A Study of Payment Timeliness in the Maryland Child Care Subsidy Program

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For the Maryland State Department of Education

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Introduction

The Maryland State Department of Education's (MSDE) Office of Child Care elected to undertake a study of the timeliness of subsidy payments because of providers' concern regarding the timeliness of payments in the Child Care Subsidy Program. The purpose of that study was to research and determine the true elapsed time necessary for payment, starting from the delivery of child care service to the actual mailing of the provider payment check. They engaged Towson University's RESI Research and Consulting to answer this question by

- analyzing data on payment timeliness from CCATS on a large group of invoices,
- drawing a sample of paid invoices for additional study, and
- visiting Baltimore City's and Prince George's County's Departments of Social Services to gather data on those sample invoices which only exists in paper copy.

This is the report on the findings from that project.

Outline of the Payment Process

The process of paying for state subsidized childcare begins when a two week childcare payment period (called a "service period") ends. Invoices are sent to the childcare provider for signatures and documentation of the attendance of the various subsidy-eligible children in their care. Those providers then return the invoices to the local department of social services (LDSS) which then "processes" the invoice by verifying compliance with licensing regulations, noting the signature and inputting attendance data into the CCATS automated system. When the invoice processing supervisor signs off on the invoice, thus approving it for payment, CCATS downloads the invoice data to MSDE's Accounting Branch. The Accounting Branch then passes it on to the State Comptroller's Office's General Accounting Division for payment. When the check is cut (or the direct deposit made), the process is complete.

Methodology

In consultation with MSDE's Division of Early Childhood Development, Office of Child Care, RESI decided that one period in early January would best represent an average payment experience. The choice of that period avoided any potential anomalies from holiday vacations, but was sufficiently in the past that payments from that service period would already have been made. Thus, we focused on the service period from January 7 through January 20, 2008.

Next, RESI staff determined the number of invoices to be included in the sample, using a finite population equation,[1] and began identifying data elements relevant to the payment

[1] The formula was $n = \frac{p\,q}{(r^2 / z^2)+(pq / N)}$

n is the sample size, p and q are the expected population proportions, assumed to be 80% timely and 20% untimely, r is the required precision ±5%, z is the z-score transformation of the confidence level, 95%, and N is the population size.

process in CCATS. We found five data elements that show the dates in the payment history of any given invoice. These were:

1. the service period of original delivery of care, the "svcperiod id."
2. the "received date," or date on which the invoice was received for processing, as manually input by invoice processing staff.
3. the "create date," or date on which the invoice processor inputs attendance data from the invoice.
4. the "preliminary approval date" on which the invoice processor approves the attendance data and sends the invoice on to the supervisor.
5. the "final approval date" on which the invoice processing supervisor approves the work of the invoice processor, and indicates a final approval for payment.
6. the date on which payment data is transferred from CCATS to MSDE's Accounting Branch.

Thus, CCATS affords a full range of dates documenting the process of payment in the local department of social services. This allowed the RESI team to study payment timeliness not only in the two jurisdictions of particular interest, but also in the balance of the State. With the aid of one an additional date

7. the payment date, when the actual check is cut or the direct deposit is made,

RESI can document all the steps of the payment process with a high degree of confidence.

While most of these dates were system generated based on the actions of LDSS staff, one date in the CCATS payment process depended on manual input of the invoice processor. That was the date in #2 above. It was unclear with what accuracy that date was being handled. To verify that date, and to document the business process of payment approval, RESI elected to visit the invoice processing units in two local departments, Baltimore City and Prince George's County. RESI staff identified random samples of invoices for each jurisdiction based on the full set of 8,281 invoices statewide for the service period January 7-20, 2008. These samples numbered (with extras for a margin of error) 256 invoices in the City and 241 invoices in the county. Staff in Baltimore City and Prince George's County pulled the corresponding provider payment files for inspection, and in the last weeks of May, 2008, RESI staff visited the local offices, documented procedures and inspected those files.

The Baltimore City Invoice Process

The processing of an invoice in the Baltimore City DSS involves the following steps, which are illustrated in the flow diagram. A guide to the symbols used in the flow diagram can be found on page 6 in Appendix B, page 26:

1.1 Receipt of Invoices: Invoices are received at the clerical desk, which has a window on a common waiting area. Most of the providers mail their invoices, but a significant

minority (about 45-50% of the providers) submits their invoices in person. Providers can also fax invoices, but few are received in that manner. Faxes are taken to the front desk and processed as though received by hand.

1.2 Date Stamping and Logging: Clerks date stamp the paper invoice and create an entry in a paper log book, recording the date in columns by the original service period of the invoice. Clerks then place all the stamped and logged invoices in a basket in Room 132 where they can be retrieved by invoice processors.

1.3 Retrieval, Review and Input of Attendance: Each invoice processor retrieves the invoices by provider name from room 132 for providers for which they are responsible. They review the information on the invoice for accordance with licensing capacity and input the attendance data into CCATS on screen AT0008.

1.4 Resolution of Problems: Before inputting the data, they resolve problems when necessary, in some cases by calling the provider directly, and in others by referring the problem to the customer service unit. Typical problems include missing provider signatures, incomplete or indecipherable attendance, apparent overcapacity care, etc. (See the section "Identified Delays" below for further comment on this review process.)

1.5 CCATS Sign off and Documentation: The invoice processor then clicks the submit button in CCATS and prints out the resulting screen, IN0014, stapling it to the paper invoice to create an invoice packet. The date of this action is recorded in CCATS as the "create date" data element.

1.6 Recording, Signing and Dating: The invoice processor then notes the amount to be paid on the attached copy of IN0014, the invoice number and the provider's licensed infant and total capacity figures and signs and dates the copy.

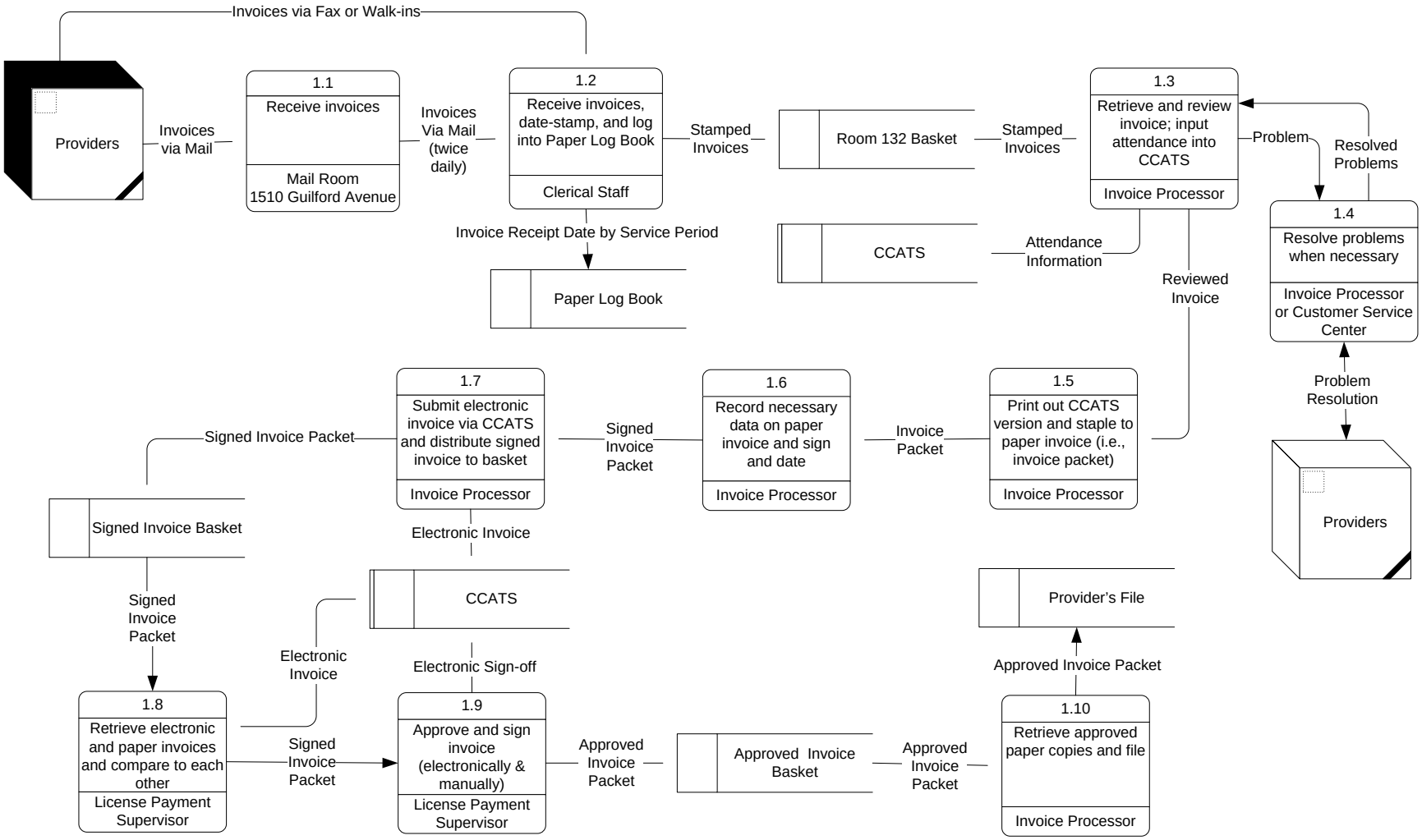
1.7 Delivery to Supervisor: The invoice packet is then delivered to the Invoice Processing Supervisor's basket for review and sign off. CCATS queues up the electronic record of the invoice for supervisor approval.

1.8 Supervisor Review: The invoice processing supervisor retrieves the signed invoice packet, brings up the invoice in the CCATS system and compares the paper invoice to the CCATS data.

1.9 Supervisor Sign off: The invoice processing supervisor then reviews the work of the invoice processor in steps 1.3 and 1.4 above, and if appropriate, approves the invoice electronically and also signs and dates the paper invoice. She then puts the signed paper copy in a basket for filing.

1.10 Filing: The invoice processors retrieve the signed invoices and file them by provider.

Invoices: Baltimore City



The Prince George's County Invoice Process

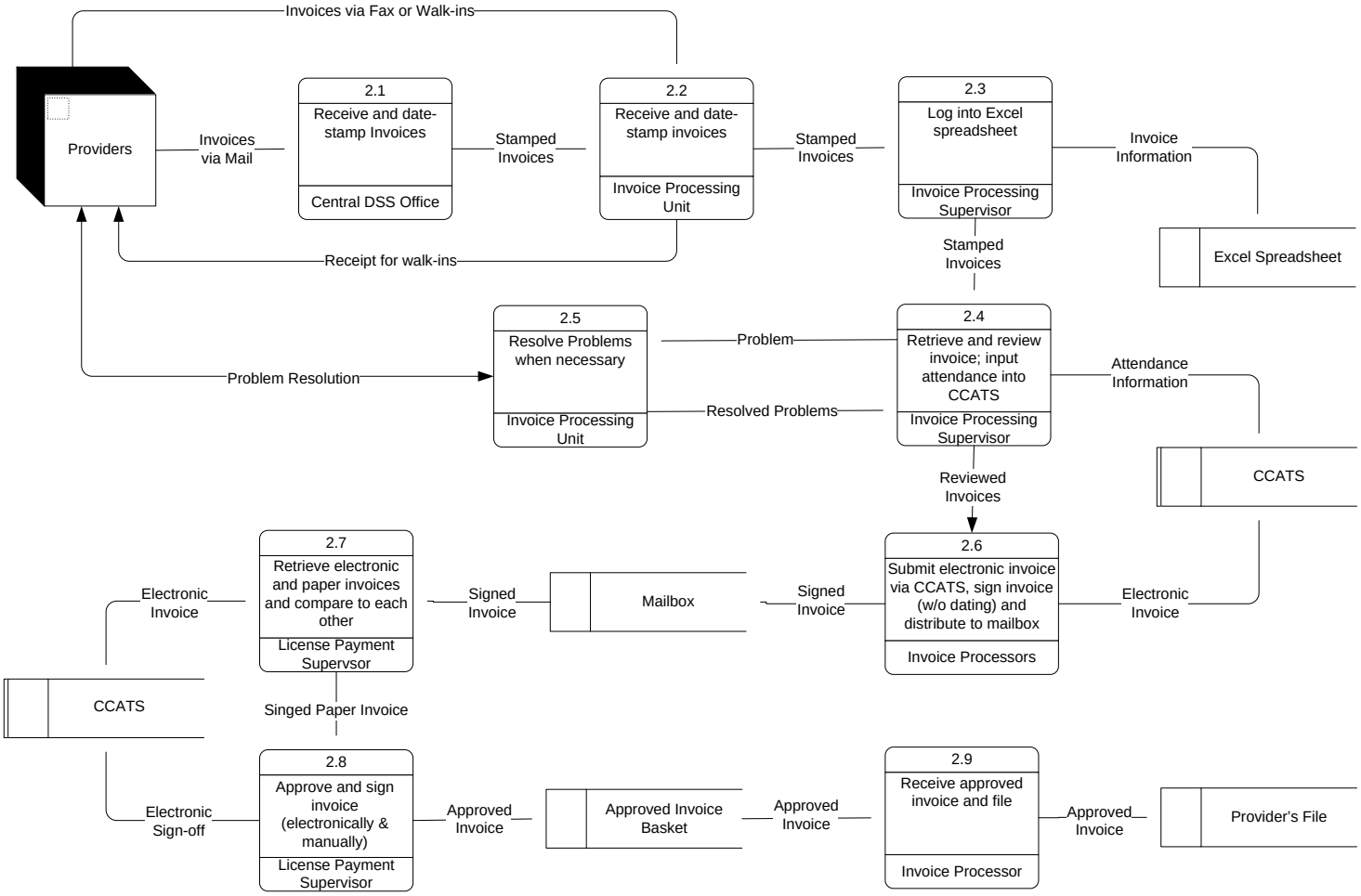
This process is very similar to that of Baltimore City, when exceptions are made for the smaller size of the unit and the workload. Rather than Baltimore City's three invoice processing supervisors, Prince George's has one. Some arriving invoices are stamped with the date of arrival at the central DSS location in addition to the stamp from the childcare subsidy unit. Instead of a paper log to track invoices in process, Prince George's uses an Excel spreadsheet. The invoice processor signs (without dating) the invoice, rather than attaching the printout from CCATS as Baltimore City workers do. Rather than using a separate customer contact unit, Prince George's does all customer contact out of the invoice processing unit. See the flow diagram on page 9.

2.1 Receive and Date-Stamp Invoices in Central DSS Office: Mailed invoices only are received in the office at 805 Brightseat Road, Largo, and are stamped before being forwarded to the purchase of care office at 425 Brightseat Road.
2.2 Receive and Date-Stamp Invoices in the Invoice Processing unit: Invoices are received at the clerical desk, which has a window on a common waiting area; a receipt is provided. Most of the invoices arrive by mail, but a significant minority (unclear what proportion) submits their invoices in person, leaving them with FIA clerks on the first floor, to be forwarded upstairs to the invoice processing unit. Providers can also fax invoices directly to the unit. Clerks date-stamp the paper invoice, which produces a second (called the "POC") date stamp on some invoices.
2.3 Logging and Distribution: The invoice processing supervisor enters the invoice number and the date received in an Excel spreadsheet used for tracking invoices in the department. Invoices are then distributed to baskets by provider name to be picked up by invoice processors.
2.4 Retrieval, Review and Input of Attendance: Each invoice processor retrieves the invoices for providers for which they are responsible. They review the information on the invoice for accordance with licensing capacity and enter the attendance data into CCATS on screen AT0008.
2.5 Resolution of Problems: If necessary, invoice processors resolve problems with the invoice by calling the provider directly. Typical problems include missing provider signatures, incomplete or indecipherable attendance, apparent overcapacity care, etc.
2.6 CCATS Sign off and Documentation: The invoice processor then clicks the submit button in CCATS and signs the paper invoice (without adding the date). The date of this action is recorded in CCATS and becomes the "create date" data element.
2.7 Delivery to Supervisor: The invoice packet is then delivered to the Invoice Processing Supervisor's basket for review and sign off. CCATS queues up the electronic record of the invoice for supervisor approval.
2.8 Supervisor Review: the License Payment Supervisor retrieves the signed invoice packet from her basket. She brings up the invoice in the CCATS system and compares the paper invoice to the CCATS data.
2.9 Supervisor Sign off: The invoice processing supervisor then reviews the work of the invoice processor in steps 2.4 and 2.5 above, and if appropriate, approves the invoice

electronically and also signs and dates the paper invoice. She puts the signed paper copy in a basket for filing.
2.10 Filing: The invoice processors retrieve the signed invoices and file them by provider.

While we were on-site, we also documented the business process of voucher approval in both jurisdictions. While those processes are not strictly germane to this inquiry, we collected the information in case voucher approval might be shown to be important in the case of exceptionally long delayed invoices. Since this was not the case, we have included them as Appendix B at the end of this report.

Invoices: PG County



Results

The full payment process extends from the end of the service period to the date on which payment is made to the provider, as outlined previously. The process can be divided into 6 or 7 steps (depending on whether we have one or two receipt stamps). These steps are:

1. From the End of the Service Period to the date at which the provider's returned invoice is stamped by the invoice processing unit (for Baltimore City) or input to CCATS (for the rest of the State).[2] This step is the responsibility of the provider and the mails, and is labeled as such on the graphic.

1.5 (for Prince George's County only), from the date on which the LDSS received the invoice and the date on which it is stamped by the invoice processing unit.

2. From the stamp (or input to the system) to the date at which the invoice processor begins attendance input.
3. From the date of attendance input to the date on which the invoice processor signs off and forwards materials to the invoice processing supervisor.
4. From the date of invoice processor completion to the date the invoice processing supervisor performs the final sign-off. Steps 2, 3 and 4 represent the time period for which the invoice processing units of the local departments of social services are responsible, and are labeled with the name of the LDSS or "Balance of the State" as applicable.
5. From the date of final sign-off to the date CCATS exports the invoice data to MSDE's Accounting Branch. This step is labeled "CCATS" because it is automatically performed by the system.
6. The final step, the responsibility of MSDE's Accounting Branch and the Comptroller's Office's General Accounting Division, ends with actual payment (via check or direct deposit) to the provider. This step is labeled "Payment."

The outcome of our study can be examined in three graphics on the following pages, one page each for Baltimore City, Prince George's County and the Balance of the State. Each shows the average elapsed time, in business days, for the whole payment process, as well as each step in that process for the paid invoices from the January 7-20 service period. The size of the sample (or universe) on which the data is based is shown at the bottom of each graphic.

[2] Note that the date of receipt of the invoice in the LDSS is marked in different ways in the various jurisdictions studied here. For Baltimore City, it is the date of the in the invoice processing unit, the "POC" stamp. For Prince George's County, it is the date of receipt in the LDSS central office, the "first stamp." For the rest of the state, since we could not verify all stamp dates, it is the received date as input into CCATS, which, since it is based on human input, may or may not fully correspond to the stamp date.

Note that the data for all three jurisdictions is very similar. Summary measures of elapsed time in business days are assembled in the table immediately below.

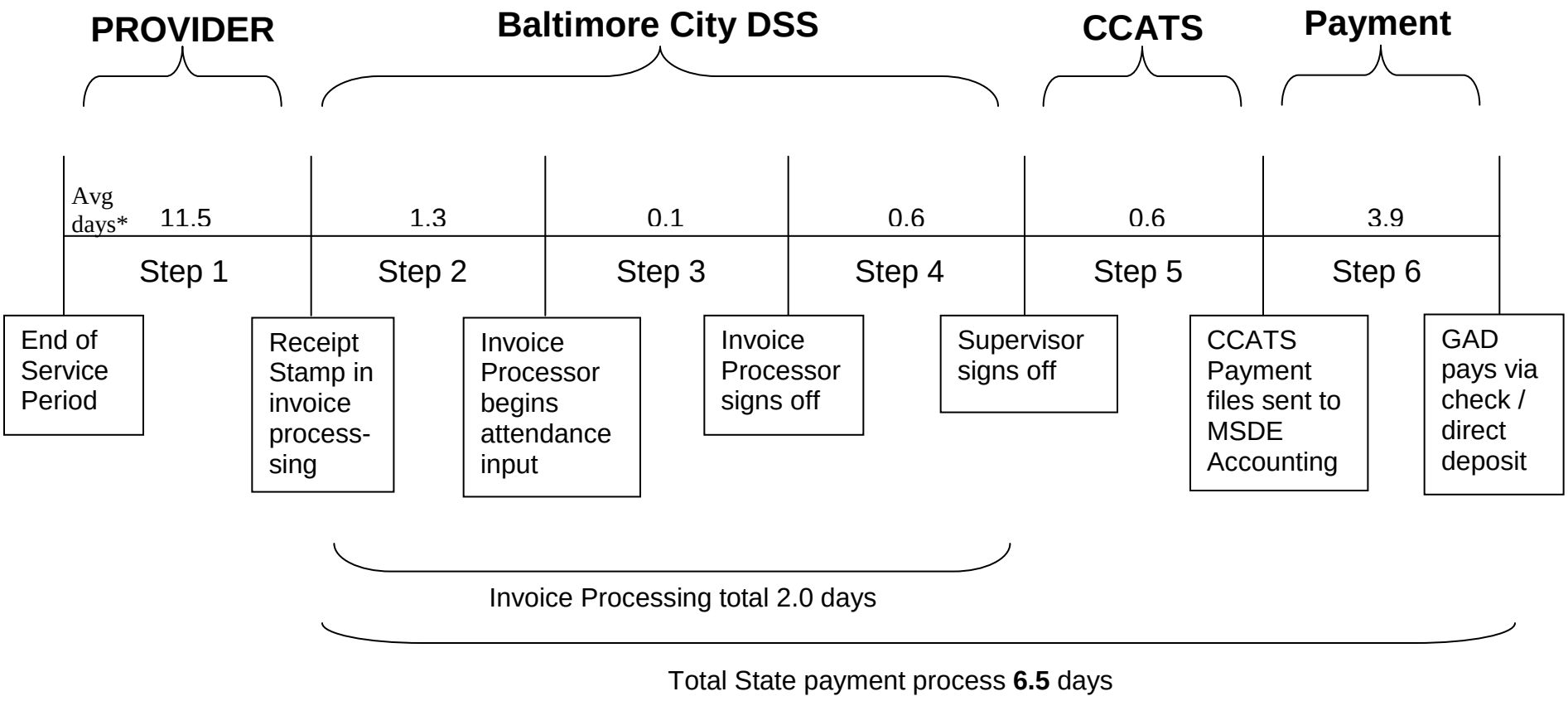
Jurisdiction	*Provider/Mail Step 1*	*LDSS Steps (2-4)*	*CCATS Step 5*	*Payment Step 6*	*Total Payment Process*
Baltimore City (Random Sample)	11.5	2.0	0.6	3.9	18.0
Prince George's (Random Sample)	12.6	2.5	0.2	3.8	19.1
Balance of State	11.7	1.3	0.4*	3.9**	17.3

* Montgomery County invoices are not included.
** Neither Montgomery County nor Liability Offset invoices are included here.

Compared to the Balance of the State, Prince George's providers took almost a day longer to present their invoices for payment, while Baltimore City's took slightly less time. In LDSS performance, both Prince George's and Baltimore City invoice processing staffs took somewhat longer than the Balance of the State, but the difference was little more than a day on average for Prince George's, and less than a day for Baltimore City. The CCATS export step was small in all cases, and varied very little among the jurisdictions. The totals for all four processes were 18 business days for Baltimore City, 19.1 for Prince George's County, and 17.3 for the Balance of the State.

BALTIMORE CITY INVOICE PROCESSING AND PAYMENT

with Average Business Days per Process Step for Random Sample Invoices

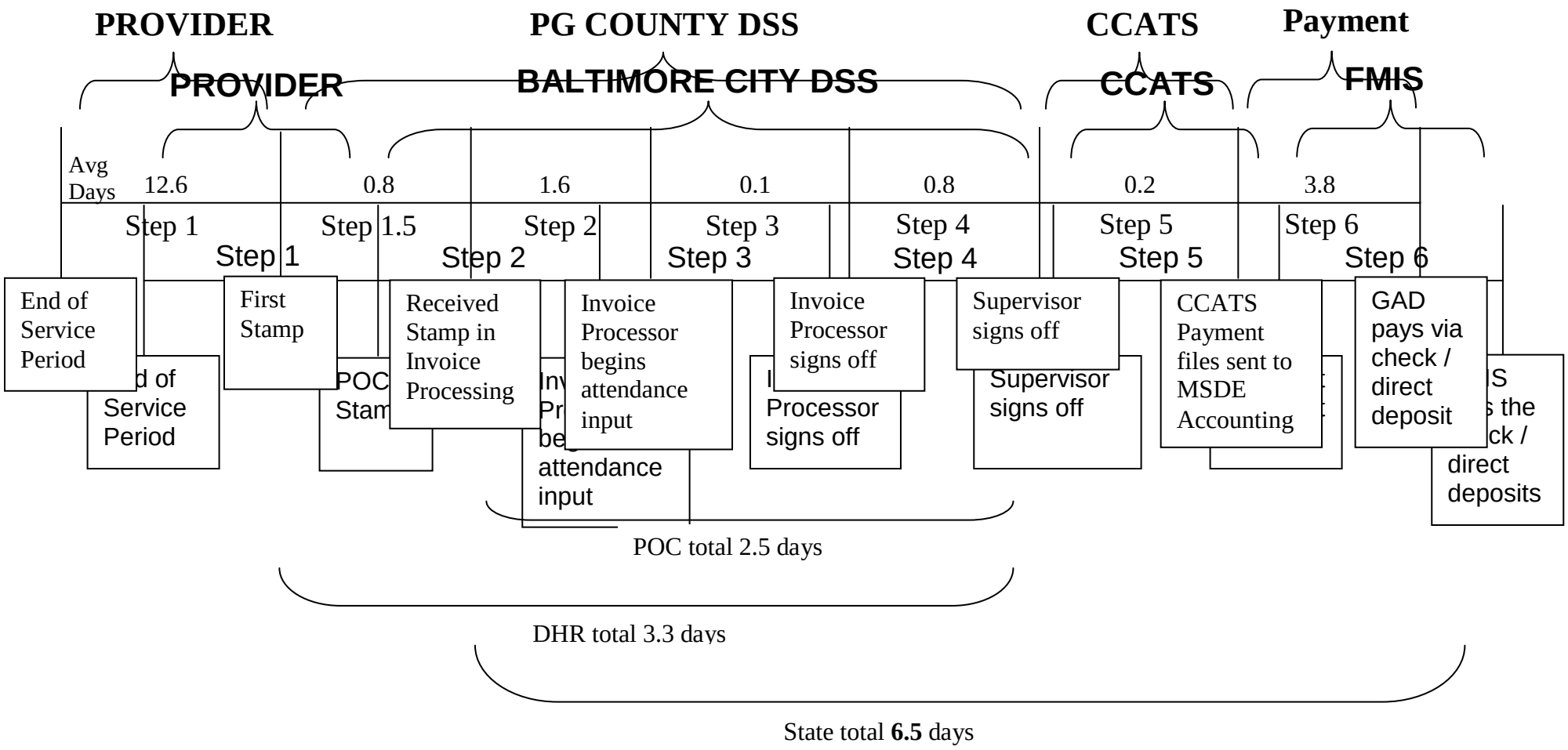


* Note: Average days are the average number of whole business days per process step. Sample of invoices = 256

PRINCE GEORGE'S COUNTY INVOICE PROCESSING AND PAYMENT

with Average Business Days per Process Step for Random Sample Invoices

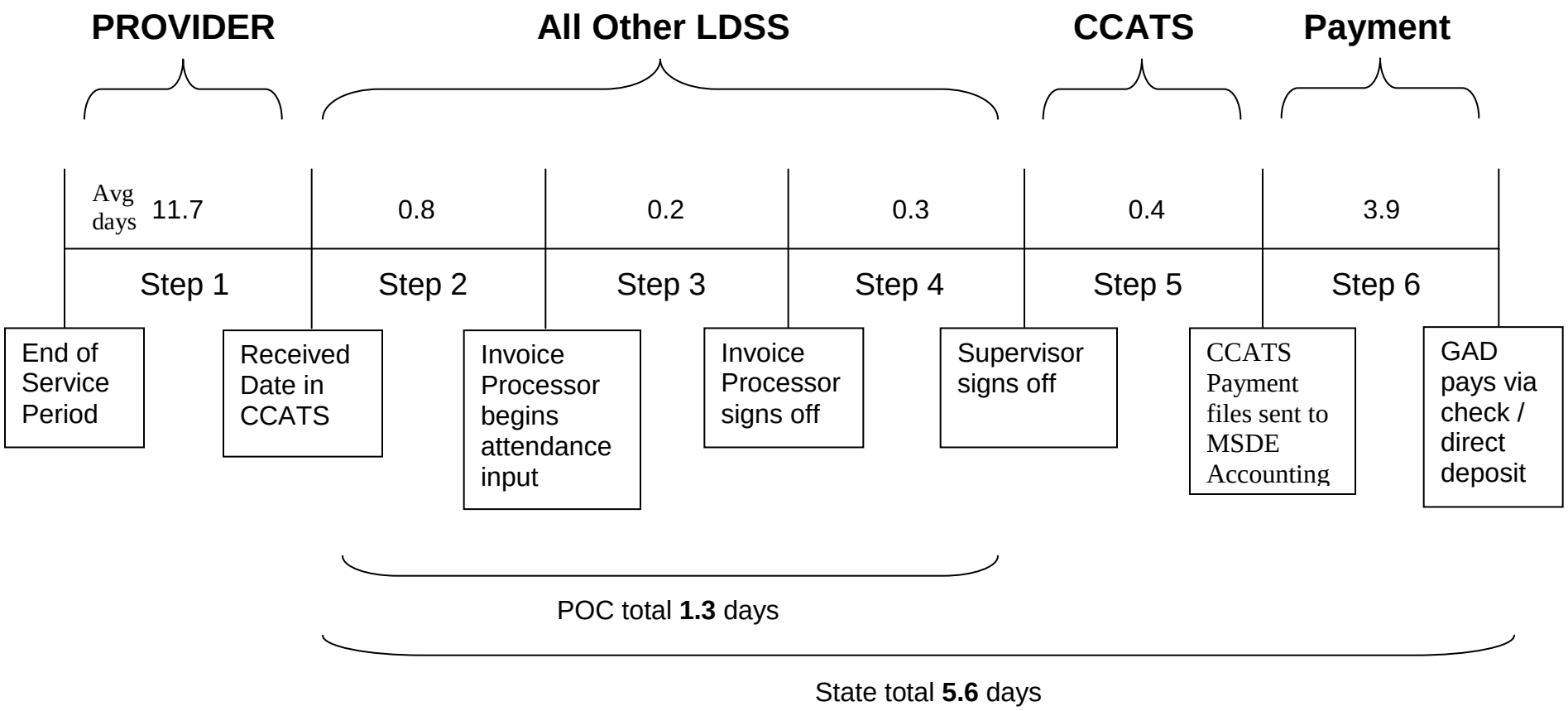
BALTIMORE CITY INVOICE PROCESSING AND PAYMENT



* Average days are the average number of whole business days per process step. Sample of invoices = 241

BALANCE of MARYLAND INVOICE PROCESSING AND PAYMENT

with Average Business Days per Process Step for All Jan 7 Invoices



* Note: Average days are the average number of whole business days per process step. Universe of invoices = 4,980

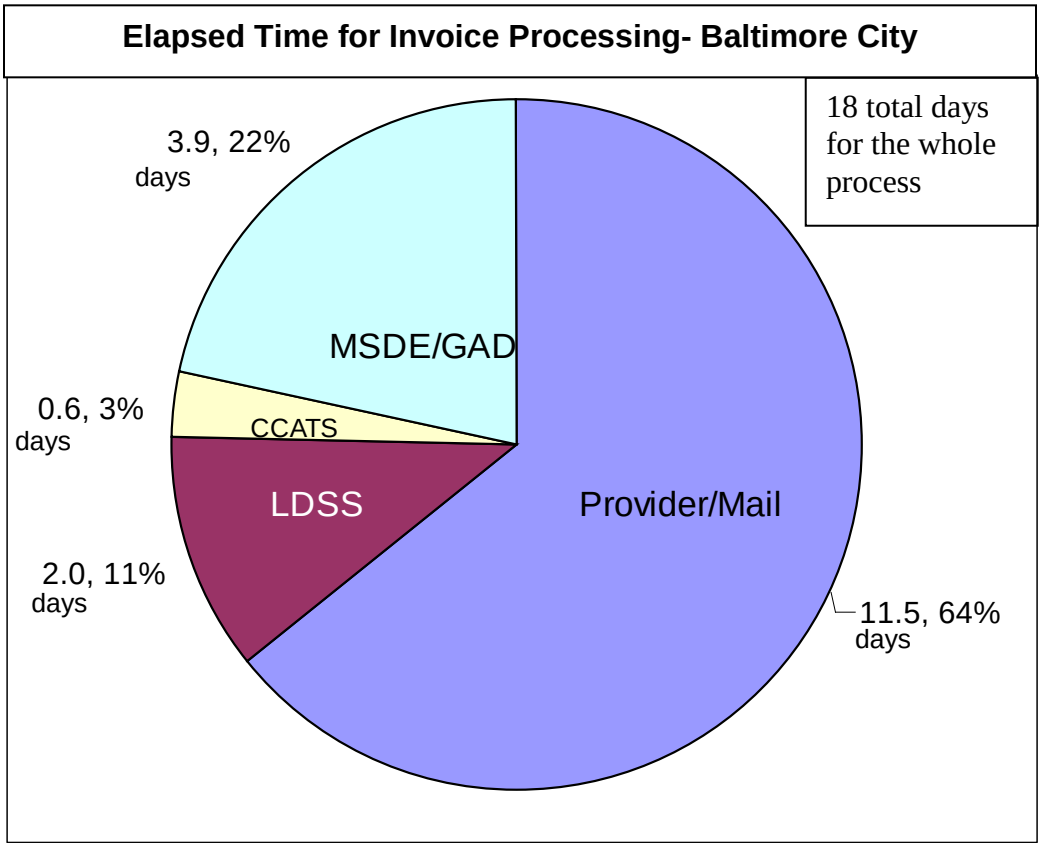
The above figures use the random samples for calculations of elapsed time in the cases of Baltimore City and Prince George's County. If we were to use all paid invoices instead, the LDSS totals would change only very slightly for Baltimore City (to 1.9 days from the 2.0 shown above). Prince George's situation is more complicated to estimate, because of relatively large discrepancies between the received date in CCATS and the actual stamp dates. If we add the difference between the received date in CCATS and the actual stamp date (1.4 days) from the sample to the elapsed time for all paid invoices (1.4 days), however, we come up with a figure that differs only slightly from the sample's average (2.8 days vs. 2.5 days).[3] In all cases, the conclusions hold that Prince George's takes the longer time to process invoices, Baltimore City is somewhat faster, and both are quite a bit slower than the average for the rest of the state.

In statistical terms, the differences in LDSS processing time between the two jurisdiction samples, as well as between the jurisdictions and the balance of the State, are all significant at the 95% confidence level. Analysis of variance of the means based on the full universe also shows the same significance.

A full list of average elapsed times, as well as medians and maximum times by business process for both the samples and the full universes (when available) is included as Appendix A.

As a summary, it may be useful to examine the pie chart on the next page, which summarizes the sample data for Baltimore City, and differs in only very small detail from the picture for Prince George's County and the Balance of the State. In those cases, the portion of total processing time taken by the Provider/Mail step is slightly greater at 66% for Prince George's County as are the LDSS steps, at 13%. For the Balance of the State, the Provider/Mail portion is slightly greater at 68% and the LDSS potion slightly smaller, at 8%.

[3] Of 241 invoices examined in Prince George's County, sixty three percent were found to have creation dates in CCATS which were later than the stamp date on the paper invoice. The effect of this difference was to shorten that calculated processing time in the local department of social service from 2.8 days to 1.4 days, leaving a difference of 1.4 days. Assuming this discrepancy could also be found at the same rate among invoices not in the sample, we have adjusted upward the calculated LDSS processing time here by the same 1.4 days.



Clearly, the time between the end of the service period and the date of receipt of the invoice in the LDSS represents the majority of the time necessary for payment—about two thirds of the total time required. This time is mostly the responsibility of the provider, although some of it represents time in the mail, both the US mail and internal DHR mail.

The mails should not cause much delay, however. The US postal service web site lists the time to deliver first class mail as 1 day from anywhere in the city, and the same site describes mail as equally prompt from many areas in Prince George's County to Largo.[4] RESI's experience of mail delivery in Baltimore City is that it is usually very prompt. Internal mail may be more of a problem, although hard data are lacking. Invoices for Baltimore City arrive first at 1510 Guilford Ave. and are forwarded to the invoice processing unit at 3031 E. Biddle St.; invoices for Prince George's County go first to 805 Brightseat Drive before being forwarded to 425 Brightseat (just down the street) where the invoice processing unit is located. We do not know how long it takes mail to get from Guilford Ave. to the invoice processing unit in East Baltimore, although we do know it is delivered twice a day. We do have some data on the time necessary for invoices to move from Prince George's central DHR mail facility to the invoice processing unit, at least for some invoices. It is 0.8 business days on average. We know this because the central facility stamps the invoice when it is received, and a comparison of that stamp with the stamp from the invoice processing unit makes the elapsed time clear.

[4] See http://www.usps.com/tools/calculatepostage/welcome.htm

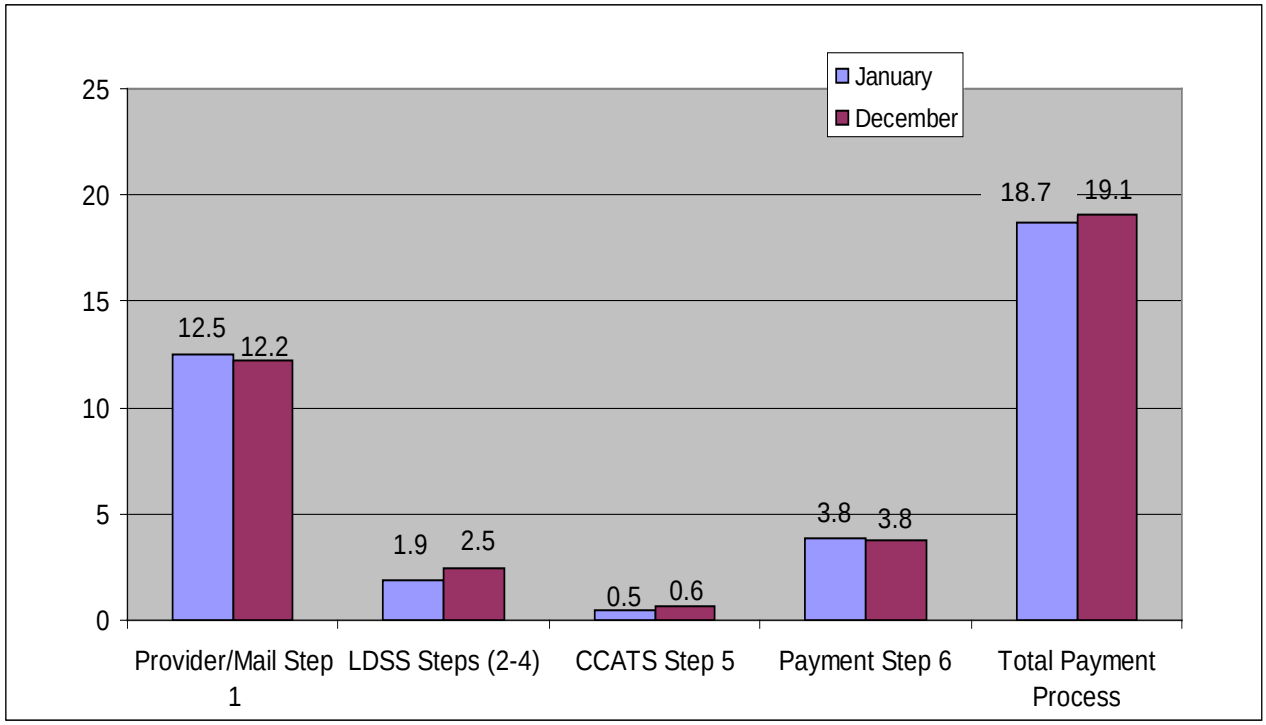
Further, we know that many providers, more than half by the reckoning of Baltimore City staff, avoid the mails entirely by dropping off or faxing their invoices directly to the invoice processing unit. Thus, it seems likely that the mails do not represent more than a small portion of the time between the end of the service period and the receipt of the invoice. The rest must be the responsibility of the provider.

The LDSS, in contrast, is responsible for only 11%% of the total time between the end of the service period and the final payment in Baltimore City. The LDSS responsibility rises to 13% in Prince George's County and falls to 8% in the Balance of the State.

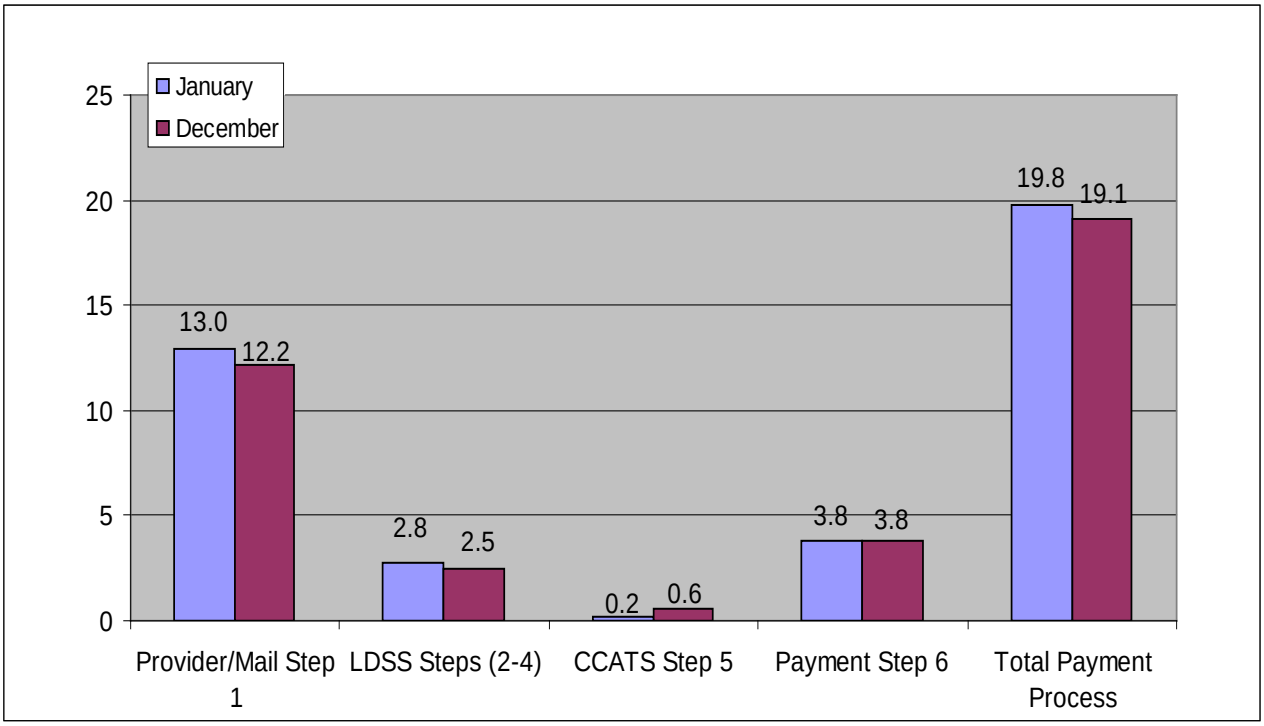
Another Service Period for Comparison

It may be objected that the choice of service period biased the results. Perhaps another service period would show very different elapsed times. To examine this possibility, we chose the period December 10 through 23, 2007 and applied the same analysis used with the January service period. The results were largely similar as can be seen in the graph below. The total payment time in December for Baltimore City differed by only 0.4

Average Business Days per Payment Process Step- Jan vs. Dec
All Invoices, Baltimore City



All Invoices, Prince George's County



days, with December being shorter (the reverse of what anecdotal evidence suggested). The LDSS processing took 0.6 days longer than in January, but that was somewhat offset by a slightly shorter Provider/Mail period. The Prince George's County comparison also shows many similarities. In this case, however, both the Provider/Mailing period and the LDSS period were shorter in December. The total difference between the two service periods was 0.7 days.

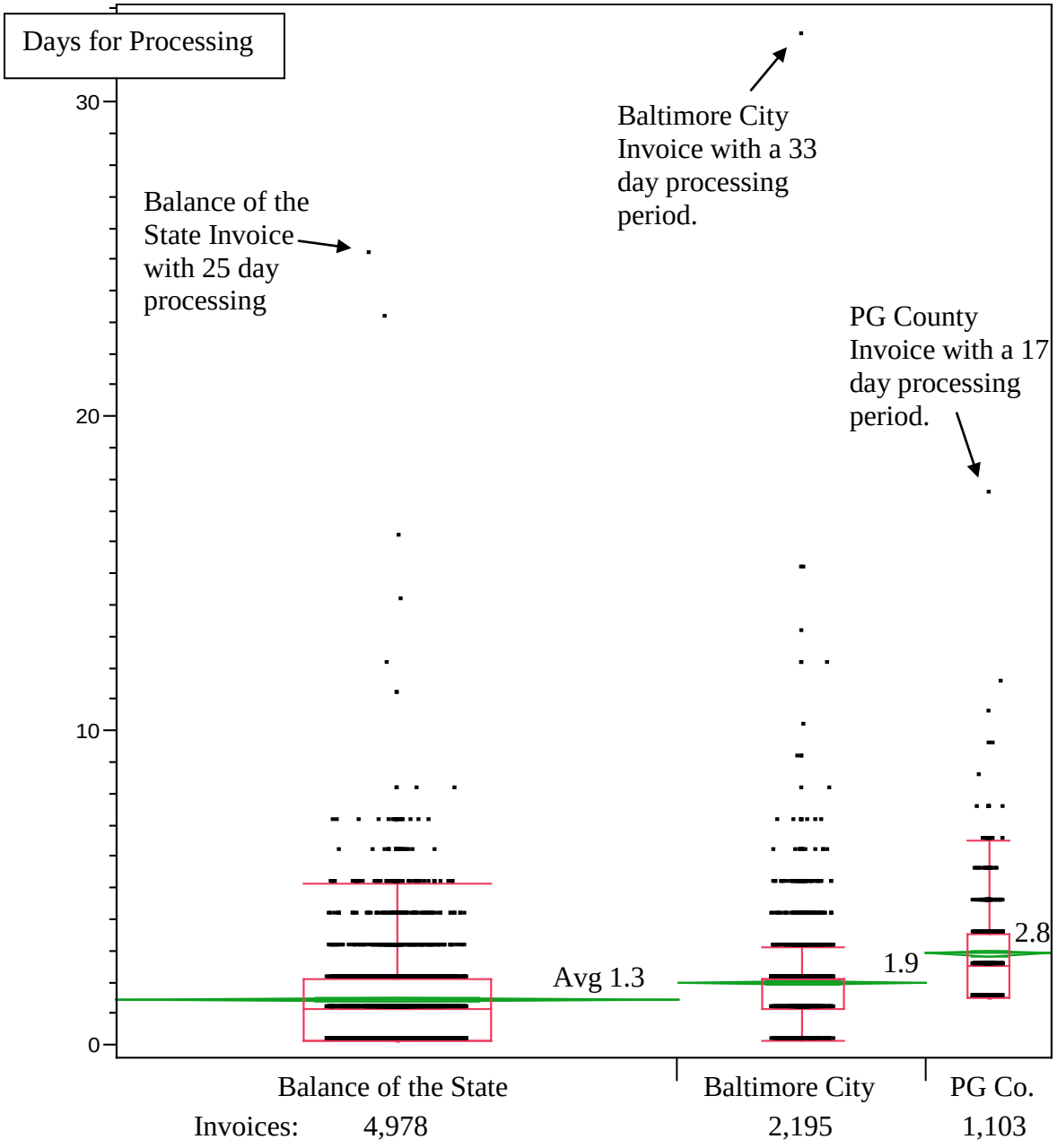
Longest Payment Times

Reassuring as the average payment times are, the State must also be concerned with the payment times of the most delayed invoices, since they are the ones most likely to provoke citizen concern. Thus, both the frequency and the characteristics of the invoices with the longest payment times deserve examination.

For this purpose, the best perspective is that afforded by the full set of invoices. The distribution of processing times of these invoices is shown on the graphic on the next page, along with the average (the green line), the number of invoices (along the bottom axis) and the area of the graph where the 25% of the data points above the median and the 25% below the median are found (the red boxes). Note that the red boxes have vertical red lines above and below, with horizontal red lines at their ends. These horizontal red lines mark where the outliers begin, ie. points that are not similar to the great number of other points in the distribution. The many black dots above the red line represent invoices with processing periods of unusual length. For example, Prince George's County has one invoice that took longer than any other from our January 7-20th service period to

process—17 days. That invoice is shown as the labeled black dot at the top right of the graphic. The longest delayed Baltimore City invoice took 32 days to process. The Balance of the State has one invoice that took 44 days to process, making a point that could not even be shown at this scale. The labeled point for the Balance of the State took 25 days to process.

When we look at invoices with LDSS processing periods of 5.5 business days or longer, (which equals 2 standard deviations above the mean, a typical statistical measurement of outliers) the county had 26 such invoices, 2.4% of the county total, while the city had 44, 2% of the city total. The Balance of the State had 3%. All of these figures are well below the 4.5% that could be expected in a normal distribution.



Identified Causes of Delay

Baltimore City staff pointed out the challenges of verifying that child attendance falls within the provider's licensed capacity. Since the child's age group is not written on the voucher, invoice processors must look at the rate to figure out the age of the child being paid. If there is a possibility a provider was overcapacity on any day during the payment period, they check the children's schedule. Because providers can register more children than their licensed capacity as long as their licensed capacity is not violated at any one time, the invoice processor has to check the children's schedule. If the provider is overcapacity then the invoice processor contacts the Customer Service Unit. Depending on the problem, the Customer Service Unit may contact the POC case manager, provider or any other party to resolve the problem. If there is an overcapacity problem then the Customer Service Unit asks the provider which child they want to exclude. This process can cause a delay in invoice processing.

Another challenge pointed out by Baltimore City staff involves CCATS failure to allow creation of 42/10 Vouchers for children 5 and under. Children enrolled in public pre-kindergarten programs thus must be given two vouchers, a one or two unit voucher for days when school is in session and a three unit voucher for summer and school closing days. Some providers, either by mistake or intention, try to get paid for both vouchers for the same child or try to get paid for the three unit voucher on a school day. This possibility requires that staff check school schedules, as well as the case's approved vouchers.

We asked both departments about the two most extensively delayed invoices in our samples. For Baltimore City one sample invoice was received on 1/22/2008 and it took 4 business days for the invoice processor to input the attendance into CCATS but then another 7 business days before the task was completed and signed off. The supervisor signed off the next day. Thus it took 12 business days to complete the whole process from the day the invoice was received. Baltimore City responded as follows:

> During our research we found that [the] invoice . . . was delayed because the provider was billing for more children than the approved number in CCATS. This required some research. Provider claimed the parent had made special arrangements for the child to be picked up before the time listed on the voucher. Since we are mandated to provide care according to the parent's verification of activity we had to wait for the provider and parent to submit written information which arrived here on 2/4/08.

The other invoice was received on 3/28/2008. It took 10 business days for the invoice processor to input the attendance into CCATS and the invoice was approved by the invoice processor and the supervisor on the same day. So it took 10 business days to process this invoice from the day it was received. Again, City staff responded as follows:

> The invoice processor retired and even though this provider had been reassigned the new person said she didn't know the center had been assigned to her. The new assignments have [now] been given out in writing.

It seems logical to assume that delayed invoices would provoke customer complaint, of course. But there is a way to measure the importance of these delays. By merging the list of invoices with delays with data from the help center on calls received, we can see how many of the delayed invoices provoked customer calls. The results based on the January service period can be seen in the table below.

Delayed Invoices and Customer Calls to the Help Center

	Delayed Invoices	Delayed Invoice Customers' Help Center Calls		
	# of invoices	# of callers	# of calls	Callers as % of delayed Invoices
Balance of State invoices > 2 std dev	151	30	67	20%
BC all invoices > 2 std dev	44	11	35	25%
PG all invoices > 2 std dev	26	5	8	19%
Total	221	46	110	21%

Total Invoices and Customer Calls to the Help Center

	Total Invoices	Total Help Center Calls		
	# of invoices	# of callers	# of calls	Callers as % of Invoices
Balance of state all invoices	4,980	154	215	3%
BC all invoices	2,198	102	201	5%
PG all invoices	1,103	41	73	4%
Total	8,281	297	489	4%

Of 151 invoices delayed more than two standard deviations above the mean in the balance of the state, 30 customers (20%) called the help Center before their invoice was paid. Of 44 invoices delayed similarly in Baltimore City, 11 customers called (25%). Prince George's customers called at a slightly lower rate of 19%. On average, customers who called did so 2.4 times. Customers without delayed invoices called much less frequently—only 4% called, on average, and each customer called only 1.6 times. Thus

it seems that delayed invoices do cause customers to take action quite often, calling the Help Center at a rate five to six times as often as customers without delayed invoices.

Possible Solutions to the Problem of Delays

Despite the relatively small number of delayed payments, the costs of handling customer complaints received at the Help Center recommend further efforts to minimize the number of delayed invoices. Unfortunately, at this moment, CCATS does not provide easy to use tools to monitor the progress of invoices through the payment process on the LDSS level.

Two such tools would be very helpful to LDSS management.

1. A report replicating the data extraction performed here (business days required, on average, for various steps in invoice processing) would allow invoice process supervisors to monitor their staff's performance on an on-going basis. We were informed that such a report does exist, but that it does not work.
2. A report of invoices exceeding a certain number of days of processing from their "create date" would allow the easy identification of problems. This would improve the local departments' ability to track invoices that are legitimately delayed, such as the first Baltimore City example cited above, as well as invoices that simply "fall through the cracks" such as the second Baltimore City example. An improved screen for this purpose is currently on the list for CCATS development. At this point, we are not aware of the expected delivery date of this improvement.

Summary

This survey of payment timeliness in the Child Care Subsidy program used two slightly different sets of data: full sets of paid invoices, and samples, focusing on the service period from January 7 to 20, 2008. The samples allowed RESI staff to review in detail the paper trail held in two local departments of social services, Baltimore City and Prince George's County, which we did on site with the aid of staff in those two units. We reviewed the full course of the subsidy payment from the end of the original service period to the final payment by the General Accounting Division, including the invoice processing by the local departments of social services. We found that

- The whole course of payment processing took between 17.3 and 19.1 business days on average in the jurisdictions studied here, with Baltimore City registering 18 days and Prince George's County 19.1 days.
- The largest portion of the payment process is that between the end of the service period and the receipt of the invoice in the LDSS, a period which is largely the responsibility of the provider. This time period represented between 11.5 and 12.6 business days, or 64% to 68% of the total time for payment in the various jurisdictions studied.

- The portion of the payment process representing the invoice processing work of the LDSS accounted for between 1.3 and 2.5 days, or between 8 and 13% of the total payment process. Baltimore City's figure was 2 days or 11%, Prince George's 2.5 days or 13%. Thus, the LDSS were, on average, responsible for only a small portion of the normal payment process.
- Comparison of these figures with figures from a service period in December of 2007 showed only very small differences, thus providing reassurance that these results are not aberrant.
- Extremely lengthy delays in LDSS processing were relatively rare in all jurisdictions, with invoices needing over 5.5 days accounting for between 2 and 3% of all invoices processed and paid.
- These delayed invoices did provoke customer calls to the Help Center at a rate 5 to 6 times more often than normal, however, testifying to customer discontent, and the desirability of further improvement.
- CCATS modifications already scheduled will make it easier for LDSS staff to track delayed invoices, although a report which would produce statistics such as those generated here on business days for various LDSS processes to be completed would also be very helpful.

Appendix A

Summary Business Days for Steps of Invoice Processing to Payment

January Invoices: Service Period 1001 (1/7/2008- 1/20/2008) May Download

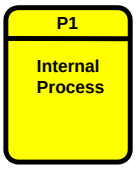
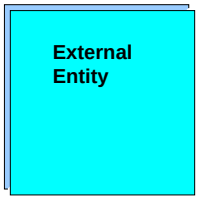
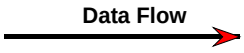
		Step 1	Step 1a	Step 2	Step 3	Step 4	*POC subtotal*	Step 5	Step 6	*Grand Total*
	Number of Invoices	Provider/Mail Step	PG Only-1st Stamp to POC Stamp	POC Stamp or Received date to IP begin date	IP begin date to IP signoff date	IP signoff date to Final Appr date	LDSS Steps (2-4)	CCATS Step 5	Payment Step 6	Total Payment Process
MEAN										
Statewide	8,281	12.0		0.9	0.1	0.4	1.5	0.4	3.8	17.8
Statewide (excl BC&PG)	4,980	11.7		0.8	0.2	0.3	1.3	0.4	3.9	17.3
Baltimore City	2,198	12.5		1.3	0.1	0.5	1.9	0.5	3.8	18.7
Prince George's Co	1,103	13.0		0.6	0.1	0.7	2.8	0.2	3.8	19.8
Baltimore City (Rndm Smpl)	256	11.5		1.3	0.1	0.6	2.0	0.6	3.9	17.9
Prince George's (Rndm Smpl)	241	12.6	0.8	1.6	0.1	0.8	2.5	0.2	3.8	19.1
MEDIAN										
Statewide	8,281	5		1	0	0	1	0	4	

Statewide (excl BC&PG)		5		0	0	0	1	0	4
Baltimore City (All Invoices)		5		1	0	0	2	0	4
Prince George's (All Invoices)		6		0	0	0	1	0	4
Baltimore City (Rndm Smpl)	256	5		1	0	0	2	0	4
Prince George's (Rndm Smpl)	241	5	1	1	0	1	2	0	4
MAXIMUM									
Statewide	8,281	73		40	41	14	42	58	5
Statewide (excl BC&PG)		73		40	41	14	42	2	5
Baltimore City (All Invoices)		73		36	32	13	36	27	5
Prince George's (All Invoices)		73		15	8	9	16	58	5
Baltimore City (Rndm Smpl)	256	64		10	7	3	12	2	5
Prince George's (Rndm Smpl)	241	66	2	12	8	5	12	2	5

Appendix B: Flow Diagram Basics and Voucher Processes

Gane & Sarson Data Flow Diagrams

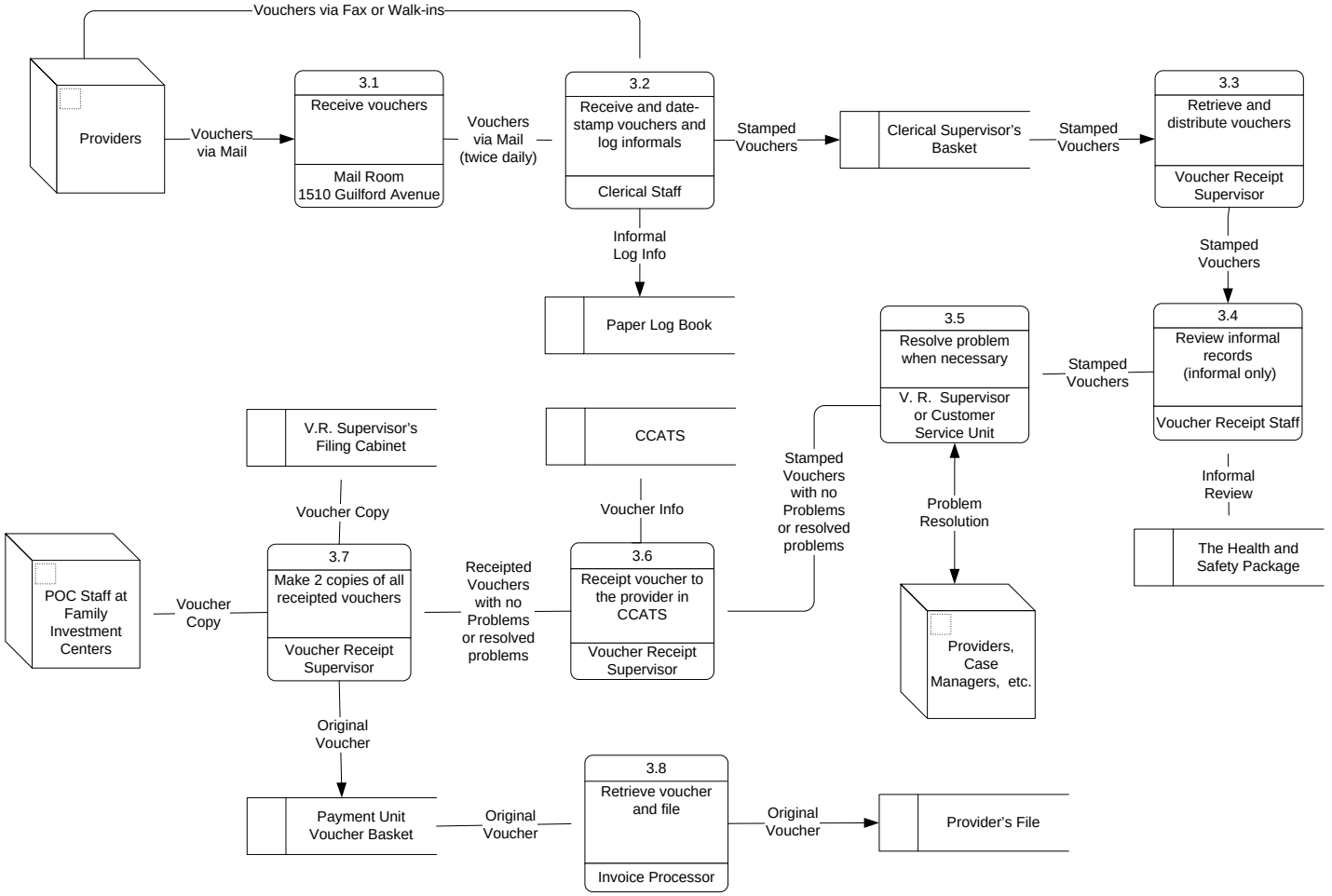
The charts used to document the process for receipting vouchers and processing invoices are called Data Flow Diagrams (DFDs). The particular diagramming methodology chosen to document these processes is known as Gane & Sarson. DFDs show the flow of data; in this case, the flow of business process, starting from when the LDSS receives the vouchers and invoices and ending when the original vouchers and approved invoices are filed in the parent's or the provider's file. Gane & Sarson diagrams use four basic symbols, as shown below.

	A **Process symbol** is a rectangular symbol, representing a point in the system where data is manipulated (or processed).
	An **External Entity process symbol** is a rectangular symbol that represents an object that sends information or data to the system, or takes information from the system, but is not itself part of the system.
	A **Data Flow symbol** is a line indicating the direction of the flow of data as it moves from one point in the system to another. Data flows can split into two or more flows, or they can join to one from two or more flows.
	A **Data Store symbol** is where data "rests" when it is neither flowing nor being processed. A data store can be a database, hard disk, floppy disk, and a file on a disk or a hardcopy file, such as a logbook.

Baltimore City Voucher Receipt Process

3.1 Receipt of Vouchers: Vouchers are received at the clerical desk, which has a window on a common waiting area. Providers can mail or fax the vouchers. They can also submit the vouchers in person but few are received in that manner; they are taken to the front desk and processed as though received by hand.
3.2 Date Stamping and Logging: Clerks date stamp the vouchers and enter only informal vouchers into a paper logbook. Clerks then place all the stamped vouchers in the clerical supervisor's basket.
3.3 Retrieval and Distribution of Stamped Vouchers: Voucher receipt supervisor retrieves the stamped vouchers from the basket and distributes them to the voucher receipt staff.
3.4 Review informal records: Voucher receipt staff reviews the informal providers' records and compares the information on the Health and Safety Packet with the information on the voucher such as the location of care.
3.5 Resolution of Problems: If there is a minor problem with a voucher, voucher receipt supervisor resolves the problem by calling the provider directly. If it is a major problem, voucher receipt supervisor refers the problem to the customer service unit. Typical problems include missing provider signatures.
3.6 Voucher Receipt: The voucher receipt supervisor receipts the voucher to the provider in CCATS within maximum 48 hours.
3.7 Making two Copies of Vouchers: The voucher receipt supervisor makes two copies of each voucher. She keeps a copy in her filing cabinet for her records, sends a copy to POC Staff at the Family Investment Center and places the original voucher in the voucher basket for the payment Unit.
3.8 Filing: The invoice processors retrieve the original voucher and file them in provider's file.

Vouchers: Baltimore City



Prince George's County Voucher Receipt Process

4.1 Receive and Date-Stamp Vouchers in Central DSS Office: Mailed vouchers only are received in the office at 805 Brightseat Road, Largo, and are stamped before being forwarded to the purchase of care office at 425 Brightseat Road.
4.2 Receive and Date-Stamp Vouchers in the Invoice Processing unit: Vouchers are received at the clerical desk, which has a window on a common waiting area; a receipt is provided. Most of the vouchers arrive by mail, but a significant minority (unclear what proportion) submits their vouchers in person, leaving them with FIA clerks on the first floor, to be forwarded upstairs to the invoice processing unit. Providers can also fax vouchers directly to the unit. Clerks date-stamp the voucher, which produces a second (called the "POC") date stamp on some vouchers.
4.3 Logging and Distribution: The clerk enters the voucher information and the date received in an Excel spreadsheet used for tracking vouchers in the department. Stamped vouchers are then passed to the case manager who is dedicated to voucher receipt and customer service.
4.4 Review and receipt vouchers: The case manager reviews the providers' records and contacts with the provider via phone or fax if there is any missing information or signatures. Once all the information is complete, case manager receipts the voucher to the provider and then distributes the receipted vouchers to other case managers by placing them in case managers' mailbox.
4.5 Filing: Case managers receive the receipted vouchers for the cases they manage and file the receipted vouchers in parent's folder.

Vouchers: PG County