Using mobile finance to reimburse sexual and reproductive health vouchers in Madagascar

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Marie Stopes International delivers quality family planning and reproductive healthcare to millions of the world's poorest and most vulnerable women.

Summary

In October 2010, Marie Stopes Madagascar (MSM) contributed to national maternal health targets by establishing a subsidised voucher programme to increase poor people's access to voluntary family planning services. Community health workers were trained by MSM to raise awareness about the voucher programme; to provide family planning counselling that would ensure clients could make an informed choice regarding which contraceptive method to use; and to distribute the vouchers to eligible clients. Clients could give the voucher to one of MSM's 42 social franchisees in Itasy or Bongolava – two rural regions to the west of Madagascar's capital Antananarivo – in exchange for family planning services that would normally cost between 4,000 and 10,000 Ariary (between US$2 and US$5).

MSM used mobile phone-based short message service (SMS) money transfer systems instead of traditional payment methods to reimburse service providers. In doing so, MSM's voucher programme demonstrated that SMS money transfer systems can successfully reimburse health service providers in remote, rural and urban settings. All of the unique codes submitted by social franchisees were reimbursed by MSM. In total, 599 (35%) of the 1,737 claims for reimbursement sent by MSM's social franchisees were reimbursed within 48 hours. Furthermore, MSM's voucher programme easily demonstrated that this method of reimbursement was adopted by end-users and that, in some settings, SMS money transfer systems can significantly strengthen the reach, efficiency and sustainability of health services. MSM would have had to reimburse most social franchisees for each voucher in cash if it had not used SMS money transfer systems. This would have significant disadvantages, as cash payments involve considerable travel costs and risk of fraud or personal injury to MSM staff.

The method of reimbursement used by MSM can be replicated in other countries. SMS money transfer systems have been introduced in more than 60 countries worldwide and more are planned.[1] One in 10 of these SMS money transfer systems has 1 million or more users.[2]

This case study presents programmatic lessons to help organisations and programme managers to replicate this model of reimbursement. It also describes the implementation process and identifies the challenges MSM faced and how these challenges were overcome. The case study also highlights modifications planned by MSM to strengthen its use of the SMS money transfers to reimburse subsidised vouchers and concludes with recommendations for the strategic integration of SMS money transfer systems in future voucher programmes.

1. Introduction

Maternal health in Madagascar has improved across the country since the 1990s. Between 1990 and 2008, for example, the number of maternal deaths per 100,000 live births went down by 38%; from 710 to 440 maternal deaths per 100,000 live births.[3] The improvement in maternal health is, in part, the result of increased contraceptive use. For example, the rate of modern contraceptive use among married women in Madagascar increased from five percent in 1992 to 29% in 2008-2009.[4] During the same period, the total fertility rate fell from an average of 6.1 to 4.8 children per woman.[5] However, 18.9% of married or cohabiting women in Madagascar still have an unmet need for voluntary family planning.[6] Many women also lack access to other sexual and reproductive health services, including prenatal care or the services of a health professional during childbirth.[7]

The Government of Madagascar set clear targets to improve maternal health. The Madagascar Action Plan 2007-2011, adopted by the government in 2006 to coordinate and revitalise national efforts to achieve the Millennium Development Goals, targeted improvements in the contraceptive prevalence rate and a reduction in maternal mortality. This action plan also recognised, in particular, the need to address the unmet need for sexual and reproductive health services among poor people. Since early 2009, the political crisis in Madagascar has disrupted these national plans. The political crisis has resulted in a significant reduction in funding for public sector services and, as a result, reduced uptake of public services.

1.1. Marie Stopes Madagascar's voucher programme

In October 2010, Marie Stopes Madagascar (MSM) contributed to national maternal health targets by establishing a subsidised voucher programme to increase poor people's access to voluntary family planning services. Voucher programmes typically involve the provision or sale of vouchers to target clients who then use the vouchers at selected health facilities to receive free or discounted sexual and reproductive health services (see Figure 1).

Community workers were recruited by MSM to raise awareness of MSM's voucher programme in the community and identify clients who are eligible to receive MSM's vouchers. These community workers received comprehensive training from MSM on contraceptive methods and family planning counselling to ensure clients can make an informed choice.
To help MSM identify the profile of clients obtaining vouchers and to ensure its voucher programme is reaching the poor, community workers complete a poverty grading tool for each client they deem eligible. This poverty grading tool is based upon the multidimensional poverty index developed by Oxford University.[8] Ten weighted indicators focusing on health, education and living standards are used to identify the nature and intensity of poverty. A person is considered poor if they are deprived of at least 30% of the weighted indicators.

Eligible clients can buy a voucher for 200 Ariary (US$0.10). The voucher can then be given to one of MSM's 42 social franchisees in Itasy or Bongolava – two rural regions to the west of Madagascar's capital Antananarivo – in exchange for family planning services that would normally cost between 4,000 and 10,000 Ariary (between US$2 and US$5).

The services available to voucher holders include all short term, long acting and permanent contraceptive methods, as well as the removal of implants and intrauterine devices (IUDs), if necessary, and any follow-up care. Clients who have bought a voucher and request a tubal ligation are referred to MSM's clinics or outreach teams by the social franchisees. Voucher holders who opt for short term contraceptive methods are encouraged to obtain them from public facilities where they are free. In total, MSM plans to distribute 11,000 subsidised vouchers to eligible clients in 2011.

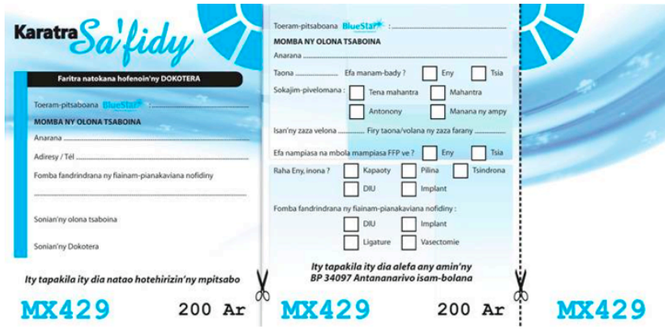

Figure 1: MSM's voucher design

To ensure a high standard of care, MSM provides training to all of its franchisees on care quality, financial sustainability, marketing, branding, customer service and clinical standards.

Voucher programmes reimburse service providers for services they have delivered, once reimbursement claims have been verified. Voucher programmes usually take a number of measures to reduce the likelihood of fraud. Barcodes or watermarks, for example, are often used to discourage counterfeiting. Random client sampling and client visits are also used to ensure that the target population is obtaining the services claimed by service providers.[9] MSM's vouchers were each given a code that was randomly generated. Vouchers were tracked using these codes and reimbursement claims were checked against the codes using a robust internal control system (see below). MSM also conducted an operational audit of its internal control system to test the value and correct implementation of the control measures put in place.

What is a social franchise?

A social franchise is based upon a model of franchising commonly used within the commercial sector. It typically involves the granting of a license by a social enterprise (the franchisor, often a non governmental organisation – NGO) to another person or company (the franchisee).
The resulting franchise enables the franchisee to market the franchisor's products or services from their own outlets. The franchisee must adhere to standard operating procedures following training and accreditation. Clients are subsequently drawn to the franchisee by the promise of consistently high quality services that meet their needs.

1.2. Integrating SMS money transfer systems

Using traditional payment methods such as cheques, bank transfers or cash to reimburse service providers can create difficulties in some settings. Cheques and bank transfers, for example, require service providers to have regular access to a bank and to have a bank account. In Madagascar, however, there is limited availability of banking services outside the capital Antananarivo. For example, as of July 2011, just three bank branches were open in Itasy and Bongolava – the two regions where MSM's 42 social franchisees are taking part in the voucher programme.[10] As a result, MSM found that many social franchisees did not have a bank account. Cash payments require project staff to travel to service providers with considerable sums of money. This is not cost-efficient and has significant implications for fraud control and the personal security of MSM staff. To reimburse service providers safely, efficiently and quickly, MSM subsequently chose to incorporate an SMS money transfer system into its voucher programme in place of traditional payment methods. All of MSM's social franchisees owned a mobile phone.

SMS money transfers were introduced to Madagascar in 2010. The three main mobile phone operators in Madagascar – Telma, Orange and Airtel – all have an SMS money transfer system. To use one of these systems, mobile phone users need to register for an account with a mobile phone operator. Once they have registered, individuals are able to transfer money via SMS and withdraw money from any one of the kiosks franchised by mobile phone operators nationwide. The availability of kiosks in rural areas can be limited. However, more than two times as many kiosks as banks were available at the start of 2011 and the number of kiosks continues to grow across Madagascar.

The considerable potential of SMS money transfer systems to enhance sexual and reproductive health services has been recognised internationally. Voucher reimbursement as well as salary disbursement, supply chain settlement and micro insurance schemes have all been identified as possible synergies between SMS money transfer systems and sexual and reproductive health services.[11] The platform called Claim mobile was successfully piloted in Uganda to reimburse Marie Stopes Uganda's Healthy Life vouchers.[12] Several pilot studies by other organisations using an SMS money transfer system to pay for sexual and reproductive health services are also planned or are underway.[13] However, very little has been published to date that identifies how SMS money transfer systems can be integrated into health programmes and how these programmes can be replicated.

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This case study presents programmatic lessons from MSM's use of mobile money transfers to reimburse subsidised vouchers. The case study describes the implementation process and identifies the challenges MSM faced and how these challenges were overcome. It also highlights modifications planned by MSM to strengthen its use of the SMS money transfers to reimburse subsidised vouchers and concludes with recommendations for the strategic integration of SMS money transfer systems in future voucher programmes.

1.3. Data and methodology

The data used in this case study are drawn from MSM's online database that stores all voucher reimbursement claims, as well as all SMS data received and sent by MSM. The data were collected for a period of six months, starting from the implementation of MSM's voucher programme in February 2011 until the end of July 2011.

Semi-structured interviews with several MSM team members and two social franchisees on the implementation process were used to construct and identify the programmatic lessons and recommendations.

2. Reimbursing sexual and reproductive health vouchers using SMS money transfers

In 2010, when MSM first established its voucher programme, several companies were asked to develop an online database and data collection tool that could collect and analyse data sent via SMS, send automated text messages via SMS and manage the claims process required for its voucher programme. Health Network International (HNI) won the tendering process. The online database developed by HNI uses MySQL and the operating system Linux.

Prior to the voucher programme's launch, MSM supplemented the core training provided to all social franchisees (see above) with additional training focused upon the services available to voucher holders, client referrals, the reimbursement process and the SMS money transfer system.

Each social franchisee receives 7,500 Ariary (US$3.70) for any contraceptive method and counselling or referral they provide to clients in possession of a subsidised voucher. This payment includes the standard rate for sending the SMS to MSM as well as the cost to social franchisees of withdrawing money from an account. This payment excludes the cost to MSM for transferring funds by SMS to social franchisees. This latter cost varies from 5-18%, depending upon the SMS money transfer system used.

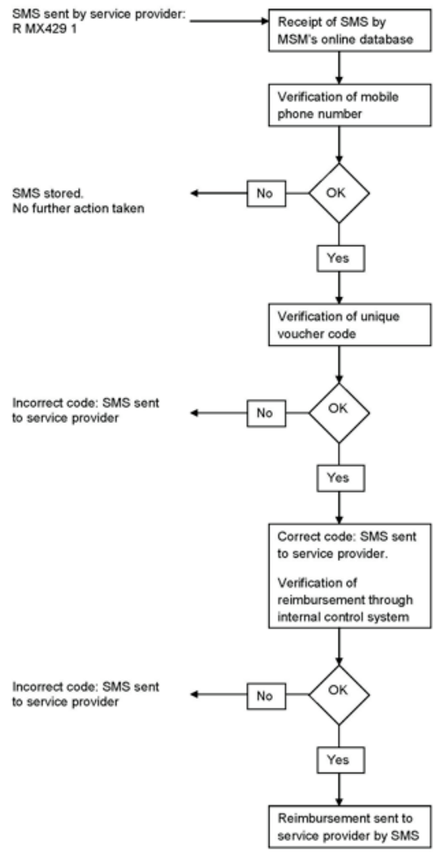

Figure 2: MSM's reimbursement process

To receive this payment, social franchisees are required to send the unique code on a client's voucher by SMS to a phone number linked directly to MSM's online database. A typical SMS sent by a social franchisee is made up of three parts: the type of data being submitted; the voucher code; and the service provided. For example, the code 'R MX429 1' indicates that the SMS is about a voucher reimbursement (R), the code of the voucher (MX429) and the type of service provided (1; for an IUD). Other possible codes regarding the service provided are 2 (for an implant), 3 (for a referral to MSM centres or outreach teams for permanent contraceptive methods) and 4 (for other; whereby clients typically receive a short term contraceptive method until MSM's outreach team is available). It is necessary to use 'R' to indicate that the SMS refers to a voucher reimbursement because the database MSM uses to reimburse vouchers is also used by MSM to collect monthly service data by SMS from its franchisees.

Upon receipt of an SMS, the online database automatically checks that the phone number the SMS was sent from corresponds to one of the phone numbers known to belong to the service providers participating in MSM's voucher programme. Service providers are expected to share their mobile phone number with MSM and to update this information when necessary. If the number does correspond with one of the recognised phone numbers, the database cross-references the unique voucher code sent by the social franchisee with the unique codes of all vouchers given to community workers for distribution. The unique codes of all vouchers given to community workers for distribution are regularly uploaded onto the database manually by MSM's voucher manager.

The online database then sends one of four automated messages by SMS to the social franchisee. One acknowledges receipt of a valid code. The others tell the social franchisee that they sent an incorrect code. These latter messages may be generated either because the code submitted is invalid, because a claim for reimbursement has already been submitted for that voucher code, or because the SMS did not include a numbered code to specify which service was delivered. The social franchisee is expected to telephone MSM to provide the correct information. An automated response is not sent to a social franchisee if the SMS they sent did not include 'R'. In such circumstances, MSM waits for the social franchisee to follow up on their SMS themselves.

MSM aims to reimburse franchisees within 48 hours of receiving a valid voucher code. To validate reimbursement claims and reimburse franchisees, MSM undertakes the following steps:

1. MSM's online database sends an automatic email alert each day to MSM's voucher manager. This email lists all new valid codes submitted by franchisees. The voucher manager manually verifies each code online using tick boxes. The voucher manager also prints a list of all verified codes and signs it.

2. The printed list of verified codes is signed by MSM's manager of information systems (IS) to confirm that there are no technical errors in the data.

3. MSM's online database sends an automatic email alert to MSM's finance director. This email lists all codes verified by the voucher manager. The codes in this email are checked against the printed list signed by the voucher manager and IS manager. The finance director authorises payment online, using tick boxes for codes verified both online and on paper.

4. Once the finance director has authorised payment, the database sends an email to the voucher manager listing the codes authorised for payment. The voucher manager then transfers money to the franchisee by SMS, using their computer to limit data entry mistakes and so that payments can be tracked by all MSM team members.

Social franchisees are expected to retain and send a part of each voucher presented by each client to MSM each month. MSM checks that the unique codes on the vouchers sent by the social franchisee match the unique voucher codes submitted by that franchisee for reimbursement. This process is designed to identify any discrepancy to prevent fraud and to ensure that no mistakes have been made.

3. Results

Between February 2011 and the end of July 2011, MSM distributed 5,950 vouchers. By the end of July 2011, the unique code of 1,737 (29%) of the vouchers distributed by MSM had been submitted using SMS by social franchisees for reimbursement. The remaining 4,213 vouchers that have been distributed by MSM but not reimbursed may still be with community workers who are responsible for identifying eligible clients, or they may be with clients who have not yet exchanged the voucher for selected family planning services, and/or they may be with social franchisees that have not yet sent the unique voucher code to MSM for reimbursement. A survey conducted by MSM in 2011 found that some clients had not yet used their voucher because, for example, they had not had time to visit a social franchisee or because they were still using an existing method of contraception.[14]

The SMS money transfer systems incorporated by MSM into its voucher programme are successfully reimbursing social franchisees for services they deliver to clients in possession of a voucher. All of the unique codes submitted by social franchisees have been reimbursed by MSM. In total, 599 (35%) of the 1,737 claims for reimbursement sent by MSM's social franchisees were reimbursed within 48 hours. Furthermore, no discrepancies have been identified between the codes submitted by SMS and the codes on the parts of vouchers retained by social franchisees and cross-checked monthly by MSM.

Finally, the data available suggests that MSM's reimbursement of subsidised vouchers using SMS money transfers has been easily adopted by MSM's social franchisees. The two social franchisees interviewed for this paper both stated that the SMS money transfer systems are very easy to use. Furthermore, between February 2011 and the end of July 2011, more than 2.5 unique voucher codes were successfully reimbursed for each SMS sent to social franchisees rejecting a unique voucher code. Most of the messages sent rejecting unique voucher codes were sent because the social franchisee had accidentally re-submitted a code that MSM had already reimbursed; not because of an error in submitting the voucher code.

4. Discussion

MSM's voucher programme demonstrates that SMS money transfer systems can be effectively used to reimburse sexual and reproductive health service providers in remote, rural and urban settings. The data used in this paper to demonstrate this is limited. For example, the data collected from MSM's online database focuses only on the initial six month period of MSM's voucher programme; from February 2011 until the end of July 2011. Similarly, the interviews conducted with MSM team members and two social franchisees provide a very limited insight into the use and acceptance of SMS money transfer systems. Due to time constraints, we were not able to interview more franchisees. Despite these limitations, however, MSM's voucher programme demonstrates clear operational benefits as regards using SMS money transfers to reimburse service providers. The voucher programme illustrates that, in some settings, SMS money transfer systems significantly strengthen the reach, efficiency and sustainability of sexual and reproductive health services. The benefits to MSM of using SMS money transfers will increase as improvements identified by MSM are implemented. Furthermore, MSM's voucher programme and the benefits of using SMS money transfers to reimburse service providers are replicable in other countries.

4.1. Key benefits of MSM's reimbursement model

MSM's use of SMS money transfer systems increased the financial and administrative efficiency of MSM's voucher programme. MSM would have had to reimburse most social franchisees for each voucher in cash if it had not used SMS money transfer systems. As already discussed cash payments involve considerable travel costs and risk of fraud or personal injury to MSM staff. For example, reimbursement using cash payments would have required a minimum of two visits by MSM staff to 42 social franchisees each month across a geographical area totalling approximately 23,039 km². Further research is needed to gain a fuller understanding of the specific cost savings generated by the integration of SMS money transfer systems into MSM's voucher programme.

MSM's online database also significantly improves the tracking of vouchers, helps to monitor the performance of community workers and helps to monitor the participation of social franchisees in its voucher programme. Regular reimbursement claims enable MSM to monitor which vouchers given to community workers have been used by clients. It also enables MSM to identify which social franchisees are delivering more services under the voucher programme. As a result, MSM's online database ensures that MSM can forecast future voucher use and monitor its voucher programme using up-to-date information.

4.2. Strengthening MSM's reimbursement model

The reimbursement process adopted by MSM was regularly reviewed to ensure that it reimbursed service providers effectively. As a result, MSM adapted its use of SMS money transfer systems as key lessons emerged. In particular, MSM now uses the SMS money transfer systems provided by Orange, Airtel and Telma. The number of providers was extended after using Telma gave some social franchisees just seven days to collect reimbursements from a kiosk.

MSM originally transferred money to all social franchisees using only Telma's SMS money transfer system. A cost analysis undertaken by MSM in 2010 of the SMS money transfer systems provided by Telma, Orange and Airtel found that it was cheaper for MSM to transfer money using Telma.

Money can be transferred from an account with one service provider to an account with another service provider. Social franchisees were therefore encouraged to open a free account with either the SMS money transfer system provided by Orange, Airtel or Telma. While it was cheaper for social franchisees using Telma – the same SMS money transfer system as MSM used – to withdraw money from a Telma account, staff found that Orange and Airtel provided better network coverage in some areas. Furthermore, Orange and Airtel's kiosks were more accessible for some social franchisees. As a result, social franchisees opened an account with the SMS money transfer system of the most convenient mobile phone operator.

However, MSM subsequently learned that social franchisees with an account for the SMS money transfer system provided by Orange or Airtel account had only seven days from the time MSM transferred the payment using Telma to withdraw the money from a kiosk. Failure to withdraw the money from a kiosk within that time period resulted in the money being lost by the franchisee altogether; the kiosk would keep the money instead. As a result, many social franchisees

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with Orange or Airtel accounts were not sending voucher codes to MSM regularly. Instead, they were hoarding vouchers, sending several codes at once when they knew they would be able to go to a kiosk in time to collect the payment.

Now, MSM transfers money to its social franchisees using whichever SMS money transfer system the franchisee has an account with. As a result, all social franchisees can simply withdraw money from a kiosk when it is convenient for them to do so. As a result, MSM's collection of service data has also improved. Unique voucher codes are now typically sent to MSM within 48 hours of a service being delivered, meaning that MSM can plan and budget for its voucher programme more effectively.

MSM plans to adapt the reimbursement process further by obtaining a toll-free number so that social franchisees do not incur any cost for sending a unique voucher code by SMS and by negotiating a standard, competitive rate for transferring funds. These changes will reduce the total amount spent by MSM for each reimbursement.

4.3.Expanding and replicating MSM's model

There is considerable potential to scale up this model of reimbursement in Madagascar. The online database developed by HNI is capable of managing significantly more claims and the number of kiosks and mobile phone network coverage in Madagascar is increasing. MSM plans to expand the current SMS money transfer system to other social franchisees when they join MSM's voucher programme.

MSM's reimbursement model can also be replicated in other countries. SMS money transfer systems are used by millions of people worldwide. Vodafone and Safaricom introduced M-PESA – the first SMS money transfer system – in Kenya in 2007.[15] Since then, SMS money transfer systems have been introduced in more than 60 countries worldwide and more are planned.[16] One in 10 of these SMS money transfer systems has one million or more users.[17] Replicating this model elsewhere does not mean that sexual and reproductive health service providers cannot also be reimbursed using traditional payment methods. SMS money transfers can be used alongside traditional payment methods, depending on what is appropriate in the particular setting and/or what is preferred by the service provider. Service providers that have a bank account, for example, could have reimbursements paid directly into their account. Other service providers that are part of the same programme could be reimbursed through SMS money transfers.

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5. Conclusion and recommendations

SMS money transfer systems can be successfully integrated into voucher programmes and used to reimburse health service providers in remote, rural and urban locations. In some settings, SMS money transfer systems can significantly strengthen the reach, efficiency and sustainability of health services.

Given the growth in SMS money transfer systems worldwide, MSM's integration of SMS money transfers in a voucher programme can be replicated elsewhere and expanded considerably. To replicate MSM's use of SMS mobile transfers, organisations and programme managers implementing this model of reimbursement are encouraged to consider the following recommendations:

- programme managers should conduct a thorough analysis of mobile phone use amongst targeted end-users, as well as the coverage of the SMS money transfer system/s available and any supporting infrastructure (e.g. kiosks) to ensure that all end-users have access to this method of reimbursement
- programme managers should undertake a comprehensive cost/benefit analysis of the SMS money transfer system/s available compared to other payment methods to ensure that this method of reimbursement is cost-efficient, affordable and sustainable
- programme managers should weigh up the comparative cost and coverage of different SMS money transfer systems, if more than one system is available, to determine which one would best meet the needs of all end-users. Programme managers can, however, use more than one SMS money transfer system, if that is more appropriate
- programme managers should design and map the reimbursement process to identify the team members and tasks that need to be involved in the reimbursement process. The reimbursement process must include adequate fraud control measures but should not delay payment unreasonably
- programme managers should ensure that this method of reimbursement is supported by a database capable of collecting and analysing data sent via SMS, sending automated text messages via SMS and managing the tasks involved in the reimbursement process. This database should be protected by a password and accessible only to team members involved in completing or overseeing the reimbursement process
- programme managers should develop clear technical specifications for the supporting database. These technical specifications should be used to inform the budget and, if appropriate, to help external developers tender for and build the supporting database. Programme managers should review potential open source software options to reduce any development costs
- programme managers should ensure that all team members involved in completing or overseeing the reimbursement process receive comprehensive training in this method of reimbursement and the supporting database. All end-users should also receive comprehensive training and ongoing support regarding how to submit claims for reimbursement and how to collect any payments made
- programme managers should ensure that end-users do not need to submit lengthy codes by SMS to obtain reimbursement. Voucher codes, for example, should not exceed more characters than absolutely necessary to simplify the process for end-users and to help them avoid making mistakes when entering data.
- programme managers should obtain a toll-free number so that end-users can submit reimbursement claims without incurring unreasonable costs
- programme managers should ensure that all final payments are made using a computer to limit data entry mistakes and so that payments can be easily tracked and audited.

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