



Commonwealth of Massachusetts  
Office of the State Auditor  
Suzanne M. Bump

*Making government work better*

Official Audit Report – Issued February 10, 2017

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## Office of Medicaid (MassHealth)—Review of Dental Periapical Radiograph Claims Submitted by Sawan & Sawan, DMD

For the period July 1, 2010 through June 30, 2015





Commonwealth of Massachusetts  
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*Making government work better*

February 10, 2017

George Sawan, DMD  
Sawan & Sawan, DMD  
2 Irving Street  
Framingham, MA 01702

Dear Dr. Sawan:

I am pleased to provide this performance audit of claims that Sawan & Sawan, DMD submitted to the Office of Medicaid for dental periapical radiographs. This report details the audit objectives, scope, methodology, findings, and recommendations for the audit period, July 1, 2010 through June 30, 2015. My audit staff discussed the contents of this report with you, and your comments are reflected in this report.

I would also like to express my appreciation to you and your staff for the cooperation and assistance provided to my staff during the audit.

Sincerely,

A handwritten signature in blue ink, appearing to read "SMB", written over a light blue circular stamp.

Suzanne M. Bump  
Auditor of the Commonwealth

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## EXECUTIVE SUMMARY

The Office of the State Auditor (OSA) receives an annual appropriation for the operation of a Medicaid Audit Unit to help prevent and identify fraud, waste, and abuse in the Commonwealth's Medicaid program. This program, known as MassHealth, is administered under Chapter 118E of the Massachusetts General Laws by the Executive Office of Health and Human Services, through the Division of Medical Assistance. Medicaid is a joint federal-state program created by Congress in 1965 as Title XIX of the Social Security Act. At the federal level, the Centers for Medicare & Medicaid Services, within the US Department of Health and Human Services, administer the Medicare program and work with state governments to administer state Medicaid programs.

OSA has conducted an audit of dental periapical<sup>1</sup> radiograph claims paid to Sawan & Sawan, DMD for the period July 1, 2010 through June 30, 2015. During this period, MassHealth paid Sawan & Sawan, DMD approximately \$516,734 to provide periapical radiographs for 5,748 MassHealth members. The purpose of this audit was to determine whether Sawan & Sawan, DMD billed MassHealth appropriately for periapical radiographs and whether it documented the need for them in member dental records in accordance with applicable MassHealth regulations.

The audit was conducted as part of OSA's ongoing independent statutory oversight of the state's Medicaid program. Several of our previously issued audit reports disclosed significant weaknesses in MassHealth's claim-processing system, which resulted in millions of dollars in unallowable and potentially fraudulent claim payments. As with any government program, public confidence is essential to the success and continued support of the state's Medicaid program.

Based on our audit, we have concluded that Sawan & Sawan, DMD improperly billed MassHealth for dental periapical radiographs totaling approximately \$79,190 during the audit period; 25% of the claims billed during this period were unallowable.

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1. A periapical radiograph shows the whole tooth from the top to where the tooth is secured in the jaw.

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Below is a summary of our findings and recommendations, with links to each page listed.

<b>Finding 1</b> <b>Page 8</b>	Sawan & Sawan, DMD improperly billed for dental periapical radiographs totaling approximately \$79,190.
<b>Recommendations</b> <b>Page 9</b>	<ol style="list-style-type: none"><li data-bbox="440 401 1474 478">1. Sawan &amp; Sawan, DMD should collaborate with MassHealth to repay the approximately \$79,190 in improper payments it received for periapical radiographs.</li><li data-bbox="440 499 1474 594">2. Sawan &amp; Sawan, DMD should ensure that in the future, it does not bill MassHealth for periapical radiographs that are unallowable under MassHealth regulations (e.g., those performed as part of routine dental examinations).</li><li data-bbox="440 625 1474 716">3. Sawan &amp; Sawan, DMD should ensure that dental records reflect the need for periapical radiographs for members.</li></ol>

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## OVERVIEW OF AUDITED ENTITY

Under Chapter 118E of the Massachusetts General Laws, the Executive Office of Health and Human Services, through the Division of Medical Assistance, administers the state's Medicaid program, known as MassHealth. MassHealth annually provides access to healthcare services to approximately 1.9 million eligible low- and moderate-income children, families, seniors, and people with disabilities. In fiscal year 2016, MassHealth paid healthcare providers more than \$14 billion, of which approximately 50%<sup>2</sup> was funded by the Commonwealth. Medicaid expenditures represent approximately 39% of the Commonwealth's total annual budget.

According to Section 420.401 of Title 130 of the Code of Massachusetts Regulations, MassHealth covers medically necessary dental services provided to its members. For the five-year period July 1, 2010 through June 30, 2015, MassHealth paid approximately \$47 million to dental-service providers for dental periapical radiographs for 756,016 members, as detailed below.

### Dental Periapical Radiographs

Fiscal Year	Amount Paid	Members Served	Number of Claims
2011	\$ 8,360,619	228,005	496,739
2012	8,509,557	233,194	507,734
2013	8,573,631	237,707	518,359
2014	10,050,624	277,127	659,508
2015	11,485,847	319,917	763,843
<b>Total</b>	<u>\$46,980,278</u>	<u>1,295,950*</u>	<u>2,946,183</u>

\* Of these 1,295,950 members, the unduplicated count is 756,016.

Sawan & Sawan, DMD is a certified MassHealth dental-service provider in Framingham. It is owned by Dr. George Sawan, who provides dental services along with his brother Dr. Joseph Sawan. Sawan & Sawan, DMD received a total of \$5,099,715 from MassHealth during the audit period, as detailed below.

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2. During the federal government's fiscal year 2016, the Federal Medical Assistance Percentage for Massachusetts was 50%. This percentage is the amount that the federal government contributes to joint federal-state programs.

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### Services Provided by Sawan & Sawan, DMD

Type of Service Provided	Amount Received
Diagnostic	\$1,515,187
Preventive	1,418,143
Restorative	877,138
Exodontic	469,771
Other	421,367
Endodontic	216,632
Prosthodontic	114,009
Periodontal	67,468
<b>Total</b>	<b><u>\$5,099,715</u></b>

Our audit focused on dental claims for periapical radiographs provided to MassHealth members. Specifically, we selected dental procedure codes D0220 (periapical, first film) and D0230 (each additional periapical). These claims totaled \$516,734 during the audit period and are included in the Diagnostic service category above.

### Dental Periapical Radiographs

A periapical radiograph shows the whole tooth from the top to the jaw. When taken independently (not as one of a periodic full set of radiographs), it is used to locate problems with a tooth and the surrounding areas. MassHealth regulations allow periapical radiographs to be taken by a dental-service provider either as part of a full-mouth series of radiographs (allowed once every three years) or to evaluate a specific dental problem independently. Section 420.423(3)(B) of Title 130 of the Code of Massachusetts Regulations details the specific conditions under which MassHealth will pay for periapical radiographs that are taken independently of a full-mouth set of radiographs, including instances of suspected infection, change, or anomaly when an extraction is anticipated.

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## AUDIT OBJECTIVES, SCOPE, AND METHODOLOGY

In accordance with Section 12 of Chapter 11 of the Massachusetts General Laws, the Office of the State Auditor (OSA) has conducted a performance audit of dental claims for periapical radiographs provided to MassHealth members by Sawan & Sawan, DMD for the period July 1, 2010 through June 30, 2015.

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Below is our audit objective, indicating the question we intended our audit to answer, the conclusion we reached regarding the objective, and where the objective is discussed in the audit findings.

Objective	Conclusion
1. Did Sawan & Sawan, DMD bill appropriately for periapical radiographs provided to MassHealth members, and did it maintain documentation in member dental records to properly support these claims?	No; see <a href="#">Finding 1</a>

### Auditee Selection

As stated above, MassHealth paid dental-service providers approximately \$47 million for dental periapical radiographs during our audit period. Because of the significant amount of these expenditures, as well as prior OSA reports that have identified unallowable claims for periapical radiographs, OSA is conducting a series of audits focusing on providers of such radiographs. We performed data analytics on these periapical radiograph claims to identify (1) the frequency and cost of dental periapical radiographs and (2) service trends and billing anomalies indicating potential fraud, waste, and abuse. Our data analytics identified the providers who billed periapical radiographs most often. We selected Sawan & Sawan, DMD for audit because we determined that of all the radiographs<sup>3</sup> it took during the audit period, periapical radiographs represented an average of 69.5%, whereas all other dental providers' periapical radiographs averaged 51.5% of their total radiograph claims.

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3. Dental radiographs include bitewing, panoramic, and periapical radiographs.



## Methodology

To achieve our audit objective, we reviewed applicable state and federal laws, rules, and regulations; MassHealth Dental Bulletins and Transmittal Letters; the MassHealth All Provider Manual; and the MassHealth Dental Manual. Also, we requested, and received when available, the following documentation from Sawan & Sawan, DMD:

- employee manual
- policies and procedures for processing claims
- patient dental records

We gained an understanding of the internal control we deemed significant to our audit objective: Dr. George Sawan's and Dr. Joseph Sawan's review of claims before they were submitted to MassHealth for payment. However, because they did not document the review, we could not test the effectiveness of this control. We still achieved our audit objective by increasing the number of claims tested to reflect the highest level of risk.

We selected a statistically random sample of periapical radiographs—60<sup>4</sup> of the 31,745 claims made by Sawan & Sawan, DMD during the audit period—to determine whether they were billed appropriately. To make this determination, we reviewed members' dental records for the sampled claims, including presenting problems, services planned and provided, the actual periapical radiographs (which we inspected visually), and dental and billing histories. For this statistical sample, we projected<sup>5</sup> the error to the population in order to estimate the potential overpayment.

In a previous audit (No. 2015-8020-14O), OSA assessed the reliability of the MassHealth data in the Medicaid Management Information System, which is maintained by the Executive Office of Health and Human Services. As part of this assessment, OSA reviewed existing information, tested selected system controls, and interviewed knowledgeable agency officials about the data. Additionally, we performed validity and integrity tests on all claim data, including (1) testing for missing data; (2) scanning for duplicate records; (3) testing for values outside a designated range; (4) looking for dates outside specific time

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4. We determined the sample size using a confidence level of 90% and a tolerable error rate of 10.61%.

5. Our projection yields a range of potential overpayments. The lower limit—the most conservative amount—is recommended for repayment to the Commonwealth.

periods; and (5) tracing a sample of claims queried to source documents. Based on the analysis conducted, we determined that the data obtained were sufficiently reliable for the purposes of this report.

Based on the evidence gathered to form a conclusion on our objective, we believe that all audit work, in particular the work referred to above, taken as a whole is relevant, valid, reliable, and sufficient and that it supports the finding and conclusions reached in this report.

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## DETAILED AUDIT FINDINGS WITH AUDITEE'S RESPONSE

### 1. Sawan & Sawan, DMD improperly billed for dental periapical radiographs totaling approximately \$79,190.

Sawan & Sawan, DMD submitted claims, and was paid approximately \$79,190, for unallowable dental periapical radiographs. Specifically, it billed for dental periapical radiographs as part of routine dental examinations. Also, in some cases the dental records were incomplete, so we could not determine the reasons periapical radiographs were taken.

We tested a statistically random sample of 60 out of 31,745 claims made by Sawan & Sawan, DMD for dental periapical radiographs during the audit period. Because the sample was statistical, we were able to project the potential error to the population. Of these 60 claims, 15 were unallowable. These 15 claims were for dental periapical radiographs performed as part of routine dental exams and were not part of a triennial full-mouth series of radiographs.<sup>6</sup> The associated dental records did not indicate dental pain; anticipated extractions; or any suspected infection, periapical change, or anomaly.

We projected our results to the population of claims for dental periapical radiographs using a confidence level of 90% and a tolerable error rate of 10.61%. The result was a projected overpayment of \$79,190<sup>7</sup> during the audit period.

### Authoritative Guidance

MassHealth has issued regulations under Section 420.423(B)(3) of Title 130 of the Code of Massachusetts Regulations (CMR) that state the specific conditions under which it will pay for periapical radiographs. It pays for these radiographs (1) as part of a triennial full-mouth series of radiographs that also includes bitewing<sup>8</sup> radiographs or (2) under the following circumstances:

*Periapical films may be taken for specific areas where extraction is anticipated when infection, periapical change, or an anomaly is suspected, or when otherwise directed by the MassHealth agency.*

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6. MassHealth allows members to receive a full-mouth series of radiographs, including periapical, bitewing, and panoramic radiographs, once every three years.
  7. Based on our statistical sampling approach, we are 90% confident that the overpayment for the audit period ranges from \$79,190 to \$176,359.
  8. Bitewing radiographs show the crowns of upper and lower teeth in a particular area of the mouth and are used to identify cavities.

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In addition, 130 CMR 420.414(B) requires dental-service providers to maintain sufficient documentation in members' dental files to fully support dental claims:

*Payment by the MassHealth agency for dental services listed in 130 CMR 420.000 includes payment for preparation of the member's dental record. Services for which payment is claimed must be substantiated by clear evidence of the nature, extent, and necessity of care provided to the member. For all claims under review, the member's medical and dental records determine the appropriateness of services provided to members.*

## Reasons for Improper Billing

Sawan & Sawan, DMD believed it prescribed periapical radiographs in accordance with state regulations and the coverage limits imposed by the MassHealth Dental Program. However, based on our review of the sampled dental records, Sawan & Sawan, DMD sometimes prescribed periapical radiographs to monitor members' dental conditions and/or did not adequately document the need for these radiographs in the dental records.

## Recommendations

1. Sawan & Sawan, DMD should collaborate with MassHealth to repay the approximately \$79,190 in improper payments it received for periapical radiographs.
2. Sawan & Sawan, DMD should ensure that in the future, it does not bill MassHealth for periapical radiographs that are unallowable under MassHealth regulations (e.g., those performed as part of routine dental examinations).
3. Sawan & Sawan, DMD should ensure that dental records reflect the need for periapical radiographs for members.

## MassHealth's Response

MassHealth provided the following response to our original draft report, which had identified a total of \$205,020 for 25 unallowable claims for periapical radiographs (7 that had illegible dental records and 18 that were part of routine dental exams). After reviewing the auditee's response and re-reviewing the dental records, the Office of the State Auditor (OSA) reduced this amount to \$79,190 to reflect the most conservative projection.

1. *MassHealth agrees with [OSA's] finding that Sawan & Sawan, DMD improperly billed for dental periapical radiographs totaling approximately \$205,020. MassHealth's Provider Compliance Unit will seek to recover the overpayment from Sawan & Sawan, DMD once the final report has been issued.*

2. *MassHealth agrees with [OSA's] finding that Sawan & Sawan, DMD should develop internal controls to prevent improper billing for periapical radiographs in the future. MassHealth will work with its Dental third party administrator, DentaQuest, and Sawan & Sawan, DMD [and] their employees to provide education on MassHealth policies and recordkeeping requirements. In order to ensure Sawan & Sawan, DMD adheres to MassHealth rules and implements proper billing procedures going forward, MassHealth will monitor their claims utilizing data analytics to detect possible overutilization of radiographs. Based on the monitoring results, MassHealth may also request additional records or conduct unannounced on-site audits.*

## **Auditee's Response**

*With respect to the 18 claims the Auditor alleges were not part of triennial full-mouth radiographs and, in the alternative, did not have documentation that extraction, infection, periapical change, or other anomaly was suspected, we agree that 3 of these claims did not meet the required criteria and thus the Practice plans to refund them to MassHealth. However, for the remaining 15 of the 18 claims cited . . . documentation in the record clearly supports that a periapical radiograph was taken either because extraction, infection, periapical change or an anomaly was suspected, or as part of a triennial full-mouth radiograph series. In all of these cases the periapical radiograph was performed in accordance with the ADA/FDA Clinical Guidelines and the documentation in the record provides clear evidence of the nature, extent, and necessity of care provided to the patient. . . .*

*We also challenge the basis for the Auditor's selection of the Practice. The draft report asserts that the Auditor "selected Sawan & Sawan, DMD for audit because we determined that of all the radiographs it took during the audit period, periapical radiographs represented an average of 69.5%, whereas all other dental providers' periapical radiographs averaged 51.5% of their total radiograph claims." The Auditor fails to take into account that just because the percentage of periapical radiographs was higher does not necessarily mean the Practice's total number of radiographs performed was higher. Our Practice utilizes digital radiographs to reduce radiation and waste. In support of this tenet, the Practice generally takes less bitewing and panoramic X-rays than most dental practices. Thus, the total number of radiographs from which the 69.5% was derived is based on the fact that the Practice's total number of radiographs (which includes bitewing, panoramic and periapical radiographs) is lower than a similarly situated practice. For example, if Dental Practice A took a total of 1,000 radiographs in a given year—500 of which were bitewing and panoramic radiographs and 500 of which were periapical radiographs while our Practice took a total of 750 radiographs in the same year—250 of which were bitewing and panoramic radiographs and 500 of which were periapical, Dental Practice A would have a lower average for periapical radiographs (50%) than our Practice (67%) even though in total our Practice had a lower utilization of radiographs.*

*We also assert that the use of statistical sampling and extrapolation in this case results in an unreliable conclusion. The Auditor only analyzed 60 claims out of the 31,745 claims the Practice submitted during the audit period. In addition to comprising less than 0.19% of the claims submitted by the Practice during the audit period, this small sample size is significantly lower than the sample size required by the Office of the Inspector General's Self-Disclosure Protocol ("SDP"). The SDP requires providers to use a sample size of "at least" 100 claims when performing a self-*

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*evaluation of potentially erroneous billings. While the SDP does not govern the OSA's sampling methods, it reasonably suggests that the minimum sample size needed to produce reliable and valid results is 100 claims. Further, some courts have held that statistical sampling is not an appropriate method of proving liability and damages in instances where all evidence to analyze the discrete claims is available. In its amici curiae brief on this issue, the American Hospital Association noted that to allow statistical sampling and extrapolation to serve as the measure of liability and damages for health care providers provides a "shortcut [to] actually reviewing—or presenting any evidence about—the facts of a patient's medical history, diagnosis, age, prior or co-existing medical conditions, or any other factors that the physician relied on in making a clinical judgment . . . ." . . . [C]overage of periapical radiographs is an incredibly facts and circumstances-dependent inquiry and, as such, is not one for which statistical sampling and extrapolation should be used. The OSA's failure to review the Practice's available periapical radiograph claims on a claim-by-claim basis almost certainly guarantees an erroneous result.*

*In closing, we respectfully disagree with the findings in the OSA's preliminary audit report for the reasons discussed above. The Practice's delivery of periapical radiographs met MassHealth coverage criteria and the Practice retained sufficient, legible documentation to support the services billed.*

## **Auditor's Reply**

In the full text of its response, Sawan & Sawan, DMD provided explanations for taking the 25 periapical radiographs originally cited as unallowable. In 4 instances (the 3 referred to in the excerpt above and 1 additional case with illegible dental records), Sawan & Sawan, DMD agreed with OSA's conclusion that the related claims were unallowable. In 10 instances, OSA changed its initial conclusion and concurred that the claims were appropriate, and these changes are reflected in this report. After reviewing Sawan & Sawan, DMD's explanations and comparing them to the applicable dental records, OSA still concludes that the remaining 11 claims were unallowable under MassHealth regulations; they were not supported by appropriate documentation in the members' dental records, such as patient complaints and/or references to related extractions, infections, periapical change, anomalies, etc., as required by state regulation.

Sawan & Sawan, DMD challenged OSA's basis for selecting it for audit. However, in determining whom to audit, OSA used data analytics to identify providers who billed the most periapical radiographs as a percentage of their total radiographs. This risk-based method of selection allowed us to objectively assess all dental providers' use of periapical radiographs regardless of their size. As previously noted, we selected Sawan & Sawan, DMD for audit because its periapical radiographs represented an average of 69.5% of its total radiograph claims, whereas all other dental providers' periapical radiographs averaged 51.5% of their total radiograph claims. Our selection process was appropriate and effective in identifying providers for

whom there was a high risk of improper billings for these radiographs, as was the case with Sawan & Sawan, DMD.

Sawan & Sawan, DMD states that the sample size used for our audit work was too small to produce reliable and valid results. This is not correct. OSA used a valid statistical sampling method to determine the appropriate sample size of claims to audit. As previously noted, our method used a confidence level of 90% and a tolerable error rate of 10.61%, which resulted in a recommended sample size of 60 claims. Our sampling method allowed us to project our results to all payments received by Sawan & Sawan, DMD for periapical radiographs during the audit period. Our projection yielded a range of potential overpayments from \$79,190 to \$176,359. We recommended that Sawan & Sawan, DMD repay the \$79,190, the most conservative amount, to the Commonwealth. Ultimately, MassHealth will make the final determination of what overpayments, if any, should be recovered. During this process, Sawan & Sawan, DMD will be afforded an opportunity to defend its billing practices and contest any questionable payments identified by OSA.