that fundholding and non-fundholding practices behaved differently in their response to LIZEI funding. Owing to the presence of these interactions, linear regression models were fitted separately to fundholding and non-fundholding practices, using a step-down method with progressive elimination of variables using a significance level of 0.05 (Tables 3b and 3c).

Table 2. Mean LIZEI funding over two years per full-time equivalent GP, by practice characteristics for all 164 general practices in east London.

Practice characteristic	Number of practices	Mean LIZEI payment/FTE GP	F ^a	P-value
Partnership size				
One	75	£1827		
Two or three	68	£1848		
Four or more	31	£2214	1.07	0.35
Training practice				
Yes	19	£2542		
No	145	£1824	5.75	0.018
Fundholding				
Yes	51	£2322		
No	111	£1719	0.29	0.588
Practice locality				
Newham	64	£2187		
City and Hackney	56	£1544		
Tower Hamlets	42	£1971	2.31	0.103
Practice manager				
Yes	100	£2155		
No	58	£1534	3.69	0.057
90% immunisation target for children aged under two years				
Yes	73	£2470		
No	90	£1448	7.17	0.008
% of eligible women who received cervical cytology				
Continuous	162		21.07	<0.001 ^b
Asthma prophylaxis to bronchodilator prescribing ratio				
Continuous	162		12.84	<0.001 ^b
List size/FTE				
Continuous	162		1.84	0.17
Underprivileged area (UPA) score				
Continuous	155		0.97	0.32

^aWeighted by number of full-time equivalent GPs in each practice; ^brepresents a positive association with LIZEI funding. FTE = full-time equivalent.

In the model that included all practices (Table 3a), and in the model for non-fundholders (Table 3c), markers of organisational efficiency, such as achieving cervical cytology targets and better prescribing for asthma, were associated with increased LIZEI funding. However, among fundholding practices (Table 3b), although the effect of cytology targets is positive, better asthma prescribing and the presence of a practice manager were associated with less funding.

Associations between the type of courses taken up and practice characteristics

Table 4 illustrates the associations between two contrasting types of course (degrees/diplomas and short courses) and practice characteristics. This analysis was undertaken on all 164 practices within East London and the City Health Authority. Both types of course were taken up more frequently by larger practices. Significant positive associations exist between doing further degrees or diplomas and being in a non-fundholding practice, a training practice, and having a practice manager. In contrast, there are highly significant positive associations between the uptake of short courses and fundholding and being situated in the Newham locality (the site of the large multifund).

Discussion

The LIZEI funding stream was introduced as an additional source of educational funding and ran alongside established sources, such as the postgraduate educational allowance and the long leave allowance. A comprehensive evaluation of the initiative must address such questions as whether the LIZEI funding

simply replaced one source of funding with another, and whether the new funding stream was effective in stimulating the development of new courses. Perhaps of most importance, in terms of the original purpose of LIZEI funding, is to establish whether it was effective in reaching smaller and less developed practices that have the most difficulty accessing traditional sources of educational funding, whether because of pressure of work, lack of information, or by choice.

Our analysis provides partial answers to some of these questions but needs further supporting evidence from qualitative evaluation methods.

Lots of short course activity, much less long-term funding

The analysis of course content and delivery suggests that LIZEI funding did indeed stimulate particular types of course development. These were concentrated in short courses (less than one day), mostly on practice organisation and in-practice education — mostly guideline dissemination. These themes may reflect the interest and expertise that already exists within the local academic department and continuing medical education unit.⁶ Different LIZEI zones are likely to show varying patterns of short course type depending on the historical pattern of local research and educational activity. It is possible that the pattern of activity in the third year may show the growth of courses that require a longer lead time to develop; local examples include a new Masters in Primary Care and a course on primary care therapeutics. The number of degrees and diplomas taken halved between year one and two, perhaps suggesting that these were taken up by individuals who had already planned their courses and were simply waiting for funding to become available.

Table 3. Multivariate models describing the association of LIZEI funding per full-time equivalent GP with practice and population characteristics.3a. Model including all 150 practices in east London with complete datasets (adjusted R² = 18.9%; constant = -958; F = 11.4; P = <0.0001).

Model including interactions	Regression coefficient (95% CI)	P-value
Cytology screening	38.6 (20.0 to 57.2)	<0.001
Newham ' fundholding	1788 (785 to 2792)	<0.001
Practice manager ' fundholding	-1366 (-2314 to -418)	<0.01

3b. Model for fundholding practices (45 practices) (adjusted R² = 45%; constant = 44.8; F = 8.2; P = 0.0001).

Model including interactions	Regression coefficient (95% CI)	P-value
Cytology screening	72.6 (29.3 to 115.9)	<0.01
Asthma P/B prescribing ratio ^a	-5807 (-11078 to -558)	<0.05
Newham locality	1287 (773 to 2295)	<0.05
Presence of a practice manager	-2024 (-3199 to -848)	<0.01

3c. Model for non-fundholding practices (105 practices) (adjusted R² = 14.7%; constant = -918; F = 17.78; P = 0.0001).

Model including interactions	Regression coefficient (95% CI)	P-value
Asthma P/B prescribing ratio ^a	5679 (3038 to 8318)	<0.001

^aAsthma prophylaxis to bronchodilator prescribing ratio.**Table 4.** Associations between practice characteristics and the type of course taken up (degrees/diplomas and short courses of up to one day).

Practice characteristic	Mean number of degrees and diplomas	F	P-value	Mean number of short courses	F	P-value
Partnership size						
One	0.054			3.109		
Two or three	0.103			5.931		
Four or more	0.387	8.82	0.0002	6.516	5.19	0.006
Training practice						
Yes	0.526			4.947		
No	0.084	24.17	<0.0001	4.748	0.02	0.89
Fundholding						
Yes	0.039			8.647		
No	0.180	4.57	0.034	2.991	35.9	<0.0001
Practice locality						
Newham	0.078			8.484		
City and Hackney	0.143			1.982		
Tower Hamlets	0.214	1.54	0.22	2.833	25.3	<0.0001
Practice manager						
Yes	0.190			5.59		
No	0.052	4.52	0.035	3.67	3.58	0.06
90% immunisation target for children aged under two years						
Yes	0.124			5.315		
No	0.151	0.19	0.66	4.325	1.04	0.31

The inverse funding law in action?

The univariate analysis in Table 2 demonstrates that the organisational characteristics of practices were associated with higher levels of LIZEI funding. For example, training practices were able to access, on average, almost £800 more per full-time equivalent than non-training practices. It is most unlikely that these were the practices most in need of educational resources, but they were likely to be practices with the organisational capacity to gain access to the funding.⁷ Indeed, Table 2 illustrates how practices with the organisational ability to achieve higher targets had significantly greater funding. The multivariate analysis builds on these findings. In the model for all practices and for non-fundholding practices, the variables with the greatest predic-

tive value for higher LIZEI funding were the asthma prophylaxis to bronchodilator prescribing ratio and the percentage of women receiving cervical screening. Both these variables are markers of efficient organisation within practices and are associated with other factors such as partnership size and training status. However, these models explained less than one-fifth of the variation in funding between practices (14.7%–18.9%), so factors other than organisational capability played a part.

The multivariate analysis showed that, within fundholding practices, the influence of practice organisation is less clear; both the presence of a practice manager and the asthma prescribing ratio being negatively associated with LIZEI funding. A possible explanation for this is that the multifund within the Newham locality, during its regular contacts and developmental work with

member practices, had a powerful facilitating effect on the ability of smaller and less organised practices to gain access to LIZEI funding.

Developing networks for practices: is there a message?

The London Initiative Zone Educational Incentives provided an opportunity to experiment with an extra source of educational funding, which could be used innovatively by GPs, subject only to their local education board. This evaluation suggests that providing the funding opportunities will engage those individuals who already know what they want to do and will be used by those practices that are organisationally 'alert' to local opportunities. But engaging many smaller practices requires more than simply providing the funding, it also requires a delivery system. Within east London it appears that the multifund acted as a mediating organisation that promoted and organised some types of LIZEI activities for its constituent practices. Promoting the development of practice networks, linked by common goals, may be a method of equalising the opportunities for education and development among practices in east London. It remains to be seen whether the developing primary care groups can achieve these important goals alongside the complex commissioning tasks required in east London.⁸

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