

Clinical Policy: Measurement of Serum 1,25-Dihydroxyvitamin D

Reference Number: WNC.CP.141

Last Review Date: 11/2023

[Coding Implications](#)

[Revision Log](#)

See [Important Reminder](#) at the end of this policy for important regulatory and legal information.

Note: When state Medicaid coverage provisions conflict with the coverage provisions in this clinical policy, state Medicaid coverage provisions take precedence. Please refer to the state Medicaid manual for any coverage provisions pertaining to this clinical policy.

Description

Vitamin D is metabolized in the liver to 25-hydroxyvitamin D [25(OH)D], (also known as calcidiol), and then in the kidney to 1,25-dihydroxyvitamin D [1,25(OH)2D], also known as calcitriol. 25(OH)D is the major circulating form of vitamin D while 1,25(OH)2D is the active form of vitamin D. In individuals at risk for vitamin D deficiency, the best method for determining a person's vitamin D status is to measure a 25(OH)D concentration. Measurement of 1,25(OH)2D is not useful for monitoring the vitamin D status, as it does not reflect vitamin D reserves.¹ This policy addresses when measurement of 1,25(OH)2D is appropriate and medically necessary.

Policy/Criteria

- I. It is the policy of WellCare of North Carolina[®] that measurement of serum 1,25(OH)2D (CPT 82652) is **medically necessary** for monitoring certain conditions, such as acquired and inherited disorders of vitamin D and phosphate metabolism, including any of the following indications:
 - A. Chronic kidney disease;
 - B. Hereditary phosphate-losing disorders;
 - C. Oncogenic osteomalacia;
 - D. Pseudovitamin D-deficiency rickets;
 - E. Vitamin D-resistant rickets;
 - F. Chronic granuloma-forming disorders (e.g., sarcoidosis and some lymphomas).
 - G. Hyperparathyroidism.

- II. It is the policy of WellCare of North Carolina[®] that measurement of serum 1,25(OH)2D for routine screening of average risk, asymptomatic individuals is **not medically necessary**.

Background

Vitamin D or calciferol, is a fat-soluble vitamin that plays an important role in calcium homeostasis and bone health. Vitamin D comes in two forms, D₂ and D₃. It is unique among hormones because the major source of vitamin D is exposure to natural sunlight. Very few foods

CLINICAL POLICY WNC.CP.141 MEASUREMENT OF SERUM 1,25-DIHYDROXYVITAMIN D

naturally contain, or are fortified with, vitamin D, thus, the major cause of vitamin D deficiency is inadequate exposure to sunlight.

The optimal serum 25(OH)D concentration for skeletal health is controversial, however, experts agree that levels lower than 20 ng/mL are suboptimal for skeletal health.⁵ Vitamin D deficiency is defined by the Endocrine Society as a 25(OH)D below 20 ng/ml (50 nmol/liter).¹ Vitamin D deficiency results in abnormalities in calcium, phosphorus, and bone metabolism. It causes a decrease in the efficiency of intestinal calcium and phosphorus absorption of dietary calcium and phosphorus, resulting in an increase in parathyroid hormone (PTH) levels. Secondary hyperparathyroidism maintains serum calcium in the normal range at the expense of mobilizing calcium from the skeleton and increasing phosphorus wasting in the kidneys.

Screening for Vitamin D deficiency is recommended for individuals at risk, such as those with osteomalacia, osteoporosis, chronic kidney disease, hepatic failure, malabsorption syndromes, hyperparathyroidism, African American and Hispanic children and adults, pregnant or lactating women, older adults with history of falls or non-traumatic fractures, obese children or adults (BMI greater than 30 kg/m²), granuloma-forming disorders, and some lymphomas.¹ Circulating 25(OH)D is the best indicator to monitor for vitamin D status as it is the main circulating form of vitamin D, and has a half-life of two to three weeks. In contrast, 1,25(OH)2D, has a much shorter half-life of about four hours, circulates in much lower concentrations than 25(OH)D, and is susceptible to fluctuations induced by PTH in response to subtle changes in calcium levels. Serum 1,25(OH)2D is frequently either normal or even elevated in those with vitamin D deficiency, due to secondary hyperparathyroidism.¹

The Endocrine Society

The Endocrine Society recommends using the serum circulating 25-hydroxyvitamin D [25(OH)D] level, measured by a reliable assay, to evaluate vitamin D status in patients who are at risk for vitamin D deficiency and in whom a prompt response to optimization of vitamin D status could be expected. They note further, 1,25(OH)2D measurement does not reflect vitamin D status as levels are tightly regulated by serum levels of PTH, calcium, and phosphate. Serum 1,25(OH)2D does not reflect vitamin D reserves, and measurement of 1,25(OH)2D is not useful for monitoring the vitamin D status of patients. Serum 1,25(OH)2D is frequently either normal or even elevated in those with vitamin D deficiency, due to secondary hyperparathyroidism. Measurement of 1,25(OH)2D is useful in acquired and inherited disorders in the metabolism of 25(OH)D and phosphate, including chronic kidney disease, hereditary phosphate-losing disorders, oncogenic osteomalacia, pseudovitamin D-deficiency rickets, vitamin D-resistant rickets, as well as chronic granuloma-forming disorders such as sarcoidosis and some lymphomas.¹

United States Preventive Services Task Force (USPSTF)

The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening for vitamin D deficiency in asymptomatic community-dwelling, nonpregnant adults.²

American Congress of Obstetricians and Gynecologists (ACOG)

CLINICAL POLICY WNC.CP.141

MEASUREMENT OF SERUM 1,25-DIHYDROXYVITAMIN D

At this time, there is insufficient evidence to support a recommendation for screening all pregnant women for vitamin D deficiency. For pregnant women thought to be at increased risk of vitamin D deficiency, maternal serum 25-hydroxyvitamin D levels can be considered and should be interpreted in the context of the individual clinical circumstance.³

Coding Implications

This clinical policy references Current Procedural Terminology (CPT®). CPT® is a registered trademark of the American Medical Association. All CPT codes and descriptions are copyrighted 2023, American Medical Association. All rights reserved. CPT codes and CPT descriptions are from the current manuals and those included herein are not intended to be all-inclusive and are included for informational purposes only. Codes referenced in this clinical policy are for informational purposes only. Inclusion or exclusion of any codes does not guarantee coverage. Providers should reference the most up-to-date sources of professional coding guidance prior to the submission of claims for reimbursement of covered services.

CPT®* Codes	Description
82652	Vitamin D; 1, 25 dihydroxy, includes fraction(s), if performed

HCPCS ®* Codes	Description
No applicable codes.	

ICD-10-CM Diagnosis Codes that Support Coverage Criteria

+ Indicates a code(s) requiring an additional character

ICD-10-CM Code	Description
A15. Through A19.9	Tuberculosis
C81.00 through C81.99	Hodgkin lymphoma
C82.00 through C82.99	Follicular lymphoma
C83.00 through C83.99	Non-follicular lymphoma
C84.00 through C84.99	Mature T/NK-cell lymphomas
C88.0 through C88.9	Malignant immunoproliferative diseases and certain other B-cell lymphomas
D86.0 through D86.9	Sarcoidosis
E20.0	Idiopathic hypoparathyroidism
E20.8	Other hypoparathyroidism
E21.0 through E21.5	Hyperparathyroidism and other disorders of parathyroid gland
E55.0	Rickets, active
E83.30 through E83.39	Disorder of phosphorus metabolism and phosphatases
E83.50 through E83.59	Disorders of calcium metabolism
E89.2	Postprocedural hypoparathyroidism
M83.8	Other adult osteomalacia
M83.9	Adult osteomalacia, unspecified
N18.1 through N18.9	Chronic kidney disease (CKD)

CLINICAL POLICY WNC.CP.141
MEASUREMENT OF SERUM 1,25-DIHYDROXYVITAMIN D



ICD-10-CM Code	Description
N25.0	Renal osteodystrophy
N25.81	Secondary hyperparathyroidism of renal origin
P37.0	Congenital tuberculosis

Reviews, Revisions, and Approvals	Reviewed Date	Approval Date
Original approval date	03/21	06/21
Reviewed CPT and ICD-10-CM codes.	08/21	11/21
Annual Review. Expanded ICD-10 code range for tuberculosis from A15.0-A15.5 to A15.0-A19.9. Added N25.81 as a code supporting coverage criteria. References reviewed & updated.	08/22	08/22
NCHC verbiage removed from NC Guidance Verbiage.	04/23	04/23
Annual review. References reviewed and updated.	08/23	08/23
Annual review. Added criteria I.G. Hyperparathyroidism. Added ICD-10 codes E89.2, M83.8, and M83.9. References reviewed and updated.	11/23	11/23

References

- Holick MF, Binkley NC, Bischoff-Ferrari HA, et al. Evaluation, treatment, and prevention of vitamin D deficiency: an Endocrine Society clinical practice guideline [published correction appears in *J Clin Endocrinol Metab.* 2011 Dec;96(12):3908]. *J Clin Endocrinol Metab.* 2011;96(7):1911 to 1930. doi:10.1210/jc.2011-0385
- US Preventive Services Task Force. Krist AH, Davidson KW, et al. Screening for Vitamin D Deficiency in Adults: US Preventive Services Task Force Recommendation Statement. *JAMA.* 2021;325(14):1436 to 1442. doi:10.1001/jama.2021.3069
- American College of Obstetricians and Gynecologists. Vitamin D: Screening and Supplementation During Pregnancy. No.495. Published July 2011 (reaffirmed 2021) Accessed August 14, 2023.
- Pazirandeh S, Burns DL. Overview of vitamin D. UpToDate. www.uptodate.com. Published September 23, 2021. Accessed August 14, 2023.
- Dawson-Hughes B. Vitamin D deficiency in adults: Definition, clinical manifestations, and treatment. UpToDate. www.uptodate.com. Published July 11, 2023. Accessed August 14, 2023.
- Misra M. Vitamin D insufficiency and deficiency in children and adolescents. UpToDate. www.uptodate.com. Published April 12, 2022. Accessed August 14, 2023.
- Dawson-Hughes B. Causes of vitamin D deficiency and resistance. UpToDate. www.uptodate.com. Published May 16, 2023. Accessed August 14, 2023.
- Tebben PJ, Singh RJ, Kumar R. Vitamin D-Mediated Hypercalcemia: Mechanisms, Diagnosis, and Treatment. *Endocr Rev.* 2016;37(5):521 to 547. doi:10.1210/er.2016-1070
- Florenzano P, Gafni RI, Jimenez M, Roszko K, Gafni RI, Collins MT. Tumor-induced osteomalacia. *Calcif Tissue Int.* 2021;108(1):128 to 142. doi:10.1007/s00223-020-00691-6
- Ruppe MD. X-Linked Hypophosphatemia. 2012 Feb 9 [Updated 2017 Apr 13]. In: Adam MP, Mirzaa GM, Pagon RA, et al., editors. GeneReviews® [Internet]. Seattle (WA): University of Washington, Seattle; 1993 to 2023.

CLINICAL POLICY WNC.CP.141

MEASUREMENT OF SERUM 1,25-DIHYDROXYVITAMIN D

11. Endocrine Society. Choosing Wisely. Don't routinely measure 1,25-dihydroxyvitamin D unless the patient has hypercalcemia or decreased kidney function. <https://www.aafp.org/pubs/afp/collections/choosing-wisely/140.html>. Published October 16, 2013. Accessed August 22, 2023.
12. García-Pascual L, Barahona MJ, Perea V, Simó R. Serum 1,25-Dihydroxyvitamin D as a Biomarker of the Absence of Hypercalciuria in Postsurgical Hypoparathyroidism. *J Clin Endocrinol Metab*. 2017;102(1):259-266. doi:10.1210/jc.2016-2987

North Carolina Guidance

Eligibility Requirements

- a. An eligible beneficiary shall be enrolled in the NC Medicaid Program (Medicaid is NC Medicaid program, unless context clearly indicates otherwise);
- b. Provider(s) shall verify each Medicaid beneficiary's eligibility each time a service is rendered.
- c. The Medicaid beneficiary may have service restrictions due to their eligibility category that would make them ineligible for this service.

EPSDT Special Provision: Exception to Policy Limitations for a Medicaid Beneficiary under 21 Years of Age

- a. 42 U.S.C. § 1396d(r) [1905(r) of the Social Security Act]
Early and Periodic Screening, Diagnostic, and Treatment (EPSDT) is a federal Medicaid requirement that requires the state Medicaid agency to cover services, products, or procedures for Medicaid beneficiary under 21 years of age if the service is medically necessary health care to correct or ameliorate a defect, physical or mental illness, or a condition [health problem] identified through a screening examination (includes any evaluation by a physician or other licensed practitioner).

This means EPSDT covers most of the medical or remedial care a child needs to improve or maintain his or her health in the best condition possible, compensate for a health problem, prevent it from worsening, or prevent the development of additional health problems.

Medically necessary services will be provided in the most economic mode, as long as the treatment made available is similarly efficacious to the service requested by the beneficiary's physician, therapist, or other licensed practitioner; the determination process does not delay the delivery of the needed service; and the determination does not limit the beneficiary's right to a free choice of providers.

EPSDT does not require the state Medicaid agency to provide any service, product or procedure:

1. that is unsafe, ineffective, or experimental or investigational.
2. that is not medical in nature or not generally recognized as an accepted method of medical practice or treatment.

Service limitations on scope, amount, duration, frequency, location of service, and other specific criteria described in clinical coverage policies may be exceeded or may not apply as

CLINICAL POLICY WNC.CP.141

MEASUREMENT OF SERUM 1,25-DIHYDROXYVITAMIN D

long as the provider's documentation shows that the requested service is medically necessary "to correct or ameliorate a defect, physical or mental illness, or a condition" [health problem]; that is, provider documentation shows how the service, product, or procedure meets all EPSDT criteria, including to correct or improve or maintain the beneficiary's health in the best condition possible, compensate for a health problem, prevent it from worsening, or prevent the development of additional health problems.

EPSDT and Prior Approval Requirements

1. If the service, product, or procedure requires prior approval, the fact that the beneficiary is under 21 years of age does NOT eliminate the requirement for prior approval.
2. **IMPORTANT ADDITIONAL INFORMATION** about EPSDT and prior approval is found in the *NCTracks Provider Claims and Billing Assistance Guide*, and on the EPSDT provider page. The Web addresses are specified below:

NCTracks Provider Claims and Billing Assistance Guide:

<https://www.nctracks.nc.gov/content/public/providers/provider-manuals.html>

EPSDT provider page: <https://medicaid.ncdhhs.gov/>

Provider(s) Eligible to Bill for the Procedure, Product, or Service

To be eligible to bill for the procedure, product, or service related to this policy, the provider(s) shall:

- a. meet Medicaid qualifications for participation;
- b. have a current and signed Department of Health and Human Services (DHHS) Provider Administrative Participation Agreement; and
- c. bill only for procedures, products, and services that are within the scope of their clinical practice, as defined by the appropriate licensing entity.

Compliance

Provider(s) shall comply with the following in effect at the time the service is rendered:

- a. All applicable agreements, federal, state and local laws and regulations including the Health Insurance Portability and Accountability Act (HIPAA) and record retention requirements; and
- b. All NC Medicaid's clinical (medical) coverage policies, guidelines, policies, provider manuals, implementation updates, and bulletins published by the Centers for Medicare and Medicaid Services (CMS), DHHS, DHHS division(s) or fiscal contractor(s).

Claims-Related Information

Provider(s) shall comply with the NC Tracks Provider Claims and Billing Assistance Guide, Medicaid bulletins, fee schedules, NC Medicaid's clinical coverage policies and any other relevant documents for specific coverage and reimbursement for Medicaid:

- a. Claim Type - as applicable to the service provided:
 - Professional (CMS-1500/837P transaction)
 - Institutional (UB-04/837I transaction)

CLINICAL POLICY WNC.CP.141

MEASUREMENT OF SERUM 1,25-DIHYDROXYVITAMIN D

Unless directed otherwise, Institutional Claims must be billed according to the National Uniform Billing Guidelines. All claims must comply with National Coding Guidelines.

- b. International Classification of Diseases and Related Health Problems, Tenth Revisions, Clinical Modification (ICD-10-CM) and Procedural Coding System (PCS) - Provider(s) shall report the ICD-10-CM and Procedural Coding System (PCS) to the highest level of specificity that supports medical necessity. Provider(s) shall use the current ICD-10 edition and any subsequent editions in effect at the time of service. Provider(s) shall refer to the applicable edition for code description, as it is no longer documented in the policy.
- c. Code(s) - Provider(s) shall report the most specific billing code that accurately and completely describes the procedure, product or service provided. Provider(s) shall use the Current Procedural Terminology (CPT), Health Care Procedure Coding System (HCPCS), and UB-04 Data Specifications Manual (for a complete listing of valid revenue codes) and any subsequent editions in effect at the time of service. Provider(s) shall refer to the applicable edition for the code description, as it is no longer documented in the policy. If no such specific CPT or HCPCS code exists, then the provider(s) shall report the procedure, product or service using the appropriate unlisted procedure or service code.

Unlisted Procedure or Service

CPT: The provider(s) shall refer to and comply with the Instructions for Use of the CPT Codebook, Unlisted Procedure or Service, and Special Report as documented in the current CPT in effect at the time of service.

HCPCS: The provider(s) shall refer to and comply with the Instructions For Use of HCPCS National Level II codes, Unlisted Procedure or Service and Special Report as documented in the current HCPCS edition in effect at the time of service

- d. Modifiers - Providers shall follow applicable modifier guidelines.
- e. Billing Units - Provider(s) shall report the appropriate code(s) used which determines the billing unit(s).
- f. Co-payments -
For Medicaid refer to Medicaid State Plan:
<https://medicaid.ncdhhs.gov/get-involved/nc-health-choice-state-plan>
- g. Reimbursement - Provider(s) shall bill their usual and customary charges. For a schedule of rates, refer to: <https://medicaid.ncdhhs.gov/>.

Important Reminder

This clinical policy has been developed by appropriately experienced and licensed health care professionals based on a review and consideration of currently available generally accepted standards of medical practice; peer-reviewed medical literature; government agency/program approval status; evidence-based guidelines and positions of leading national health professional organizations; views of physicians practicing in relevant clinical areas affected by this clinical policy; and other available clinical information. The Health Plan makes no representations and accepts no liability with respect to the content of any external information used or relied upon in developing this clinical policy. This clinical policy is consistent with standards of medical practice current at the time that this clinical policy was approved. “Health Plan” means a health

CLINICAL POLICY WNC.CP.141
MEASUREMENT OF SERUM 1,25-DIHYDROXYVITAMIN D

plan that has adopted this clinical policy and that is operated or administered, in whole or in part, by Centene Management Company, LLC, or any of such health plan's affiliates, as applicable.

The purpose of this clinical policy is to provide a guide to medical necessity, which is a component of the guidelines used to assist in making coverage decisions and administering benefits. It does not constitute a contract or guarantee regarding payment or results. Coverage decisions and the administration of benefits are subject to all terms, conditions, exclusions and limitations of the coverage documents (e.g., evidence of coverage, certificate of coverage, policy, contract of insurance, etc.), as well as to state and federal requirements and applicable Health Plan-level administrative policies and procedures.

This clinical policy is effective as of the date determined by the Health Plan. The date of posting may not be the effective date of this clinical policy. This clinical policy may be subject to applicable legal and regulatory requirements relating to provider notification. If there is a discrepancy between the effective date of this clinical policy and any applicable legal or regulatory requirement, the requirements of law and regulation shall govern. The Health Plan retains the right to change, amend or withdraw this clinical policy, and additional clinical policies may be developed and adopted as needed, at any time.

This clinical policy does not constitute medical advice, medical treatment or medical care. It is not intended to dictate to providers how to practice medicine. Providers are expected to exercise professional medical judgment in providing the most appropriate care, and are solely responsible for the medical advice and treatment of members/enrollees. This clinical policy is not intended to recommend treatment for members/enrollees. Members/enrollees should consult with their treating physician in connection with diagnosis and treatment decisions.

Providers referred to in this clinical policy are independent contractors who exercise independent judgment and over whom the Health Plan has no control or right of control. Providers are not agents or employees of the Health Plan.

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CLINICAL POLICY WNC.CP.141
MEASUREMENT OF SERUM 1,25-DIHYDROXYVITAMIN D

