

# Good Practice Case Study



## Improvement and Efficiency West Midlands/West Midlands Joint Improvement Partnership

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### West Midlands Automated Pill Dispenser Pilot. The story so far.....

#### Foreword

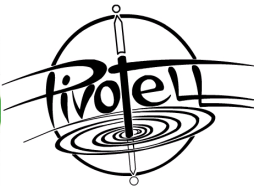
This Pilot is one of a number of strands of activity arising from the West Midlands regional Telecare Strategy. Creative usage of technology is an essential component of supporting people to regain control over their lives. This Case Study demonstrates the impact of the Pill Dispenser Pilot from the perspectives of the Customer, Pharmacist and of course models efficiency arising to date.

The pilot is one example of the power of collaboration in the West Midlands. The Joint Improvement Partnership values the contributions made by Community Pharmacies and our colleagues in the NHS. I hope you find the Case Study stimulating and challenging



*Linda Sanders*

JIP & ADASS Chair  
Director of Adult, Community and Housing Services  
Dudley MBC



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## Improvement and Efficiency West Midlands Case Studies

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Improvement and Efficiency West Midlands (IEWM) is committed to celebrating the successful, innovative and imaginative project work that exists in the West Midlands region.

The IEWM Communications team publish case studies showing how West Midlands councils are improving services and delivering significant improvements and efficiencies.

The case studies are intended to inspire councils in the region, and indeed nationally, to transform services and benefit from the processes developed by those councils that have pioneered the way forward.

## Participants and Funding Arrangements

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There are six Automated Pill Dispenser pilot sites across the region: Coventry, Dudley, Staffordshire, Telford and Wrekin, Wolverhampton and Worcestershire. The project aims to roll out 500 devices for people experiencing problems taking prescribed medication by 31<sup>st</sup> March 2011.

The pilot is resourced by Improvement and Efficiency West Midlands and the NHS West Midlands Innovation Fund. Thus far over 200 pharmacies across the pilot areas have been trained to dispense into the devices. Training has also been provided to significant numbers of Social Workers and Telecare staff to embed the pilot into standard assessment processes.

The technology is funded by IEWM and provided free of charge to the customer and the dispensing costs (£20 per month) are paid for by the NHS Innovation Fund. Each customer can receive a completely funded service for the duration of their six month pilot period.

*'This project brings Local Authorities, Pharmacies and Primary Care Trusts together around the single issue of medication. The result is that customers experience a safe and well managed service that enables them to live independently. Initial findings are demonstrating significant efficiencies for both the health and social care sectors.'*

**Matt Bowsher**, Adult Social Care Lead – Improvement and Efficiency West Midlands

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## How the Technology Works

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People on high medication who fail to take prescribed drugs at the right time and right dosage risk jeopardising their health and independence. They can end up being re-admitted to hospital or placed in residential care for their own safety. This has huge cost implications for the NHS and social services.

Research shows 3-4 per cent of UK hospital admissions are a result of avoidable medicine-related illness, and between 11 and 30 per cent of these result from patients not using their medicines properly (1). The costs of admissions resulting from patients not taking prescribed medicines is estimated to be between £36m and £197m in 2006-07 (2).

Home care visits and telecare services, such as telephone prompts are some of the ways used to ensure medication is taken. Devices such as dosset boxes, calendar clocks, blister packs and talking labels are also common. But the West Midlands Telehealthcare Network found the most successful solution cited by customers and carers was the PivoTell automatic pill dispenser.

The device is programmed to dispense pills up to 28 times a day. At the pre-programmed times, the internal pill cassette rotates, the alarm sounds and the correct dosage comes into view through the opening in the lid. Once the alarm has sounded the pills are released by tilting the dispenser allowing them to fall into the hand or a suitable container. It can be used as a stand alone device or linked to a control centre. The latest version of the device can also transmit text messages and e-mails to notify designated contacts (typically family members) if medication has not been dispensed from the device at the medication time. This enables appropriate action to be taken to check on the well being of the individual before a potentially adverse event occurs which might otherwise require a paramedic or ambulance call –out.

*“The West Midlands Automated Pill Dispenser Pilot has highlighted the issue of medication compliance and the social and health costs that arise.*

*A Regional approach has been very important as it has enabled a large number of individuals to participate and ensured that the results are being measured in a disciplined and consistent way. This evidence has not been available in a consistent form before now.*

*The pilot is an excellent example of Health and Social care co-operation, and although it has faced a number of difficulties and objections along the way these have been successfully overcome. The benefits are not only a significant improvement in the quality of life for the individuals participating and their families, but also important efficiency gains for service providers at a time when resources are limited.”* **Caroline and Adrian Milne** – Directors PivoTell UK Ltd.

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## Building the Business Case

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A record of services received in the six month period preceding the pilot has been collated for every person participating. The level of publicly funded health and social care services is also monitored throughout the pilot period. This will enable a robust dataset to be developed that measures the financial impact of the pilot process. In addition to financial data, we are also collating qualitative data about the experiences of people using the devices and the impact on family members and carers.

The first ten people in the **Dudley** and **Staffordshire** areas have now finished the six month pilot period. The total cost of the service was £80 per device and £120 dispensing costs for six months totalling £200 per person- **£2,000** in total. There was a measurable decrease in GP visits, ambulance call outs, in-patient stays due to medication errors, domiciliary care packages and respite care. The total financial impact was a decrease in service costs of **£39,000**. This represents a return on investment of **£19.50 per £1 invested**.

Efficiency only tells part of the story; in the section below you can read more details about how the pilot has impacted on people's lives. The Project Board will continue to monitor the results of the project as people conclude the pilot.

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*"This pilot project is important for so many reasons. We know that people have problems remembering to take their medicines and we need to find the best ways to use assistive technologies like the pill dispenser to help them. The fact that the pill dispenser might also help save us valuable health and social care resources is a bonus. I'm really excited about how we can take the lessons learned from this project and translate them into real-life services that will make a difference to people's lives."*

**Richard Seal**- Programme Consultant in Medicines Management. NHS West Midlands

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## My Story

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### **Mr and Mrs J.**

Mrs J suffers from Asthma and Chronic Obstructive Pulmonary Disorder (COPD) and was struggling with her medication. Mrs J was also responsible for making sure that her husband Mr J was taking the correct amount of medication at the right time. Mr J had lots of health problems and was constantly getting his medication mixed up.

Due to health problems Mrs J was not able to go out unaided and when she was taken out she got very anxious in case she could not get back to Mr J in time to give him his medication. To help him regulate his medication Mrs J bought a weekly pill box from the pharmacist that she filled but this caused problems as Mr J was still taking the doses at the wrong times. A case manager for health could see the distress it was causing Mrs J and the detriment it was having on her health so she referred Mr & Mrs J to the pill dispenser pilot.

### **Important factors before equipment was installed**

The pharmacist was contacted and the referral sent for them to fill plastic inserts with the relevant medication. The GP and case manager was made aware of the situation and it was firstly given to Mrs J for her to get used to before being rolled out to Mr J.

The first week Mrs J and the case manager was shown how to use the automatic pill dispenser followed by a visit the next week to show Mrs J how to change the inserts in the dispenser. Mrs J was happy with changing the inserts herself and did not have to rely on the case manager to do it. Mr J was later introduced to the pill dispenser and was able to take the correct medication at the correct time and change the carousel over on a weekly basis

### **Important factors after equipment was installed**

The case manager was still able to support both Mr & Mrs J but did not need to do as many visits. Both Mr & Mrs J's health improved and Mrs. J is much more confident about medication. She is now able to go out without worrying about getting back.

*"It is the best thing on the market and you are not having it back" Mrs. J – Dudley Resident*

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## A word from the Pharmacist

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Murrays Healthcare is a privately owned, independent group of 24 pharmacies based in the West Midlands. We are very happy to support this innovative trial throughout Dudley, Wolverhampton, Worcester and South Staffordshire.

We pride ourselves in that for the past 90 years, we have worked with our customers to best understand their needs. We see the PivoTell automated pill dispenser as yet another tool with which we can support them to remain in their own homes and out of the care environment, for longer than ever before.

‘On the whole PivoTell is a good system. 70% of referrals received by us have been successful, with patients giving very positive feedback. The dispensing process is time consuming. The setting up process raised various problems and this trial has pin-pointed the need for good communication between all parties and has shown how collaborative working can resolve issues as they arise. As with any dosette system, this works best with patients on stable medication regimes and is clearly unsuitable for patients on large numbers of tablets as we are limited by the capacity of the device.’

**Alison Dutton** - Community Pharmacist- Murrays Healthcare- Kingswinford

## Formula for success

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Rolling out one tool to many different Authorities, with differing processes, cultures and teams could be expected to result in varying levels of success. However, if successfully embedded into councils’ existing processes then huge efficiencies and benefits can be made no matter what the individual circumstances of the organisation. Useful learning’s gathered to date include:

### 1. Consider the most appropriate customer

People entering the pilot should have a medication regime that has been stable for three months. The Pill Dispensers cannot cater for soluble medication or creams so alternative arrangements must be made. Experience to date demonstrates that the devices have maximum impact where people are beginning to experience memory loss or confusion and a carer is typically required to supervise medication consumption. Equally there has also been success using the devices to support people with Learning Disabilities who want to manage their own medication. The pilot is entirely voluntary; each participant should be assessed for suitability on an individual basis.

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## 2. Understand how it fits into existing systems

The service is incredibly flexible and therefore should work with diverse groups of adults. However, it needs to be integrated to work with assessment systems from the beginning. Attempting to set up the pilot on a piecemeal basis does not work – an assessment for Telecare; specifically in relation to medication should take place as standard.

## 3. Safety is paramount

For the purposes of the pilot devices and replacement trays can only be filled by a Pharmacy. Each participating Pharmacy will have a standard operating procedure that includes guidance provided by the Royal Pharmaceutical Society. Individual circumstances will be factored into account by the referring body (typically Local Authority or Primary Care Trust) and by the Pharmacist before the person commences the pilot.

## 4. Learn as you go

It is essential that all of the data – both quantitative and qualitative is used to refine and perfect the Pill Dispenser service. For example- clear and accessible labelling of the devices has proven essential where more than one device is in the same home. To this end the Project has created an MS Access database that each pilot site and pharmacy uses to populate data. Whilst individual details are anonymous there is an electronic record for each device so the Project can learn what does and does not work quickly. Knowledge is power!

## 5. Success takes time

Getting referral processes and pharmacies on board takes time. Equally identifying the right people who can benefit from the pilot requires dedicated capacity and expertise. Typically, each pilot site takes at least three months to get fully operational. However, once the service is fully operational significant benefits can be realised for all Stakeholders

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## Contacts and further information

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