


# Dental instrument loan program: 12 years of experience at a federal public university in Northeast Brazil

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## Dental instrument loan program: 12 years of experience at a federal public university in Northeast Brazil

**Abstract** This article reports the twelve-year experience of the dental instrument loan program known as Dental Kit at the Federal University of Piauí (UFPI). This benefit is part of the institutional Student Assistance policy to contribute to the retention of dentistry students in the course. The project is subsidized by the National Student Assistance Plan (PNAES) and regulated by Decree No. 7234 (2010). The loan of the kit is mediated by the Dean of Student and Community Affairs (PRAEC) and began in 2011 with the purchase of dental instruments by the UFPI to be given to students, quota holders, or those in situations of socioeconomic vulnerability under a regime loan until the end of the course. Currently, beneficiaries are selected at the beginning of each academic period based on a specific notice and a socioeconomic assessment by the PRAEC team. In addition to the kit, the beneficiaries receive psychosocial and pedagogical support throughout the course. Since 2011, the UFPI has loaned 167 dental kits consisting of 35-40 items, including high- and low-speed pens, and currently has 61 kits for use by students. Although it does not include all the instruments and materials required during the course, the kit is a consolidated benefit within the scope of the UFPI and has helped students with socioeconomic vulnerability to remain at the university, helping to reduce historical inequalities in dentistry.

**Descriptors:** Education, Dental. Social Inclusion. Teaching Materials. Public Policy.

## Programa de préstamo de instrumentos dentales: 12 años de experiencia en una universidad pública del Nordeste de Brasil

### Resumen

Este artículo relata la experiencia de 12 años del programa de préstamo de instrumentos odontológicos denominado Kit Dental de la Universidade Federal do Piauí (UFPI). Este beneficio existe dentro de la política institucional de Atención al Estudiante para contribuir a la permanencia de los estudiantes de Odontología en la carrera, siendo subsidiado por el Plan Nacional de Asistencia Estudiantil (PNAES), reglamentado por el Decreto N° 7.234/2010. El préstamo del kit es mediado por la Prorectoría de Asuntos Estudiantiles y Comunitarios (PRAEC) y comenzó en 2011 con la compra, por parte de la UFPI, de instrumentos odontológicos que serían entregados a estudiantes, cupistas o en situación de vulnerabilidad socioeconómica, en régimen de préstamo hasta el final del curso. Actualmente, la selección de beneficiarios se realiza al inicio de cada ciclo escolar, a través de una Convocatoria específica y mediante evaluación socioeconómica por parte del equipo del PRAEC. Además del kit, los beneficiarios reciben apoyo psicosocial y pedagógico durante todo el curso. Desde 2011, la UFPI entregó 167 kits dentales compuestos por entre 35 y 40 artículos, entre bolígrafos de alta y baja rotación, y actualmente tiene 61 kits en uso por los estudiantes. Aunque no incluye todos los instrumentos y materiales requeridos durante el curso, el Kit Dental es un beneficio consolidado en el ámbito de la UFPI y ha ayudado a estudiantes de bajos recursos a permanecer en la universidad, reduciendo significativamente las desigualdades históricas de la Odontología.

**Descriptorios:** Educación en Odontología. Inclusión Social. Materiales de Enseñanza. Política Pública.

## Programa de empréstimo de instrumentais odontológicos: 12 anos de experiência em universidade pública no Nordeste do Brasil

**Resumo** O presente artigo relata a experiência de 12 anos do programa de empréstimo de instrumentais odontológicos denominado *Kit* Odontológico na Universidade Federal

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do Piauí (UFPI). Este benefício existe dentro da política institucional de Assistência Estudantil de modo a contribuir para permanência dos estudantes de Odontologia no curso, sendo subsidiada pelo Plano Nacional de Assistência Estudantil (PNAES), regulamentado pelo decreto Nº 7.234/2010. O empréstimo do *kit* é mediado pela Pró-Reitoria de Assuntos Estudantis e Comunitários (PRAEC) e foi iniciado em 2011 com a compra, pela UFPI, de instrumentais odontológicos que seriam cedidos aos estudantes, cotistas ou em situação de vulnerabilidade socioeconômica, em um regime de comodato até o final do curso. Atualmente a seleção dos beneficiários é realizada no início de cada período letivo, por meio de Edital específico e mediante avaliação socioeconômica pela equipe da PRAEC. Além do *kit*, os beneficiários recebem suporte psicossocial e pedagógico durante todo o curso. Desde 2011, a UFPI realizou o empréstimo de 167 *kits* odontológicos compostos por 35 a 40 itens, incluindo as canetas de alta e baixa rotação, e atualmente possui 61 *kits* em uso pelos estudantes. Embora não contemple todos os instrumentos e materiais exigidos durante o curso, o *kit* é um benefício consolidado no âmbito da UFPI e tem auxiliado na permanência dos estudantes em vulnerabilidade socioeconômica na Universidade, ajudando a reduzir as desigualdades históricas da Odontologia.

**Descritores:** Educação em Odontologia. Inclusão Social. Materiais de Ensino. Política Pública.

## INTRODUCTION

The current situation in Brazilian Federal Universities underscores policy-driven changes aimed at increasing the number of available places and altering the admission model. These changes have led to the emergence of a new student profile, particularly characterized by young individuals from socioeconomically vulnerable backgrounds<sup>1,2</sup>. Student assistance is guaranteed by the National Student Assistance Program (PNAES), established by Decree No. 7234 in July 2010<sup>3</sup>, and is essential for ensuring the retention of these students in Higher Education Institutions (HEIs).

The undergraduate dentistry course has historically been considered exclusionary owing to its full-time schedule which precludes students from engaging in employment, as well as the requirement for students to purchase costly materials for clinical practice<sup>4</sup>. Furthermore, a significant percentage of students at Federal Higher Education Institutions (FHEIs) come from families with a per capita monthly income of up to one and a half times the minimum wage<sup>5</sup>. Faced with this reality, educational institutions are seeking to implement student retention policies aimed at these students.

Instrument loans have been used in several FHEIs<sup>4-7</sup> as a policy specifically targeting students with socioeconomic vulnerability or on an expanded basis for all dentistry students regardless of socioeconomic criteria<sup>4</sup>. In this context, the Federal University of Piauí (UFPI) has been operating a dental instrument loan program called the Dental Kit since 2011. This benefit is part of the institutional Student Assistance policy, which is coordinated by the Dean of Student and Community Affairs (PRAEC) at the UFPI to contribute to the retention of dentistry students in the course; in addition, the initiative is subsidized by the PNAES<sup>3,8</sup>.

The loan of the Dental Kit by UFPI through PRAEC was an initiative of the administration in office at the time, prompted by professors of the dentistry course in response to the difficulties that students faced in acquiring dental instruments and consumables during the course. The onerous costs associated with some practical subjects, which have lists of materials that can total up to R\$5,000.00 per student, contribute to inequities in student retention, particularly for those facing socioeconomic vulnerability. In this context, the present work aims to describe the experience of implementing and monitoring this dental instrument loan benefit and reflect on its challenges and potential in public higher education.

## EXPERIENCE REPORT

The UFPI is the main higher education institution in the state of Piauí, located in the northwest of the northeast region of Brazil<sup>9</sup>. The UFPI dentistry course is located in the city of Teresina, capital of the state of Piauí, and was the third

higher education course in the State, starting as the Faculty of Dentistry in 1960 until its incorporation into the UFPI in 1971 <sup>9</sup>.

Currently, 296 students are actively enrolled in the academic period of 2023.1. The program has a mandatory course load of 4,350 hours, and the expected period for completion of the curriculum is nine semesters. The curriculum includes 65 mandatory subjects, including 14 laboratory-based classes and 15 of a clinical nature that necessitates the acquisition of dental instruments and materials by students <sup>10</sup>. Regarding the availability of supplies for students, the University only provides some basic consumables for laboratory and clinical classes, including plaster, resins, and anesthetics. However, this supply is not constant and often experiences management problems that further increase the cost of practice for students.

An important aspect of the UFPI is its commitment to student assistance (SA), particularly for those in situations of socioeconomic vulnerability. The SA is a fundamental tool for reducing inequities and enabling students to remain at the institution, with the PRAEC being the pro-rectory responsible for coordinating benefits and aid aimed at the student community. In this manner, the university offers a series of programs and services that aim to meet the needs of students and contribute to their academic and personal development. Among the SA programs offered by the UFPI is the Dental Kit <sup>8</sup>.

The target audience for the Dental Kit benefit includes students in a situation of socioeconomic vulnerability enrolled in the fourth period of the undergraduate dentistry course at the UFPI. In this period, students begin the practical activities of the course with the subjects of Occlusion, Dentistry I, and Surgery I. The need to establish this benefit emerged from the complaints of students regarding the high costs of purchasing instruments, which made it difficult and often prevented the continuity of dentistry training at the UFPI. Therefore, the course professors prepared a list of permanent instruments with the students and presented the proposal to the PRAEC. Based on the demand, the PRAEC was responsible for acquiring the items through bidding, selecting the students who would benefit, and managing the Dental Kit.

The Dental Kit is a non-pecuniary benefit that consists of lending a set of dental materials described in the notice to dentistry students in situations of socioeconomic vulnerability to promote pedagogical support during the regular period of the course <sup>8</sup>. Borrowed instruments must be returned at the end of the course so that they can be passed on to new beneficiaries. Candidates for the benefit must be students who are actively enrolled at the UFPI and meet the criteria established in notice <sup>8</sup>.

From 2011 to 2015, the kit was aimed at students who enrolled in the course through places reserved for affirmative action policies (quotas). During this period, the course coordinators informed the PRAEC of the number of quota students enrolled in the fourth period, and all of them benefited. From 2016 to the present day, benefits have been granted through a selection process governed by a specific notice.

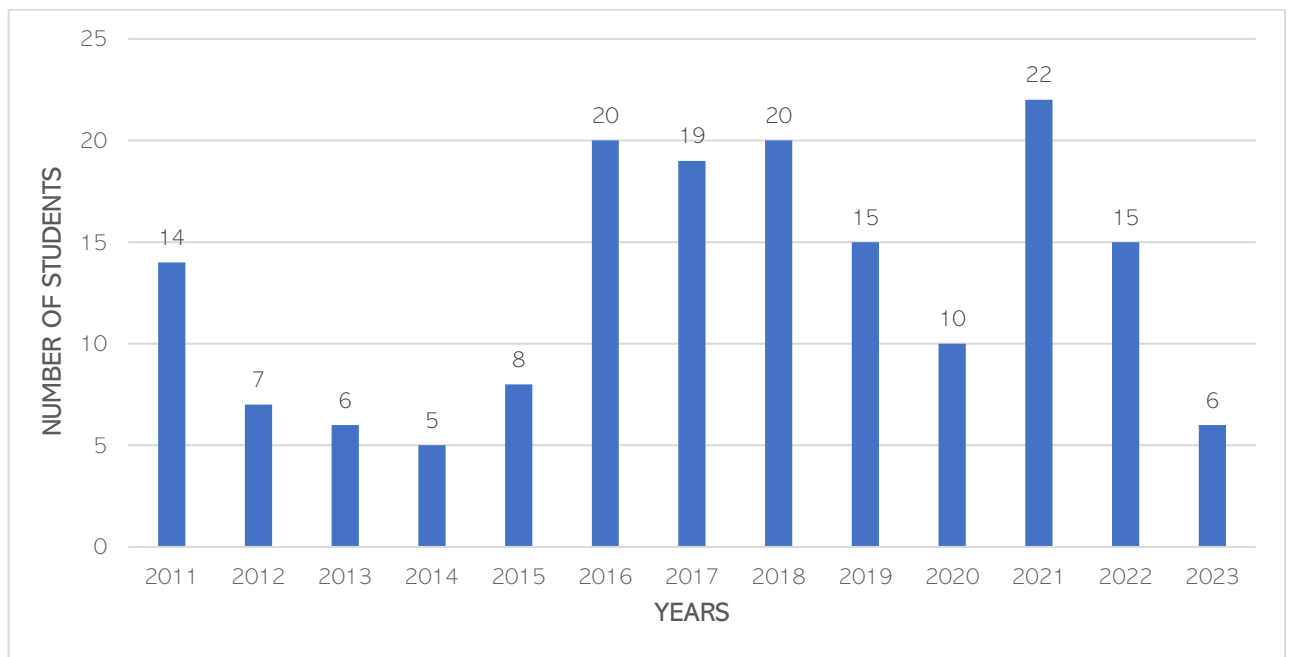
These notices are released at the beginning of each academic term. Students apply for the benefit through their own website (Integrated System of the Student Assistance Center - SINAEC) and are selected based on socioeconomic analysis by the PRAEC social service team. The selection process follows the socioeconomic criteria of the PNAES, which include students from families with a per capita income of up to one and a half times the minimum wage.

Based on the established criteria, the selected students receive the kits and sign a commitment to be responsible for the storage and maintenance of the items until their return, which must occur within 15 days after the conclusion of the clinical subjects in the last period of the course. In case of the loss or theft of items, students must inform the PRAEC and follow the administrative procedures for reimbursement or allowance for the lost item in accordance with the rules of the notice.

Monitoring of this benefit is conducted jointly by the Pedagogical Service (SEPE) and Dental Service (SEOD) of the PRAEC. In addition, eligible students receive psychosocial and pedagogical support throughout the course. The student remains in possession of the materials for an average of three years and must be enrolled in at least four subjects or

300 hours/classes per academic semester to maintain the benefit. The academic performance of the student is monitored by the SEPE from the moment the student enrolls in one or more benefits linked to the PRAEC. The pedagogical monitoring criteria are described in the Council of Teaching, Research, and Extension (CEPEX)/UFPI Resolution No. 319 dated August 8, 2022 <sup>8</sup>.

Since 2011, the UFPI has benefited 167 dentistry students through the PRAEC (Fig. 1) and currently has 61 kits in the possession of students. On average, seven students are awarded per semester, and all students who have signed up for the notices have been awarded to date. From 2016 onwards, the number of Dental Kit loans witnessed an exponential increase owing to a change in the way of accessing the benefits, which began to be governed by notice. In view of the COVID-19 pandemic, only one selection notice was released in 2020, which resulted in a reduction in the number of kits donated. The notices subsequently resumed in 2021 as students used the kit materials to conduct laboratory practices at home while taking remote classes. In 2023, selection notices were made available in May and September, corresponding to the 2023 academic periods at the UFPI.



**Figure 1.** Distribution of the number of dentistry students benefiting from the aid of the PRAEC/UFPI dental kit between the years 2011 and 2023.

The implementation of the Higher Education Quota Law (Law 12,711 <sup>11</sup>) in 2012 mandated that FHEIs allocate 50% of their places to students who attended public high schools, with the distribution of these places also considering black, brown, and indigenous students, as well as family income. Currently, the UFPI dentistry course offers 36 places for admission every semester through the Unified Selection System (SISU) of the federal government. Of these, 18 vacancies are allocated for open competition and 18 for affirmative action, in accordance with the regulations set by the Quota Law. From this perspective, the benefit acts as an important resource of pedagogical support and equal access to the minimum materials necessary for the laboratory and clinical practices of the course, allowing these students to remain until completion.

However, significant gaps remain to be addressed, such as the high dropout rates among dentistry students during the initial period of the course. This phenomenon can be attributed to uncertainty in choosing the area of study or to financial challenges associated with the substantial costs of the course. Classes that complete the course typically consist of approximately 20-25 students. However, to date, no official data is available that clarifies the specific dropout rates or the reasons for dropping out of the dentistry course at the UFPI.

This kit consists of 35-40 dental items, including high- and low-rotation pens, as described in the notice (Fig. 2). The instruments offered do not include all the equipment necessary for training in dentistry. In addition, the list of items has not been updated since its implementation in 2011, and the commercial brands and specifications required by some professors have not been included.



**Figure 2.** Dental kit offered by PRAEC/UFPI.

Morita et al. (2016)<sup>12</sup> suggested a list of 157 essential dental instruments for graduating in dentistry, which is much higher than the number of items currently offered by the Dental Kit. The initial list of items contained in the kit was suggested by professors of the HEIs dentistry course. However, since then, no formal requests from the course or student body have been made to add new instruments to the kit.

This situation has led some students to face embarrassment as they are unable to acquire all the materials necessary for the subjects, resulting in feelings of exclusion owing to the difficulty in following the specifications or recommendations of professors when purchasing materials. The PRAEC understands this demand and has consequently sought mechanisms to reduce the new obstacles observed over time.

Currently, this benefit is managed by two dental surgeons who graduated from the HEIs and have made efforts to mediate with the course coordinators and higher administration regarding requests for additional items to complement the kit. However, institutional and bureaucratic limitations arise because instrument purchases are conducted through public tenders, which restricts the acquisition of highly specialized instruments listed in the course material requirements.

As noted by Guimarães et al. (2023)<sup>13</sup>, challenges remain with quota systems for entry and retention in the dentistry course. Characteristics of elitism persist, including a predominantly white profile and the need for substantial financial investment in dental instruments – requirements that are incompatible with the reality faced by a significant portion of the Brazilian population. In addition to facilitating the inclusion of quota students in higher education, measures to support their retention are essential. Structural measures, such as providing the Dental Kit, are important. Equally important are the efforts of teaching and technical staff at FHEIs to address subjective factors. This includes avoiding discriminatory comments about the quality of instruments or challenges related to the socioeconomic vulnerabilities of students, such as lack of personal transportation. Furthermore, fostering a sense of belonging in these students – an aspect often lacking in their academic journey, particularly in the dentistry course – is also vital.



All instruments that comprise the Dental Kit were acquired by the PRAEC through a bidding process, which requires both time and budget availability. In preparation, the minimum specifications required for acquiring items through electronic auctions are always established with the support of the SEOD. However, both price and quality differ widely among commercial brands, which the team cannot control. To address or mitigate these difficulties, stricter controls have been implemented for item specifications.

Students have requested the expansion of the list of items offered by the kit to include additional materials specified by course subject lists. To address this new issue, the acquisition of these items has been organized and demanded through a bidding process. Furthermore, students have requested that consumables be included as part of this benefit. However, these materials are for continuous use and do not fall within the scope of the benefit aimed at maintaining permanent items for continuous student loans. Furthermore, the acquisition of dental consumables and personal protective equipment is the responsibility of the dentistry course, and the PRAEC is not able to pay for such an acquisition.

Although complete equality for students with socioeconomic vulnerability enrolled in the dentistry course at the UFPI remains a long-term goal, the Dental Kit has proven to be a significant tool for promoting equity, supporting the training of these students, and consequently reducing course attrition. The PRAEC, through its work in the SEOD, acknowledges areas for improvement in the execution and monitoring of this benefit, including expanding the list of instruments and issuing a formal statement requiring students to return the entire kit. The institutional issuance of this term is essential to prevent students from obtaining a degree without completing this procedure. Currently, the main difficulty in monitoring this benefit is student refunds.

After completing clinical activities, the beneficiary must go to the PRAEC to return the kit and sign the delivery form. However, some students take a long time to return the kit, and when they do, it is often incomplete. This complicates the maintenance of the benefit, as the delivery of a Dental Kit is intended for a new student who can benefit from it. However, institutional mechanisms have been explored to link graduation and the issuance of the diploma to a 'nothing mentioned' document provided by the PRAEC to its beneficiaries, similar to those already established at the UFPI for library book loans.

## FINAL CONSIDERATIONS

The Dental Kit is a consolidated student assistance benefit within the scope of the UFPI and has helped students with socioeconomic vulnerability remain in the dentistry course. However, the kit does not include all the instruments and materials required by the course; in addition, reports of discrimination against students have surfaced because the instruments are not from the brands recommended or endorsed by the professors.

Institutional mechanisms are being implemented to address student-reported challenges and enhance the quality of the offered benefits. The relevant procedures include direct dialogue with professors to adjust subject lists, adapt requests, and specify instruments; acquisition through public auctions to ensure compliance with established requirements; and maintenance or replacement of equipment in a precarious state of repair.

Although progress has been made, a considerable effort is still needed to ensure that students remain in dentistry course. Therefore, benefits such as the use of a Dental Kit are essential for promoting social inclusion.

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